



LIFE, ACCIDENT AND HEALTH COMPANIES/FRATERNAL BENEFIT SOCIETIES - ASSOCIATION EDITION

QUARTERLY STATEMENT

AS OF JUNE 30, 2023

OF THE CONDITION AND AFFAIRS OF THE

MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

NAIC Group Code 0435 (Current) 0435 (Prior) NAIC Company Code 63312 Employer's ID Number 13-1935920

Organized under the Laws of Ohio, State of Domicile or Port of Entry OH

Country of Domicile United States of America

Licensed as business type: Life, Accident and Health [X] Fraternal Benefit Societies []

Incorporated/Organized 12/29/1961 Commenced Business 08/13/1963

Statutory Home Office 191 Rosa Parks Street (Street and Number), Cincinnati, OH, US 45202 (City or Town, State, Country and Zip Code)

Main Administrative Office 191 Rosa Parks Street (Street and Number), Cincinnati, OH, US 45202 (City or Town, State, Country and Zip Code), 513-361-9000 (Area Code) (Telephone Number)

Mail Address Post Office Box 5420 (Street and Number or P.O. Box), Cincinnati, OH, US 45201 (City or Town, State, Country and Zip Code)

Primary Location of Books and Records 191 Rosa Parks Street (Street and Number), Cincinnati, OH, US 45202 (City or Town, State, Country and Zip Code), 513-361-9000 (Area Code) (Telephone Number)

Internet Website Address www.massmutualascend.com

Statutory Statement Contact Robert Mayhew Earle II (Name), 513-361-9077 (Area Code) (Telephone Number), rearle@mmascend.com (E-mail Address), 513-345-9484 (FAX Number)

OFFICERS

President Mark Francis Muething

Treasurer Brian Patrick Sponaugle

Secretary John Paul Gruber

Appointed Actuary Isaac Cezar Hall

OTHER

Donna Marie Carrelli

Michael Harrison Haney

Dominic Lusean Blue #

DIRECTORS OR TRUSTEES

Dominic Lusean Blue

Elizabeth Ward Chicares

Susan Marie Cicco

Geoffrey James Craddock

Roger William Crandall

Paul Anthony LaPiana

Sears Andrew Merritt

Mark Francis Muething

Michael James O'Connor

Eric William Partlan

Arthur William Wallace III

State of Ohio

County of Hamilton

SS:

The officers of this reporting entity being duly sworn, each depose and say that they are the described officers of said reporting entity, and that on the reporting period stated above, all of the herein described assets were the absolute property of the said reporting entity, free and clear from any liens or claims thereon, except as herein stated, and that this statement, together with related exhibits, schedules and explanations therein contained, annexed or referred to, is a full and true statement of all the assets and liabilities and of the condition and affairs of the said reporting entity as of the reporting period stated above, and of its income and deductions therefrom for the period ended, and have been completed in accordance with the NAIC Annual Statement Instructions and Accounting Practices and Procedures manual except to the extent that: (1) state law may differ; or, (2) that state rules or regulations require differences in reporting not related to accounting practices and procedures, according to the best of their information, knowledge and belief, respectively. Furthermore, the scope of this attestation by the described officers also includes the related corresponding electronic filing with the NAIC, when required, that is an exact copy (except for formatting differences due to electronic filing) of the enclosed statement. The electronic filing may be requested by various regulators in lieu of or in addition to the enclosed statement.

Mark Francis Muething
President

John Paul Gruber
Secretary

Brian Patrick Sponaugle
Treasurer

Subscribed and sworn to before me this day of August 2023

a. Is this an original filing? Yes [X] No []

b. If no, 1. State the amendment number..... 2. Date filed 3. Number of pages attached.....

OFFICERS AND DIRECTORS WHO DID NOT OCCUPY THE INDICATED POSITION IN THE PREVIOUS ANNUAL STATEMENT

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

ASSETS

	Current Statement Date			4 December 31 Prior Year Net Admitted Assets
	1 Assets	2 Nonadmitted Assets	3 Net Admitted Assets (Cols. 1 - 2)	
1. Bonds	33,940,458,822		33,940,458,822	33,331,904,289
2. Stocks:				
2.1 Preferred stocks	132,884,210		132,884,210	184,968,184
2.2 Common stocks	668,248,451		668,248,451	683,285,586
3. Mortgage loans on real estate:				
3.1 First liens	3,642,174,597		3,642,174,597	3,088,813,560
3.2 Other than first liens.....			0	0
4. Real estate:				
4.1 Properties occupied by the company (less \$ encumbrances)			0	0
4.2 Properties held for the production of income (less \$ encumbrances)			0	0
4.3 Properties held for sale (less \$ encumbrances)			0	0
5. Cash (\$(42,803,784)), cash equivalents (\$ 1,795,627,643) and short-term investments (\$ 547,504,319)	2,300,328,178		2,300,328,178	1,991,236,955
6. Contract loans (including \$ premium notes)	30,604,379		30,604,379	31,459,162
7. Derivatives	847,997,636		847,997,636	872,965,902
8. Other invested assets	1,414,976,344		1,414,976,344	1,363,435,253
9. Receivables for securities	192,205,526		192,205,526	142,312,266
10. Securities lending reinvested collateral assets			0	0
11. Aggregate write-ins for invested assets	0	0	0	0
12. Subtotals, cash and invested assets (Lines 1 to 11)	43,169,878,143	0	43,169,878,143	41,690,381,157
13. Title plants less \$ charged off (for Title insurers only)			0	0
14. Investment income due and accrued	538,774,421		538,774,421	414,726,057
15. Premiums and considerations:				
15.1 Uncollected premiums and agents' balances in the course of collection	1,231,175	27,484	1,203,691	2,479,621
15.2 Deferred premiums, agents' balances and installments booked but deferred and not yet due (including \$ earned but unbilled premiums)	7,763,668	2,991,359	4,772,309	5,262,831
15.3 Accrued retrospective premiums (\$) and contracts subject to redetermination (\$)			0	0
16. Reinsurance:				
16.1 Amounts recoverable from reinsurers	6,981,578	1,583,681	5,397,897	1,960,978
16.2 Funds held by or deposited with reinsured companies			0	0
16.3 Other amounts receivable under reinsurance contracts	235,435,411		235,435,411	247,110,241
17. Amounts receivable relating to uninsured plans			0	0
18.1 Current federal and foreign income tax recoverable and interest thereon			0	89,634,229
18.2 Net deferred tax asset	280,663,996	49,789,968	230,874,028	72,205,814
19. Guaranty funds receivable or on deposit	2,032,544		2,032,544	2,079,536
20. Electronic data processing equipment and software			0	0
21. Furniture and equipment, including health care delivery assets (\$)	5,336,160	5,336,160	0	0
22. Net adjustment in assets and liabilities due to foreign exchange rates			0	0
23. Receivables from parent, subsidiaries and affiliates	835,414		835,414	43,006
24. Health care (\$) and other amounts receivable			0	0
25. Aggregate write-ins for other than invested assets	309,625,244	56,538,465	253,086,779	253,459,195
26. Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25)	44,558,557,754	116,267,117	44,442,290,637	42,779,342,665
27. From Separate Accounts, Segregated Accounts and Protected Cell Accounts	272,873,117		272,873,117	103,698,994
28. Total (Lines 26 and 27)	44,831,430,871	116,267,117	44,715,163,754	42,883,041,659
DETAILS OF WRITE-INS				
1101.				
1102.				
1103.				
1198. Summary of remaining write-ins for Line 11 from overflow page	0	0	0	0
1199. Totals (Lines 1101 through 1103 plus 1198)(Line 11 above)	0	0	0	0
2501. Company-owned life insurance	221,902,991		221,902,991	218,662,787
2502. Disallowed IMR	49,010,100	49,010,100	0	0
2503. Accrued contractual fee income	31,183,788		31,183,788	34,796,408
2598. Summary of remaining write-ins for Line 25 from overflow page	7,528,365	7,528,365	0	0
2599. Totals (Lines 2501 through 2503 plus 2598)(Line 25 above)	309,625,244	56,538,465	253,086,779	253,459,195

LIABILITIES, SURPLUS AND OTHER FUNDS

	1 Current Statement Date	2 December 31 Prior Year
1. Aggregate reserve for life contracts \$ 26,720,210,822 less \$ included in Line 6.3 (including \$ 553,391 Modco Reserve)	26,720,210,822	24,259,873,748
2. Aggregate reserve for accident and health contracts (including \$ Modco Reserve)	52,090,413	50,510,234
3. Liability for deposit-type contracts (including \$ Modco Reserve).....	786,494,320	779,823,617
4. Contract claims:		
4.1 Life	165,285,088	140,168,179
4.2 Accident and health	559,473	390,642
5. Policyholders' dividends/refunds to members \$ and coupons \$ due and unpaid		0
6. Provision for policyholders' dividends, refunds to members and coupons payable in following calendar year - estimated amounts:		
6.1 Policyholders' dividends and refunds to members apportioned for payment (including \$ Modco)		
6.2 Policyholders' dividends and refunds to members not yet apportioned (including \$ Modco) ...		
6.3 Coupons and similar benefits (including \$ Modco)		
7. Amount provisionally held for deferred dividend policies not included in Line 6		
8. Premiums and annuity considerations for life and accident and health contracts received in advance less \$ discount; including \$ 18,238 accident and health premiums	202,962	165,594
9. Contract liabilities not included elsewhere:		
9.1 Surrender values on canceled contracts		
9.2 Provision for experience rating refunds, including the liability of \$ accident and health experience rating refunds of which \$ 0 is for medical loss ratio rebate per the Public Health Service Act		
9.3 Other amounts payable on reinsurance, including \$ 492,873 assumed and \$ 2,043,172 ceded	2,536,045	14,213,374
9.4 Interest Maintenance Reserve	0	93,254,039
10. Commissions to agents due or accrued-life and annuity contracts \$ 4,978,530 , accident and health \$ and deposit-type contract funds \$	4,978,530	8,900,094
11. Commissions and expense allowances payable on reinsurance assumed		
12. General expenses due or accrued	40,106,216	48,404,491
13. Transfers to Separate Accounts due or accrued (net) (including \$ accrued for expense allowances recognized in reserves, net of reinsured allowances)		0
14. Taxes, licenses and fees due or accrued, excluding federal income taxes	2,162,549	2,060,039
15.1 Current federal and foreign income taxes, including \$ on realized capital gains (losses)	9,670,006	
15.2 Net deferred tax liability		
16. Unearned investment income	322,417	290,003
17. Amounts withheld or retained by reporting entity as agent or trustee	703,322	1,174,746
18. Amounts held for agents' account, including \$ 2,035,946 agents' credit balances	2,035,946	1,071,165
19. Remittances and items not allocated	76,066,218	232,798,384
20. Net adjustment in assets and liabilities due to foreign exchange rates		
21. Liability for benefits for employees and agents if not included above		
22. Borrowed money \$ and interest thereon \$		
23. Dividends to stockholders declared and unpaid		
24. Miscellaneous liabilities:		
24.01 Asset valuation reserve	552,061,354	577,063,642
24.02 Reinsurance in unauthorized and certified (\$) companies		0
24.03 Funds held under reinsurance treaties with unauthorized and certified (\$) reinsurers	11,275,059,874	12,677,297,503
24.04 Payable to parent, subsidiaries and affiliates	639,009	1,957,201
24.05 Drafts outstanding		
24.06 Liability for amounts held under uninsured plans		
24.07 Funds held under coinsurance		
24.08 Derivatives	647,258,669	700,875,712
24.09 Payable for securities	556,431,122	120,064,449
24.10 Payable for securities lending		
24.11 Capital notes \$ and interest thereon \$		
25. Aggregate write-ins for liabilities	759,561,908	236,402,971
26. Total liabilities excluding Separate Accounts business (Lines 1 to 25)	41,654,436,263	39,946,759,827
27. From Separate Accounts Statement	272,873,117	103,698,994
28. Total liabilities (Lines 26 and 27)	41,927,309,380	40,050,458,821
29. Common capital stock	1,507,500	1,507,500
30. Preferred capital stock		
31. Aggregate write-ins for other than special surplus funds	0	0
32. Surplus notes		0
33. Gross paid in and contributed surplus	815,178,800	815,178,800
34. Aggregate write-ins for special surplus funds	0	0
35. Unassigned funds (surplus)	1,971,168,074	2,015,896,538
36. Less treasury stock, at cost:		
36.1 shares common (value included in Line 29 \$)		
36.2 shares preferred (value included in Line 30 \$)		
37. Surplus (Total Lines 31+32+33+34+35-36) (including \$ in Separate Accounts Statement)	2,786,346,874	2,831,075,338
38. Totals of Lines 29, 30 and 37	2,787,854,374	2,832,582,838
39. Totals of Lines 28 and 38 (Page 2, Line 28, Col. 3)	44,715,163,754	42,883,041,659
DETAILS OF WRITE-INS		
2501. Liability for funds held as collateral	720,576,865	209,544,587
2502. Unclaimed property	28,125,762	23,267,792
2503. Accounts payable	10,859,281	3,590,592
2598. Summary of remaining write-ins for Line 25 from overflow page	0	0
2599. Totals (Lines 2501 through 2503 plus 2598)(Line 25 above)	759,561,908	236,402,971
3101.		
3102.		
3103.		
3198. Summary of remaining write-ins for Line 31 from overflow page	0	0
3199. Totals (Lines 3101 through 3103 plus 3198)(Line 31 above)	0	0
3401.		
3402.		
3403.		
3498. Summary of remaining write-ins for Line 34 from overflow page	0	0
3499. Totals (Lines 3401 through 3403 plus 3498)(Line 34 above)	0	0

SUMMARY OF OPERATIONS

	1 Current Year To Date	2 Prior Year To Date	3 Prior Year Ended December 31
1. Premiums and annuity considerations for life and accident and health contracts	3,800,482,061	(10,992,700,891)	(7,198,257,952)
2. Considerations for supplementary contracts with life contingencies			0
3. Net investment income	649,793,549	612,526,450	1,018,987,195
4. Amortization of Interest Maintenance Reserve (IMR)	3,596,690	32,135,055	36,421,280
5. Separate Accounts net gain from operations excluding unrealized gains or losses			0
6. Commissions and expense allowances on reinsurance ceded	92,275,555	359,579,505	496,787,124
7. Reserve adjustments on reinsurance ceded			
8. Miscellaneous Income:			
8.1 Income from fees associated with investment management, administration and contract guarantees from Separate Accounts			0
8.2 Charges and fees for deposit-type contracts	7,004,491	1,807,062	4,705,776
8.3 Aggregate write-ins for miscellaneous income	20,283,057	20,524,444	43,057,256
9. Totals (Lines 1 to 8.3)	4,573,435,403	(9,966,128,375)	(5,598,299,321)
10. Death benefits	6,305,665	11,070,310	19,313,347
11. Matured endowments (excluding guaranteed annual pure endowments)	6,848,358	8,373,858	22,540,278
12. Annuity benefits	370,358,110	171,069,813	460,170,085
13. Disability benefits and benefits under accident and health contracts	2,116,766	1,958,718	3,804,204
14. Coupons, guaranteed annual pure endowments and similar benefits			0
15. Surrender benefits and withdrawals for life contracts	1,181,872,972	720,999,746	1,460,476,453
16. Group conversions			0
17. Interest and adjustments on contract or deposit-type contract funds	81,639,883	69,855,288	142,273,578
18. Payments on supplementary contracts with life contingencies		258	(1,213)
19. Increase in aggregate reserves for life and accident and health contracts	2,461,917,253	(11,561,445,146)	(8,743,882,548)
20. Totals (Lines 10 to 19)	4,111,059,007	(10,578,117,155)	(6,635,305,816)
21. Commissions on premiums, annuity considerations, and deposit-type contract funds (direct business only)	185,255,652	176,485,354	364,090,995
22. Commissions and expense allowances on reinsurance assumed	238,684	247,648	526,914
23. General insurance expenses and fraternal expenses	80,444,232	78,156,070	158,746,732
24. Insurance taxes, licenses and fees, excluding federal income taxes	6,863,942	6,336,107	12,160,149
25. Increase in loading on deferred and uncollected premiums	(460,142)	645,132	192,875
26. Net transfers to or (from) Separate Accounts net of reinsurance	207,438,502	(105,648,249)	(22,047,053)
27. Aggregate write-ins for deductions	0	328,736,632	319,161,240
28. Totals (Lines 20 to 27)	4,590,839,877	(10,093,158,461)	(5,802,473,964)
29. Net gain from operations before dividends to policyholders and federal income taxes (Line 9 minus Line 28)	(17,404,474)	127,030,086	204,174,643
30. Dividends to policyholders and refunds to members	4,496	4,720	10,069
31. Net gain from operations after dividends to policyholders, refunds to members and before federal income taxes (Line 29 minus Line 30)	(17,408,970)	127,025,366	204,164,574
32. Federal and foreign income taxes incurred (excluding tax on capital gains)	145,051,340	111,468,810	13,603,479
33. Net gain from operations after dividends to policyholders, refunds to members and federal income taxes and before realized capital gains or (losses) (Line 31 minus Line 32)	(162,460,310)	15,556,556	190,561,095
34. Net realized capital gains (losses) (excluding gains (losses) transferred to the IMR) less capital gains tax of \$ 34,063,513 (excluding taxes of \$ (36,860,968) transferred to the IMR)	(129,752,862)	151,441,596	(32,534,189)
35. Net income (Line 33 plus Line 34)	(292,213,172)	166,998,152	158,026,906
CAPITAL AND SURPLUS ACCOUNT			
36. Capital and surplus, December 31, prior year	2,832,582,838	2,878,120,622	2,878,120,622
37. Net income (Line 35)	(292,213,172)	166,998,152	158,026,906
38. Change in net unrealized capital gains (losses) less capital gains tax of \$ (15,541,013)	104,447,854	(185,369,156)	(200,664,475)
39. Change in net unrealized foreign exchange capital gain (loss)	11,708,309		8,817,141
40. Change in net deferred income tax	190,690,666	(139,605,640)	(33,120,202)
41. Change in nonadmitted assets	(84,364,409)	1,068,329	(4,655,490)
42. Change in liability for reinsurance in unauthorized and certified companies			
43. Change in reserve on account of change in valuation basis, (increase) or decrease			236,182,404
44. Change in asset valuation reserve	25,002,288	(1,280,781)	(72,918,048)
45. Change in treasury stock			0
46. Surplus (contributed to) withdrawn from Separate Accounts during period			
47. Other changes in surplus in Separate Accounts Statement			
48. Change in surplus notes			
49. Cumulative effect of changes in accounting principles		(157,385,866)	(454,367,260)
50. Capital changes:			
50.1 Paid in			
50.2 Transferred from surplus (Stock Dividend)			
50.3 Transferred to surplus			
51. Surplus adjustment:			
51.1 Paid in	0	0	0
51.2 Transferred to capital (Stock Dividend)			
51.3 Transferred from capital			
51.4 Change in surplus as a result of reinsurance		326,736,632	317,161,240
52. Dividends to stockholders			
53. Aggregate write-ins for gains and losses in surplus	0	0	0
54. Net change in capital and surplus for the year (Lines 37 through 53)	(44,728,464)	11,161,670	(45,537,784)
55. Capital and surplus, as of statement date (Lines 36 + 54)	2,787,854,374	2,889,282,292	2,832,582,838
DETAILS OF WRITE-INS			
08.301. Contractual rider fee income	16,629,602	17,281,624	36,447,215
08.302. Interest on company-owned life insurance	3,240,204	2,967,771	6,015,989
08.303. Reinsurance experience refund	362,956	248,437	506,212
08.398. Summary of remaining write-ins for Line 8.3 from overflow page	50,295	26,612	87,840
08.399. Totals (Lines 08.301 through 08.303 plus 08.398) (Line 8.3 above)	20,283,057	20,524,444	43,057,256
2701. Amortization of ceding commission		326,736,632	317,161,240
2702. Reinsurance fee		2,000,000	2,000,000
2703.			
2798. Summary of remaining write-ins for Line 27 from overflow page	0	0	0
2799. Totals (Lines 2701 through 2703 plus 2798)(Line 27 above)	0	328,736,632	319,161,240
5301.			
5302.			
5303.			
5398. Summary of remaining write-ins for Line 53 from overflow page	0	0	0
5399. Totals (Lines 5301 through 5303 plus 5398)(Line 53 above)	0	0	0

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

CASH FLOW

	1 Current Year To Date	2 Prior Year To Date	3 Prior Year Ended December 31
Cash from Operations			
1. Premiums collected net of reinsurance	3,802,755,048	3,009,687,312	6,877,594,339
2. Net investment income	773,211,456	725,543,870	1,244,917,697
3. Miscellaneous income	115,808,181	382,485,240	540,147,485
4. Total (Lines 1 to 3)	4,691,774,685	4,117,716,422	8,662,659,521
5. Benefit and loss related payments	1,545,510,194	1,276,630,086	2,266,789,240
6. Net transfers to Separate Accounts, Segregated Accounts and Protected Cell Accounts	0	(105,648,249)	(22,047,053)
7. Commissions, expenses paid and aggregate write-ins for deductions	281,408,623	277,350,658	551,485,249
8. Dividends paid to policyholders	4,496	4,720	10,069
9. Federal and foreign income taxes paid (recovered) net of \$ (2,797,455) tax on capital gains (losses)	42,949,650	98,955,516	103,798,463
10. Total (Lines 5 through 9)	1,869,872,963	1,547,292,731	2,900,035,968
11. Net cash from operations (Line 4 minus Line 10)	2,821,901,722	2,570,423,691	5,762,623,553
Cash from Investments			
12. Proceeds from investments sold, matured or repaid:			
12.1 Bonds	4,141,441,282	9,118,784,039	14,058,518,365
12.2 Stocks	94,314,434	239,669	18,218,012
12.3 Mortgage loans	153,135,448	353,976,209	537,024,492
12.4 Real estate	0	0	0
12.5 Other invested assets	86,382,068	135,509,817	274,007,827
12.6 Net gains or (losses) on cash, cash equivalents and short-term investments	0	0	(88,759)
12.7 Miscellaneous proceeds	(7,590,850)	0	(22,325,520)
12.8 Total investment proceeds (Lines 12.1 to 12.7)	4,467,682,382	9,608,509,734	14,865,354,417
13. Cost of investments acquired (long-term only):			
13.1 Bonds	4,987,375,526	11,191,112,388	16,364,817,270
13.2 Stocks	33,968,192	22,965,744	109,234,027
13.3 Mortgage loans	711,618,012	488,172,428	1,107,745,261
13.4 Real estate	0	0	0
13.5 Other invested assets	144,474,847	73,889,010	300,895,779
13.6 Miscellaneous applications	(41,711,790)	67,187,576	673,935,708
13.7 Total investments acquired (Lines 13.1 to 13.6)	5,835,724,787	11,843,327,146	18,556,628,045
14. Net increase (or decrease) in contract loans and premium notes	(854,783)	(30,990,352)	(32,719,274)
15. Net cash from investments (Line 12.8 minus Line 13.7 and Line 14)	(1,367,187,622)	(2,203,827,060)	(3,658,554,354)
Cash from Financing and Miscellaneous Sources			
16. Cash provided (applied):			
16.1 Surplus notes, capital notes	0	0	0
16.2 Capital and paid in surplus, less treasury stock	0	0	0
16.3 Borrowed funds	0	0	0
16.4 Net deposits on deposit-type contracts and other insurance liabilities	(71,178,630)	124,451,459	50,372,894
16.5 Dividends to stockholders	0	0	0
16.6 Other cash provided (applied)	(1,074,444,249)	(410,162,134)	(1,172,085,403)
17. Net cash from financing and miscellaneous sources (Line 16.1 through Line 16.4 minus Line 16.5 plus Line 16.6)	(1,145,622,879)	(285,710,675)	(1,121,712,509)
RECONCILIATION OF CASH, CASH EQUIVALENTS AND SHORT-TERM INVESTMENTS			
18. Net change in cash, cash equivalents and short-term investments (Line 11, plus Lines 15 and 17) .	309,091,222	80,885,956	982,356,690
19. Cash, cash equivalents and short-term investments:			
19.1 Beginning of year	1,991,236,956	1,008,880,265	1,008,880,265
19.2 End of period (Line 18 plus Line 19.1)	2,300,328,178	1,089,766,221	1,991,236,956

Note: Supplemental disclosures of cash flow information for non-cash transactions:

20.0001. Bond conversions and refinancing	209,375,084		453,096,376
20.0002. Bonds transferred to other invested assets	18,555,573		119,664,976
20.0003. Net investment income payment-in-kind for bonds	14,223,996		1,072,948
20.0004. Common stock conversions	14,370,960		205,249
20.0005. Preferred stock conversions	442,451	0	0
20.0006. Exchanges	0	135,919,009	0
20.0007. Transfers	0	11,490,305	0
20.0008. Bonds transferred to mortgage loans	0		362,734,554
20.0009. Other invested assets transferred to bonds	0		17,100,287

EXHIBIT 1

DIRECT PREMIUMS AND DEPOSIT-TYPE CONTRACTS			
	1 Current Year To Date	2 Prior Year To Date	3 Prior Year Ended December 31
1. Industrial life			0
2. Ordinary life insurance	8,811,838	15,230,311	24,857,140
3. Ordinary individual annuities	3,992,027,957	3,409,895,710	7,344,903,146
4. Credit life (group and individual)			0
5. Group life insurance			0
6. Group annuities	3,144,321	2,291,709	5,079,281
7. A & H - group	33,685	34,009	73,886
8. A & H - credit (group and individual)			0
9. A & H - other	2,416,282	2,553,989	4,930,620
10. Aggregate of all other lines of business	0	0	0
11. Subtotal (Lines 1 through 10)	4,006,434,083	3,430,005,728	7,379,844,073
12. Fraternal (Fraternal Benefit Societies Only)			0
13. Subtotal (Lines 11 through 12)	4,006,434,083	3,430,005,728	7,379,844,073
14. Deposit-type contracts	7,096,581	4,607,822	9,164,370
15. Total (Lines 13 and 14)	4,013,530,664	3,434,613,550	7,389,008,443
DETAILS OF WRITE-INS			
1001.			
1002.			
1003.			
1098. Summary of remaining write-ins for Line 10 from overflow page	0	0	0
1099. Totals (Lines 1001 through 1003 plus 1098)(Line 10 above)	0	0	0

NOTES TO FINANCIAL STATEMENTS

Note 1 – Summary of Significant Accounting Policies

A. Accounting Practices

The financial statements of the MassMutual Ascend Life Insurance Company (“MMALIC” or “the Company”) are presented on the basis of accounting practices prescribed or permitted by the Ohio Department of Insurance. The Company was formerly known as Great American Life Insurance Company.

The Ohio Department of Insurance recognizes only statutory accounting practices prescribed or permitted by the State of Ohio for determining and reporting the financial condition and results of operations of an insurance company, for determining its solvency under the Ohio Insurance Law. The National Association of Insurance Commissioners’ (“NAIC”) *Accounting Practices and Procedures Manual* has been adopted as a component of prescribed or permitted practices by the State of Ohio.

In 2021 the Ohio Department of Insurance promulgated Ohio Administrative Code Section 3901-1-67, Alternative Derivative and Reserve Accounting Practices (OAC 3901-1-67), which constitutes a prescribed practice as contemplated by the NAIC SAP. The prescribed practice allows Ohio-domiciled insurance companies to utilize certain alternative derivative and reserve accounting practices for eligible derivative instruments and indexed products, respectively, in order to better align the measurement of indexed product reserves and the derivatives that hedge them. Effective January 1, 2022, the Company elected to apply OAC 3901-1-67 to its derivative instruments hedging equity indexed annuity products and equity indexed reserve liabilities.

A reconciliation of the Company’s net income and capital and surplus between NAIC SAP and practices prescribed and permitted by the State of Ohio is shown below:

Net Income	SSAP #	F/S Page	F/S Line #	06/30/2023	12/31/2022
(1) State basis	XXX	XXX	XXX	\$ (292,213,172)	\$ 158,026,906
(2) State prescribed practices that increase/(decrease) NAIC SAP	XXX	XXX	XXX		
OAC 3901-1-67:					
Derivative instruments	86	4	7, 3	1,288,119	(26,420,295)
Reserves for fixed indexed annuities	51	4	1, 19	232,558,981	(187,982,067)
Tax impact	101	4	18.2, 32	391,008	381,717
(3) State permitted practices that increase/(decrease) NAIC SAP	XXX	XXX	XXX	-	-
(4) NAIC SAP (1-2-3=4)	XXX	XXX	XXX	<u>\$ (526,451,280)</u>	<u>\$ 372,047,552</u>
Surplus					
(5) Statutory surplus state basis	XXX	XXX	XXX	\$ 2,787,854,374	\$ 2,832,582,838
(6) State prescribed practices that increase/(decrease) NAIC SAP					
OAC 3901-1-67:					
Derivative instruments	86	2, 4	7, 3	(490,496,198)	(39,219,472)
Reserves for fixed indexed annuities	51	3, 4	1, 19	280,759,318	48,200,337
Tax impact	101	2, 4	18.2, 32	59,024,915	13,094,188
(7) State permitted practices that increase/(decrease) NAIC SAP	XXX	XXX	XXX	-	-
(8) NAIC SAP (5-6-7=8)	XXX	XXX	XXX	<u>\$ 2,938,566,340</u>	<u>\$ 2,810,507,785</u>

B, C & D – No significant changes.

Note 2 – Accounting Changes and Corrections of Errors

There were no changes that were considered significant to the Company, except for the following.

Effective January 1, 2022, the Company elected to apply OAC 3901-1-67 to its derivative instruments hedging equity indexed annuity products and equity indexed annuity reserve liabilities. Under OAC 3901-1-67, derivative instruments will be carried on the statutory balance sheet at amortized cost with the initial hedge cost amortized over the term and asset payoffs realized at the end of the term being reported through net investment income rather than derivative instruments being carried at fair value with asset payoffs realized over the term through change in net unrealized capital gains and losses. Additionally, the cash surrender value reserves for equity indexed annuity products will only reflect index interest credits at the end of the crediting term as compared to partial index interest credits accumulating throughout the crediting term in increase in aggregate reserves for life and accident and health contracts. As a result of the Company’s election to apply OAC 3901-1-67 as of January 1, 2022, total statutory admitted assets decreased \$393,568,270, total statutory liabilities decreased \$236,182,404 and total statutory capital and surplus decreased \$157,385,866. The following table summarizes the components of the total decrease in statutory surplus:

Change in fixed indexed annuity reserves	\$ 236,182,404
Change in net deferred income tax	60,798,989
Derivatives instruments	<u>(454,367,259)</u>
Total decrease in statutory surplus	<u>\$ (157,385,866)</u>

Note 3 – Business Combinations and Goodwill

Not applicable.

Note 4 – Discontinued Operations

Not applicable.

Note 5 – Investments

A, B & C – No significant changes.

D. Loan-Backed Securities

- (1) The Company uses dealer-modeled prepayment assumptions for mortgage-backed and asset-backed securities at the date of purchase to determine the effective yields; significant changes in estimated cash flows from the original purchase assumptions are accounted for on a prospective basis.
- (2) The Company does not currently hold any aggregate loan-backed securities with a recognized other-than-temporary impairment (“OTTI”) in which the Company has the intent to sell or the inability or lack of intent to retain the investment in the security for a period of time to recover the amortized cost basis.

NOTES TO FINANCIAL STATEMENTS

(3) The following table shows each security with a credit-related OTTI charge recognized during the period:

CUSIP	Amortized Cost Before OTTI	Present Value of Projected Cash Flow s	OTTI Charge Recognized in Income Statement	Amortized Cost After OTTI	Fair Value at Time of OTTI	Date Reported
00176BAM5	\$ 202,546	\$ 110,277	\$ 92,269	\$ 110,277	\$ 116,065	03/31/2023
001406AA5	1,763,035	1,274,229	488,807	1,274,229	1,285,767	03/31/2023
26827EAC9	9,193,316	4,723,119	4,470,196	4,723,119	6,207,776	03/31/2023
3622EAAA8	3,756,795	3,647,858	108,936	3,647,858	3,611,452	03/31/2023
61751DAE4	1,645,601	1,578,836	66,764	1,578,836	1,967,072	03/31/2023
617526AD0	2,356,207	2,115,198	241,009	2,115,198	2,354,557	03/31/2023
86358RXZ5	421,445	412,256	9,189	412,256	413,530	03/31/2023
05951KAN3	622,182	623,350	(1,169)	623,350	601,336	03/31/2023
059522AU6	2,269,369	2,102,631	166,738	2,102,631	2,176,835	03/31/2023
12628LAD2	785,041	763,053	21,988	763,053	660,429	03/31/2023
12667F4N2	2,210,900	2,186,739	24,161	2,186,739	2,182,686	03/31/2023
12667F5E1	1,062,067	1,059,207	2,860	1,059,207	995,081	03/31/2023
12668APC3	896,073	883,009	13,065	883,009	857,687	03/31/2023
17307GED6	1,409,643	1,393,308	16,335	1,393,308	1,455,502	03/31/2023
17309BAB3	220,495	214,662	5,834	214,662	195,222	03/31/2023
32051GSQ9	1,814,597	1,786,038	28,559	1,786,038	1,836,075	03/31/2023
32051GT70	663,419	662,609	810	662,609	596,313	03/31/2023
46627MAD9	589,002	581,089	7,914	581,089	518,389	03/31/2023
46627MEJ2	1,138,638	1,136,631	2,006	1,136,631	957,220	03/31/2023
59020UW43	223,543	223,584	(41)	223,584	245,108	03/31/2023
643529AC4	537,761	506,075	31,686	506,075	563,770	03/31/2023
74923GAC7	1,432,936	1,431,302	1,634	1,431,302	1,521,208	03/31/2023
74923HAQ4	538,028	538,123	(95)	538,123	480,166	03/31/2023
74928RAB0	248,088	241,996	6,091	241,996	266,975	03/31/2023
74928XBB6	4,436,827	3,886,418	550,409	3,886,418	4,352,809	03/31/2023
75115BAC3	1,010,823	1,015,108	(4,285)	1,015,108	1,087,275	03/31/2023
75115DAA3	195,780	193,598	2,183	193,598	182,546	03/31/2023
761118BU1	717,506	688,322	29,183	688,322	756,457	03/31/2023
761118FM5	2,089,659	1,852,770	236,889	1,852,770	1,945,475	03/31/2023
761118GS1	1,139,848	1,138,816	1,032	1,138,816	1,041,063	03/31/2023
761118SC3	1,581,486	1,581,588	(103)	1,581,588	1,360,351	03/31/2023
761118UG1	506,268	503,201	3,067	503,201	428,316	03/31/2023
76112BNM8	4,707,569	4,708,889	(1,320)	4,708,889	4,941,288	03/31/2023
855541AC2	854,276	851,419	2,857	851,419	808,830	03/31/2023
863579J90	344,828	339,476	5,352	339,476	355,595	03/31/2023
86360BAG3	1,782,553	1,688,545	94,008	1,688,545	1,858,413	03/31/2023
86360BAJ7	684,793	671,937	12,855	671,937	700,892	03/31/2023
87222EAB4	838,918	811,788	27,130	811,788	736,793	03/31/2023
87222EAC2	971,562	933,068	38,494	933,068	795,832	03/31/2023
45660LCK3	2,673,423	2,598,842	74,581	2,598,842	2,689,571	03/31/2023
939336X99	1,829,627	1,670,689	158,938	1,670,689	1,792,660	03/31/2023
05949CHM1	768,548	755,812	12,736	755,812	773,623	03/31/2023
05949CKX3	1,213,201	1,188,146	25,055	1,188,146	1,243,199	03/31/2023
05990HAT0	934,146	930,177	3,969	930,177	940,458	03/31/2023
073880AD8	1,121,205	1,122,339	(1,134)	1,122,339	1,064,409	03/31/2023
07401CAS2	3,138,214	3,078,739	59,474	3,078,739	3,132,170	03/31/2023
12543XAD8	1,165,771	1,150,483	15,288	1,150,483	1,070,971	03/31/2023
12544DAG4	85,474	83,364	2,109	83,364	73,861	03/31/2023
12545EAK2	1,406,029	1,363,895	42,134	1,363,895	1,226,917	03/31/2023
12638PAB5	719,347	697,335	22,011	697,335	549,668	03/31/2023
126694CS5	2,842,754	2,832,174	10,581	2,832,174	2,292,959	03/31/2023
126694HP6	421,087	419,930	1,157	419,930	402,076	03/31/2023
12669G3S8	1,254,365	1,250,349	4,015	1,250,349	1,124,398	03/31/2023
16165MAG3	1,841,254	1,776,091	65,163	1,776,091	1,597,907	03/31/2023
2254582Y3	1,208,346	1,200,002	8,344	1,200,002	1,082,976	03/31/2023
225458L55	539,692	536,533	3,159	536,533	500,154	03/31/2023
225470VF7	1,460,576	1,422,984	37,592	1,422,984	1,400,985	03/31/2023
36185N6N5	4,571,722	4,071,935	499,788	4,071,935	4,514,039	03/31/2023
362341FN4	774,099	765,095	9,005	765,095	702,117	03/31/2023
362341XC8	857,596	848,675	8,921	848,675	768,173	03/31/2023
36242DQY2	99,752	97,979	1,772	97,979	93,530	03/31/2023
41161PCX9	191,672	191,284	388	191,284	190,228	03/31/2023
466247J46	74,610	73,055	1,554	73,055	73,519	03/31/2023
466247UG6	526,361	514,800	11,561	514,800	510,820	03/31/2023
46630WAB6	872,431	866,888	5,543	866,888	808,108	03/31/2023
46630WAL4	506,494	500,786	5,709	500,786	479,625	03/31/2023
46631NAA7	719,259	693,483	25,776	693,483	569,822	03/31/2023
576433D52	503,578	493,400	10,178	493,400	450,563	03/31/2023
57643MLZ5	284,150	280,753	3,397	280,753	269,995	03/31/2023
59023PAB9	508,302	498,819	9,484	498,819	517,983	03/31/2023
74958YAE2	287,181	287,688	(507)	287,688	287,680	03/31/2023
78473TAJ9	198,841	177,853	20,989	177,853	154,392	03/31/2023
863579RP5	609,579	590,361	19,218	590,361	577,909	03/31/2023
863579UL0	263,373	261,997	1,377	261,997	256,211	03/31/2023
92979DAC9	2,710,529	2,629,297	81,232	2,629,297	2,800,364	03/31/2023
94984DAC8	342,454	342,081	373	342,081	345,646	03/31/2023
94986CAA2	264,625	265,827	(1,202)	265,827	262,986	03/31/2023

NOTES TO FINANCIAL STATEMENTS

CUSIP	Amortized Cost Before OTTI	Present Value of Projected Cash Flow s	OTTI Charge Recognized in Income Statement	Amortized Cost After OTTI	Fair Value at Time of OTTI	Date Reported
001406AA55	27,755	-	27,755	-	-	06/30/2023
61751DAE4	1,614,822	1,548,177	66,645	1,548,177	1,908,732	06/30/2023
86358RXZ5	381,361	332,609	48,752	332,609	337,433	06/30/2023
02146TAL1	361,912	345,869	16,042	345,869	366,804	06/30/2023
02147XAR8	617,209	612,988	4,221	612,988	505,733	06/30/2023
059522AU6	2,107,010	2,107,010	0	2,107,010	2,147,399	06/30/2023
07386XAH9	984,857	984,374	483	984,374	807,325	06/30/2023
12566UAN4	572,055	570,484	1,571	570,484	586,599	06/30/2023
12628LAD2	766,444	716,904	49,540	716,904	624,798	06/30/2023
12667F5E1	1,039,544	1,031,360	8,184	1,031,360	960,648	06/30/2023
12667GAC7	662,986	611,428	51,558	611,428	628,342	06/30/2023
12668APC3	845,763	838,619	7,144	838,619	804,549	06/30/2023
17309BAB3	213,365	208,774	4,591	208,774	183,775	06/30/2023
32051GSQ9	1,688,266	1,682,972	5,294	1,682,972	1,728,278	06/30/2023
32051GT70	654,707	650,913	3,793	650,913	584,241	06/30/2023
36244SAD0	2,252,386	2,071,962	180,424	2,071,962	2,271,187	06/30/2023
43739EAP2	616,209	611,759	4,449	611,759	570,177	06/30/2023
46627MAD9	572,129	572,115	13	572,115	503,882	06/30/2023
46627MEC7	377,567	371,830	5,737	371,830	339,925	06/30/2023
46627MEJ2	1,118,100	1,113,603	4,497	1,113,603	921,828	06/30/2023
643529AC4	520,520	491,053	29,467	491,053	557,549	06/30/2023
65535VNL8	2,089,478	2,081,888	7,590	2,081,888	2,063,447	06/30/2023
65535VSJ8	1,285,712	1,246,997	38,715	1,246,997	1,115,827	06/30/2023
74923HAQ4	525,772	519,269	6,502	519,269	443,687	06/30/2023
75116FBH1	1,485,771	1,465,650	20,121	1,465,650	1,253,422	06/30/2023
761118SC3	1,528,680	1,515,672	13,008	1,515,672	1,309,921	06/30/2023
761118UG1	485,611	483,232	2,379	483,232	409,243	06/30/2023
863579J90	326,147	321,439	4,707	321,439	331,247	06/30/2023
86360BAJ7	664,426	663,728	698	663,728	678,337	06/30/2023
87222EAB4	814,203	791,937	22,266	791,937	715,293	06/30/2023
87222EAC2	944,500	906,175	38,325	906,175	780,900	06/30/2023
05949CHM1	754,991	752,303	2,689	752,303	770,786	06/30/2023
05949CKX3	1,233,035	1,190,687	42,348	1,190,687	1,225,158	06/30/2023
07386YAE4	1,919,895	1,890,046	29,849	1,890,046	1,717,512	06/30/2023
073880AD8	1,095,079	1,087,921	7,158	1,087,921	1,010,811	06/30/2023
12543XAD8	1,146,866	1,132,734	14,132	1,132,734	1,025,398	06/30/2023
12544DAG4	82,048	82,482	(434)	82,482	72,144	06/30/2023
12638PAB5	704,325	687,341	16,984	687,341	538,077	06/30/2023
12669G3S8	1,216,352	1,205,920	10,432	1,205,920	1,077,627	06/30/2023
16165MAG3	1,698,141	1,698,815	(675)	1,698,815	1,501,094	06/30/2023
17025AAH5	866,588	804,309	62,279	804,309	831,165	06/30/2023
2254582Y3	239,471	239,472	(2)	239,472	214,686	06/30/2023
225458L55	535,805	532,092	3,713	532,092	459,983	06/30/2023
225470VF7	1,403,814	1,403,895	(81)	1,403,895	1,341,332	06/30/2023
45669AAD6	3,387,280	3,358,005	29,274	3,358,005	3,217,657	06/30/2023
466247J46	71,231	71,237	(5)	71,237	69,271	06/30/2023
466247ZP1	550,885	540,659	10,226	540,659	482,855	06/30/2023
46628LAB4	41,586	40,556	1,030	40,556	41,521	06/30/2023
46630WAL4	515,281	485,878	29,403	485,878	468,594	06/30/2023
46631NAA7	691,427	678,636	12,791	678,636	532,232	06/30/2023
46631NDT3	6,223,773	6,162,743	61,029	6,162,743	6,052,651	06/30/2023
576433D52	492,252	487,446	4,806	487,446	417,672	06/30/2023
57643MLZ5	269,334	264,924	4,410	264,924	253,589	06/30/2023
59023PAB9	497,202	495,714	1,488	495,714	511,575	06/30/2023
74958YAE2	281,262	262,418	18,844	262,418	270,970	06/30/2023
863579XC7	1,084,387	1,062,034	22,353	1,062,034	1,101,633	06/30/2023
863579XR4	2,120,615	2,023,213	97,402	2,023,213	2,051,084	06/30/2023
86363GAF1	1,315,519	1,224,816	90,703	1,224,816	1,244,515	06/30/2023
885220KW2	1,906,234	1,901,275	4,960	1,901,275	1,823,623	06/30/2023
			9,314,605			

- (4) The following table shows all loan-backed securities with an unrealized loss:

a. The aggregate amount of unrealized losses:

1. Less than 12 Months

\$ (392,430,096)

2. 12 Months or Longer

(2,815,134,299)

b. The aggregate related fair value of securities with unrealized losses:

1. Less than 12 Months

\$ 8,105,389,149

2. 12 Months or Longer

17,182,001,456
- (5) Based on cash flow projections received from independent sources (which reflect loan to collateral values, subordination, vintage and geographic concentration), implied cash flows inherent in security ratings and analysis of historical payment data, management believes that the Company will recover its cost basis in all securities with unrealized losses. The Company has the intent to hold securities in an unrealized loss position until they recover in value or mature.
- 7.2

NOTES TO FINANCIAL STATEMENTS

- E. Dollar Repurchase Agreements and/or Securities Lending Transactions – Not applicable.
- F. Repurchase Agreements Transactions Accounted for as Secured Borrowing – Not applicable.
- G. Reverse Repurchase Agreements Transactions Accounted for as Secured Borrowing – Not applicable.
- H. Repurchase Agreements Transactions Accounted for as a Sale – Not applicable.
- I. Reverse Repurchase Agreements Transactions Accounted for as a Sale – Not applicable.
- J. Real Estate – Not applicable.
- K. Low Income Housing Tax Credits – Not applicable.
- L. Restricted Assets – No significant change.
- M. Working Capital Finance Investments – Not applicable.
- N. Offsetting and Netting of Assets and Liabilities – Not applicable.
- O. 5GI Securities

Investment	Number of 5GI Securities		Aggregate BACV		Aggregate Fair Value	
	Current Year	Prior Year	Current Year	Prior Year	Current Year	Prior Year
(1) Bonds - AC	27	36	\$ 70,025,660	\$ 102,166,634	\$ 59,916,818	\$ 96,483,303
(2) LB&SS - AC	-	-	-	-	-	-
(3) Preferred Stock - AC	1	1	3,499,929	3,499,929	5,319,169	5,744,476
(4) Preferred Stock - FV	13	23	28,055,442	62,654,401	28,055,442	62,654,401
(5) Total (1+2+3+4)	41	60	\$ 101,581,031	\$ 168,320,964	\$ 93,291,429	\$ 164,882,180

AC - Amortized Cost FV - Fair Value

- P. Short Sales – Not applicable.
- Q. Prepayment Penalties and Acceleration Fees

	General Account	Separate Account
(1) Number of CUSIPS	0	0
(2) Aggregate amount of investment income	\$ -	\$ -

- R. Share of Cash Pool by Asset Type – Not applicable.

Note 6 – Joint Ventures, Partnerships and Limited Liability Companies

No significant change.

Note 7 – Investment Income

No significant change.

Note 8 – Derivative Instruments

No significant change.

NOTES TO FINANCIAL STATEMENTS

Note 9 – Income Taxes

On August 16th, 2022, the Inflation Reduction Act was signed into law and includes certain corporate income tax provisions. Impacts to the Company include the imposition of a corporate alternative minimum tax ("CAMT") applicable to tax years beginning after December 31, 2022. The CAMT imposes a 15% minimum tax on adjusted financial statement income on corporations that have an average adjusted financial statement income over \$1 billion in the prior three-year period (2020-2022). As of the reporting date, the Company has not determined if it will be liable for CAMT in 2023. In accordance with INT 22-02: *Fourth Quarter 2022 through First Quarter 2023 Reporting of the Inflation Reduction Act – Corporate Alternative Minimum Tax*, the financial statements do not include an estimated impact of the CAMT because a reasonable estimate cannot be made. The United States Treasury Secretary has been authorized to issue guidance on the CAMT and pending such guidance the Company is not able to make a reasonable estimate.

- A. Deferred tax assets and deferred tax liabilities
- (1) The components of the net deferred tax asset/ (liability) are as follows:

	06-2023			12-2022			Change		
	Ordinary	Capital	Total	Ordinary	Capital	Total	Ordinary	Capital	Total
a. Gross deferred tax assets	\$ 221,516,937	\$ 149,089,962	\$ 370,606,899	\$ 187,418,721	\$ -	\$ 187,418,721	\$ 34,098,216	\$ 149,089,962	\$ 183,188,178
b. Statutory valuation allowance adjustment	-	-	-	-	-	-	-	-	-
c. Adjusted gross deferred tax assets	221,516,937	149,089,962	370,606,899	187,418,721	-	187,418,721	34,098,216	149,089,962	183,188,178
d. Deferred tax assets nonadmitted	104,722,291	(54,932,323)	49,789,968	73,566,963	(71,340,460)	2,226,503	31,155,328	16,408,137	47,563,465
e. Subtotal net admitted deferred tax asset	116,794,646	204,022,285	320,816,931	113,851,758	71,340,460	185,192,218	2,942,888	132,681,825	135,624,713
f. Deferred tax liabilities	35,010,580	54,932,323	89,942,903	41,645,944	71,340,460	112,986,404	(6,635,364)	(16,408,137)	(23,043,501)
g. Net admitted deferred tax assets/(net deferred tax liability)	\$ 81,784,066	\$ 149,089,962	\$ 230,874,028	\$ 72,205,814	\$ -	\$ 72,205,814	\$ 9,578,252	\$ 149,089,962	\$ 158,668,214

- (2) Admission calculation components, SSAP No. 101:

	06-2023			12-2022			Change		
	Ordinary	Capital	Total	Ordinary	Capital	Total	Ordinary	Capital	Total
a. Federal income taxes paid in prior years recoverable through loss carrybacks	\$ -	\$ 28,862,746	\$ 28,862,746	\$ -	\$ -	\$ -	\$ -	\$ 28,862,746	\$ 28,862,746
b. Adjusted gross deferred tax assets expected to be realized (excluding the amount of deferred tax assets from 2(a) above) after application of the threshold limitation. (The lesser of 2(b)1 and 2(b)2 below)	81,784,066	120,227,216	202,011,282	72,205,814	-	72,205,814	9,578,252	120,227,216	129,805,468
1. Adjusted gross deferred tax assets expected to be realized following the balance sheet date	81,784,066	120,227,216	202,011,282	72,205,814	-	72,205,814	9,578,252	120,227,216	129,805,468
2. Adjusted gross deferred tax assets allowed per limitation threshold	XXX	XXX	382,680,886	XXX	XXX	415,619,723	XXX	XXX	(32,938,837)
c. Adjusted gross deferred tax assets (excluding the amount of deferred tax assets from 2(a) and 2(b) above) offset by gross deferred tax liabilities	35,010,580	54,932,323	89,942,903	41,645,944	71,340,460	112,986,404	(6,635,364)	(16,408,137)	(23,043,501)
d. Deferred tax assets admitted as the result of application of SSAP No. 101	\$ 116,794,646	\$ 204,022,285	\$ 320,816,931	\$ 113,851,758	\$ 71,340,460	\$ 185,192,218	\$ 2,942,888	\$ 132,681,825	\$ 135,624,713

- (3) Other admissibility criteria:

	06-2023	12-2022
a. Ratio percentage used to determine recovery period and threshold limitation amount	812%	871%
b. Amount of adjusted capital and surplus used to determine recovery period and threshold limitation in 2(b)2 above	\$ 2,551,205,909	\$ 2,770,798,155

- (4) Impact of tax planning strategies:

	06-2023		12-2022		Change	
	Ordinary	Capital	Ordinary	Capital	Ordinary	Capital
a. Determination of adjusted gross deferred tax assets and net admitted deferred tax assets, by tax character as a percentage						
1. Adjusted gross DTAs amount from Note 9A1(c)	\$ 221,516,937	\$ 149,089,962	\$ 187,418,721	\$ -	\$ 34,098,216	\$ 149,089,962
2. Percentage of adjusted gross DTAs by tax character attributable to the impact of tax planning strategies	0.0%	25.7%	0.0%	0.0%	0.0%	25.7%
3. Net admitted adjusted gross DTAs amount from Note 9A1(e)	116,794,646	204,022,285	113,851,758	71,340,460	2,942,888	132,681,825
4. Percentage of net admitted adjusted gross DTAs by tax character admitted because of the impact of tax planning strategies	0.0%	42.3%	0.0%	0.0%	0.0%	42.3%
b. Does the company's tax planning strategies include the use of reinsurance? Yes [] No [X]						

- B. The Company has recognized all of its deferred tax liabilities.

NOTES TO FINANCIAL STATEMENTS

C. Current income taxes incurred consist of the following major components:

(1) Current income tax expense:

	06-2023	12-2022	Change
a. Federal	\$145,026,040	\$ 13,600,685	\$ 131,425,355
b. Foreign	25,300	2,794	22,506
c. Subtotal	145,051,340	13,603,479	131,447,861
d. Federal income tax (benefit) expense on net capital gains	(2,797,455)	(14,295,851)	11,498,396
e. Utilization of capital loss carry-forwards	-	-	-
f. Other	-	-	-
g. Federal and foreign income taxes incurred	<u>\$142,253,885</u>	<u>\$ (692,372)</u>	<u>\$ 142,946,257</u>

(2) Deferred tax assets:

	06-2023	12-2022	Change
a. Ordinary			
1 Discounting of unpaid losses	\$ -	\$ -	\$ -
2 Unearned premium reserve	-	-	-
3 Policyholder reserve	142,989,869	112,698,436	30,291,433
4 Investments	-	-	-
5 Deferred acquisition costs	68,494,043	61,621,231	6,872,812
6 Policyholder dividends accrual	-	-	-
7 Fixed assets	-	-	-
8 Compensation and benefits accrual	-	-	-
9 Pension accrual	217,469	217,028	441
10 Receivables - nonadmitted	3,668,080	6,232,003	(2,563,923)
11 Net operating loss carry-forward	-	-	-
12 Tax credit carry-forward	-	-	-
13 Other	1,622,152	2,084,813	(462,661)
14 Accruals	4,525,324	4,565,210	(39,886)
15 Amortization of intangibles	-	-	-
16 Underwriting expenses	-	-	-
99 Subtotal	<u>\$221,516,937</u>	<u>\$187,418,721</u>	<u>\$ 34,098,216</u>
b. Statutory valuation allowance adjustment	-	-	-
c. Nonadmitted	<u>104,722,291</u>	<u>73,566,963</u>	<u>31,155,328</u>
d. Admitted ordinary deferred tax assets	<u>\$116,794,646</u>	<u>\$113,851,758</u>	<u>\$ 2,942,888</u>
e. Capital			
1 Investments	\$149,089,962	\$ -	\$ 149,089,962
2 Net capital loss carry-forward	-	-	-
3 Real estate	-	-	-
4 Other	-	-	-
5 Non-insurance subsidiaries	-	-	-
99 Subtotal	<u>\$149,089,962</u>	<u>\$ -</u>	<u>\$ 149,089,962</u>
f. Statutory valuation allowance adjustment	-	-	-
g. Nonadmitted	<u>(54,932,323)</u>	<u>(71,340,460)</u>	<u>16,408,137</u>
h. Admitted capital deferred tax assets	<u>\$204,022,285</u>	<u>\$ 71,340,460</u>	<u>\$ 132,681,825</u>
i. Admitted deferred tax assets	<u><u>\$320,816,931</u></u>	<u><u>\$185,192,218</u></u>	<u><u>\$ 135,624,713</u></u>

(3) Deferred tax liabilities:

	06-2023	12-2022	Change
a. Ordinary			
1 Investments	\$ 1,015,796	\$ 1,015,796	\$ -
2 Fixed assets	793,353	902,671	(109,318)
3 Deferred and uncollected premium	1,610,209	2,079,689	(469,480)
4 Policyholder reserves	3,344,958	3,869,176	(524,218)
5 Other	439,162	439,162	0
6 Policy loans	245,367	265,367	(20,000)
7 Other - Reserve transition adjustment	27,561,736	33,074,083	(5,512,347)
99 Subtotal	<u>\$ 35,010,581</u>	<u>\$ 41,645,944</u>	<u>\$ (6,635,363)</u>
b. Capital			
1 Investments	\$ 54,932,322	\$ 71,340,460	\$ (16,408,138)
2 Real estate	-	-	-
3 Other	-	-	-
99 Subtotal	<u>\$ 54,932,322</u>	<u>\$ 71,340,460</u>	<u>\$ (16,408,138)</u>
c. Deferred tax liabilities	<u><u>\$ 89,942,903</u></u>	<u><u>\$112,986,404</u></u>	<u><u>\$ (23,043,501)</u></u>

(4) Net deferred tax assets/(liabilities) \$230,874,028 \$ 72,205,814 \$ 158,668,214

NOTES TO FINANCIAL STATEMENTS

D. The provision for federal income taxes incurred on operations is different from that which would be obtained by applying the statutory federal income tax rate to income before income taxes. The significant items causing this difference are as follows:

	06-2023	12-2022
Provision computed at federal statutory rate	\$ (60,610,671)	\$ 40,254,415
Reinsurance items	11,657,590	54,946,270
OAC 3901-1-67 adoption	-	(46,220,408)
Investment items	(2,127,519)	(10,404,565)
Nonadmitted assets	2,563,923	(3,571,589)
Tax credits	-	(117,666)
Other	79,896	(2,458,627)
Total statutory income tax expense (benefit)	\$ (48,436,781)	\$ 32,427,830
Federal and foreign income tax expense (benefit)	\$ 142,253,885	\$ (692,372)
Change in net deferred income taxes	(190,690,666)	33,120,202
Total statutory income tax expense (benefit)	\$ (48,436,781)	\$ 32,427,830

- E. (1) The Company does not have any operating loss carry-forwards or capital loss carry-forwards available to offset future net income subject to federal income taxes.
- (2) The following are income taxes on operations and realized gains incurred in the current and prior years that will be available for recoupment in the event of future net losses:

Period	Ordinary	Capital	Total
2023	\$ -	\$ -	\$ -
2022	\$ -	\$ -	\$ -
2021	\$ -	\$ 28,862,746	\$ 28,862,746

- (3) The Company had no deposits to disclose under Section 6603 of the Internal Revenue Service Code.

- F. (1) The Company's federal income tax return is consolidated with the following entities – No significant change.
- (2) Tax allocation agreement – No significant change.

G. Federal or Foreign Income Tax Loss Contingencies

The Company does not have any tax loss contingencies for which it is reasonably possible that the total liability will significantly increase within twelve months of the reporting date.

- H. Repatriation Transition Tax (RTT) – Not applicable.
- I. Alternative Minimum Tax – Not applicable.

NOTES TO FINANCIAL STATEMENTS

Note 10 – Information Concerning Parent, Subsidiaries, Affiliates and Other Related Parties

A., B. & C.

The Company is a wholly-owned subsidiary of Glidepath Holdings Inc. which is a subsidiary of Massachusetts Mutual Life Insurance Company ("MMLIC"); 100% of the Company's outstanding common stock is directly owned by Glidepath Holdings Inc. See Schedule Y, Part 1, Organizational Chart.

The Company did not pay or receive federal income tax payments in cash to (from) parent during the period.

The Company did not pay dividends to parent during the period.

The Company did not receive capital contributions during the period.

- D. The Company reported \$835,414 due from and \$639,009 due to the parent and affiliated companies. The terms of the agreement require that these amounts are settled within 90 days.
- E. Management or service contracts and all cost sharing arrangements involving the Company:
 - (1) The Company has an agreement with Barings (an affiliate) which provides investment advisory services to the Company.
 - (2) Certain administrative, management, underwriting, claims, accounting, data processing, collection, and investment services are provided under agreements between the Company and affiliates at charges not unfavorable to the Company or the affiliate.
- F. The Company has no material guarantees or undertakings for the benefit of an affiliate.
- G. The Company's outstanding shares are 100% owned by Glidepath Holdings Inc., a subsidiary of MMLIC.
- H. The Company does not own shares of any upstream intermediate entity or its ultimate parent.
- I. The Company has no investment in a subsidiary that exceeds 10% of admitted assets.
- J. The Company did not recognize any impairment or write down for its investments in subsidiary, controlled or affiliated companies during the statement period.
- K. The Company has no investment in a foreign insurance subsidiary.
- L. The Company owns 100% of the outstanding stock of Manhattan National Holding, LLC ("MNH"), a wholly-owned non-insurance subsidiary. MNH owns 100% of the stock of Manhattan National Life Insurance Company ("MNLIC"), a stock life insurance company domiciled in Ohio. The Company utilizes the look-through approach for the valuation of MNH instead of obtaining audited financial statements for MNH. The Company's carrying value in MNH is \$15,779,048, and represents the carrying value of MNLIC, which is presented on the basis of accounting practices prescribed or permitted by the Ohio Department of Insurance.
- M. All SCA Investments – No significant change.
- N. Investment in Insurance SCAs

All U.S insurance subsidiaries owned by the Company prepare their statutory financial statement in compliance with NAIC statutory accounting practices and procedures.
- O. SCA and SSAP No. 48 Entity Loss Tracking – Not applicable.

Note 11 – Debt

- A. The Company has no capital notes or reverse repurchase agreements outstanding.
- B. Federal Home Loan Bank Agreements
 - (1) The Company became a member of the Federal Home Loan Bank ("FHLB") on August 14, 2009. Through its association with the FHLB and by purchasing a set amount of FHLB stock, the Company can enter into deposit contracts. The Company owned \$41,798,200 and \$48,262,300 of FHLB stock at June 30, 2023 and December 31, 2022, respectively. The Company also posted collateral to the FHLB of assets with a fair value of approximately \$1,241,805,070 as of June 30, 2023. The Company's FHLB borrowing capacity is based on the Company's estimate of collateral eligible to be pledged with the FHLB. The deposit-type contract liabilities and related assets are accounted for in the Company's general account.
 - (2) FHLB Capital Stock
 - a. The Company held 200,000 shares of Class B membership stock at June 30, 2023 and December 31, 2022, respectively. The Company held 217,982 and 282,623 shares of activity and excess stock at June 30, 2023 and December 31, 2022, respectively.
 - b. The Company has no membership stock eligible for redemption.
 - (3) Collateral Pledged to FHLB
 - a. The amount of collateral pledged to the FHLB at June 30, 2023 was \$1,241,805,070 (fair value) and \$1,339,209,689 (carrying value). The total aggregate borrowing from the FHLB at June 30, 2023 was \$500,000,000.
 - b. The maximum amount of collateral pledged to the FHLB during the period was \$1,348,965,485 (fair value) and \$1,424,061,225 (carrying value) at March 31, 2023. The amount borrowed from the FHLB at the time of maximum collateral was \$500,000,000.
 - (4) Borrowing from FHLB
 - a. The Company has accessed a total of \$500,000,000 as part of the funding agreement with the FHLB.
 - b. The maximum amount of borrowings from the FHLB during the period was \$500,000,000.
 - c. The current borrowings related to fixed rate funding agreements are subject to prepayment penalties.

NOTES TO FINANCIAL STATEMENTS

Note 12 - Retirement Plans, Deferred Compensation, Postemployment Benefits and Compensated Absences and Other Postretirement Benefit Plans

A., B., C. & D.

The Company did not participate in a defined benefit plan.

E. Defined Contribution Plan

The Company participates in the retirement plans of MMALIC. MMALIC sponsors funded (qualified 401(k) thrift savings) and unfunded (nonqualified deferred compensation thrift savings) defined contribution plans for its employees and retirees. The qualified 401(k) thrift savings plan's net assets available for benefits were \$50,096,026 as of June 30, 2023 and \$37,437,537 as of December 31, 2022. The Company matches a percentage of employee contributions to the qualified 401(k) thrift savings plan. The Company's total matching thrift savings contributions included in general insurance expenses were \$2,437,810 for the six months ended June 30, 2023 and \$3,968,648 for the year ended December 31, 2022.

F. The Company did not participate in multiemployer plans.

G. The Company did not participate in consolidated or holding company plans.

H. The Company does not accrue for postemployment benefits and compensated absences.

I. The Company does not apply for a subsidy under the Medicare Part D under the Medicare Modernization Act.

Note 13 – Capital and Surplus, Shareholders’ Dividend Restrictions and Quasi-Reorganizations

No significant change.

Note 14 – Contingencies

No significant change.

Note 15 – Leases

No significant change.

Note 16 – Information About Financial Instruments With Off-Balance Sheet Risk and Financial Instruments With Concentrations of Credit Risk

No significant change.

Note 17 – Sale, Transfer and Servicing of Financial Assets and Extinguishments of Liabilities

The Company has no reportable transactions.

Note 18 – Gain or Loss to the Reporting Entity from Uninsured Plans and the Uninsured Portion of Partially Insured Plans

Not applicable.

Note 19 – Direct Premium Written/Produced by Managing General Agents/Third Party Administrators

Not applicable.

NOTES TO FINANCIAL STATEMENTS

Note 20 – Fair Value Measurements

A.

(1) Fair Value Measurements at Reporting Date

The Company has categorized its assets and liabilities measured at fair value into the three-level fair value hierarchy as reflected in the following table. See item (4) below for a discussion of each of these three levels.

	Level 1	Level 2	Level 3	Net Asset Value (NAV)	Total
Assets at fair value					
Bonds:					
Special revenue	\$ -	\$ 740	\$ -	\$ -	\$ 740
Industrial and misc. (unaffiliated)	-	8,716,279	6,567,928	-	15,284,206
Total bonds	-	8,717,019	6,567,928	-	15,284,946
Non-affiliated preferred stock	23,149,522	15,978,000	70,151,872	-	109,279,394
Non-affiliated common stock	103,568,100	-	153,302,587	-	256,870,687
Currency sw aps	-	1,640,016	-	-	1,640,016
Currency forwards	-	689,091	-	-	689,091
Interest rate sw aps	-	28,892,646	-	-	28,892,646
Separate account assets	2,711,521	270,161,595	-	-	272,873,117
Total assets at fair value	\$ 129,429,143	\$ 326,078,367	\$ 230,022,387	\$ -	\$ 685,529,897
Liabilities at fair value					
Currency sw aps	\$ -	\$ 15,611,102	\$ -	\$ -	\$ 15,611,102
Currency forw ards	-	975,630	-	-	975,630
Interest rate sw aps	-	100,937,044	-	-	100,937,044
Separate account liabilities	2,711,521	270,161,595	-	-	272,873,117
Total liabilities at fair value	\$ 2,711,521	\$ 387,685,371	\$ -	\$ -	\$ 390,396,893

(2) Fair Value Measurements in Level 3 of the Fair Value Hierarchy

	Beginning Balance at 3/31/2023	Transfers into Level 3	Transfers out of Level 3	Total Gains and (losses) included in Net Income	Total Gains and (losses) included in Surplus	Purchases	Issuances	Sales	Settlements	Other Adjustments	Ending Balance at 6/30/2023
Bonds: industrial and misc (unaffiliated)	\$ 6,234,414	\$ -	\$ -	\$ 9,432,519	\$ (104,745)	\$ -	\$ -	\$ -	\$ (6,703)	\$ (8,987,557)	\$ 6,567,928
Non-affiliated preferred stock	101,134,456	-	-	-	(2,267,166)	(30,919)	442,451	-	-	(29,126,949)	70,151,872
Non-affiliated common stock	184,135,281	311	-	6,228,703	(15,384,718)	111	-	(346,776)	(28,673,824)	7,343,500	153,302,587
Total	\$ 291,504,151	\$ 311	\$ -	\$ 15,661,223	\$ (17,756,630)	\$ (30,809)	\$ 442,451	\$ (346,776)	\$ (28,680,527)	\$ (30,771,007)	\$ 230,022,388

(3) Fair Value Recognition of Transfers Between Levels

The Company recognizes and records the transfer of securities into and out of Level 3 due to changes in availability of market observable inputs. All transfers are reflected in the table above at fair value as of the end of the reporting period.

(4) Inputs and Techniques Used in Estimating Fair Value

Level 1 - Quoted prices for identical assets or liabilities in active markets (markets in which transactions occur with sufficient frequency and volume to provide pricing information on an ongoing basis). The Company's Level 1 financial instruments consist primarily of publicly traded equity securities for which quoted market prices in active markets are available.

Level 2 - Quoted prices for similar instruments in active markets; quoted prices for identical or similar assets or liabilities in inactive markets (markets in which there are few transactions, the prices are not current, price quotations vary substantially over time or among market makers, or in which little information is released publicly); and valuations based on other significant inputs that are observable in active markets. Level 2 inputs include benchmark yields, reported trades, corroborated broker/dealer quotes, issuer spreads and benchmark securities. When non-binding broker quotes can be corroborated by comparison to similar securities priced using observable inputs, they are classified as Level 2.

Level 3 - Valuations derived from market valuation techniques generally consistent with those used to estimate the fair value of Level 2 financial instruments in which one or more significant inputs are unobservable or when the market for a security exhibits significantly less liquidity relative to markets supporting Level 2 fair value measurements. The unobservable inputs may include management's own assumptions about the assumptions market participants would use based on the best information available in the circumstances. The Company's Level 3 is comprised of financial instruments whose fair value is estimated based on non-binding broker quotes or internally developed using significant inputs not based on, or corroborated by, observable market information.

The Company's investment manager, Barings LLC ("Barings") is responsible for the valuation process and uses data from outside sources (including nationally recognized pricing services and broker/dealers) in establishing fair value. Valuation techniques utilized by pricing services and prices obtained from external sources are reviewed by Barings internal investment professionals who are familiar with the securities being priced and the markets in which they trade to ensure the fair value determination is representative of an exit price. To validate the appropriateness of the prices obtained, the investment manager considers widely published indices (as benchmarks), recent trades, changes in interest rates, general economic conditions and the credit quality of the specific issuers. In addition, Barings communicates directly with the pricing service regarding the methods and assumptions used in pricing, including verifying, on a test basis, the inputs used by the service to value specific securities.

(5) Derivative Assets and Liabilities

- a. The Company's derivative assets/liabilities are reported on a gross basis (see 20-A-(1)).
- b. The Company has no gross or net derivative assets/liabilities measured at fair value in the Level 3 category.

B. The Company has no additional fair value disclosures.

NOTES TO FINANCIAL STATEMENTS

C. The Company has categorized all the financial assets in the financial statements into the three-level fair value hierarchy as reflected in the following table. See item (4) above for a discussion of each of these three levels.

Type of Financial Instrument	Aggregate Fair Value	Admitted Assets	Level 1	Level 2	Level 3	Net Asset Value (NAV)	Not Practicable (Carrying Value)
Financial assets:							
Bonds:							
U.S. Governments	\$ 344,503,325	\$ 380,229,208	\$ -	\$ 344,503,325	\$ -	\$ -	\$ -
All other government	17,956,880	19,143,562	-	17,956,880	-	-	-
States, territories and possessions	178,662,190	185,257,060	-	178,662,190	-	-	-
Political subdivisions of states, territories	249,283,668	251,814,871	-	249,283,668	-	-	-
Special revenue	1,612,374,022	1,750,305,045	-	1,612,374,022	-	-	-
Industrial and misc. (unaffiliated)	27,326,813,125	30,068,827,328	-	20,446,948,288	6,879,864,837	-	-
Hybrid securities	701,476,205	751,243,975	-	688,316,205	13,160,000	-	-
Parent, subs and affiliates	490,664,761	533,637,771	-	382,804,099	107,860,662	-	-
Total bonds	\$ 30,921,734,176	\$ 33,940,458,820	\$ -	\$ 23,920,848,677	\$ 7,000,885,499	\$ -	\$ -
Non affiliated preferred stock	146,459,447	132,884,210	43,393,346	15,978,000	87,088,101	-	-
Non affiliated common stock	256,870,687	256,870,687	103,568,100	-	153,302,587	-	-
Mortgage loans	3,411,882,461	3,642,174,597	-	-	3,411,882,461	-	-
Currency forw ards	689,091	689,091	-	689,091	-	-	-
Fixed-indexed annuity options	777,537,188	816,775,883	226,908,280	550,628,907	-	-	-
Interest rate sw aps	28,892,646	28,892,646	-	28,892,646	-	-	-
Currency sw aps	1,640,016	1,640,016	-	1,640,016	-	-	-
Separate account assets	272,873,117	272,873,117	2,711,521	270,161,595	-	-	-
Cash, cash equivalents and short-term investments	2,300,328,178	2,300,328,178	2,300,328,178	-	-	-	-
Policy loans	30,604,379	30,604,379	-	-	30,604,379	-	-
Total financial assets	\$ 38,149,511,385	\$ 41,424,191,624	\$ 2,676,909,425	\$ 24,788,838,933	\$ 10,683,763,027	\$ -	\$ -
Financial liabilities:							
Currency sw aps	\$ 15,611,102	\$ 15,611,102	\$ -	\$ 15,611,102	\$ -	\$ -	\$ -
Currency forw ards	975,630	975,630	-	975,630	-	-	-
Interest rate sw aps	100,937,044	100,937,044	-	100,937,044	-	-	-
Fixed-indexed annuity options	-	529,734,893	-	-	-	-	-
Separate account liabilities	272,873,117	272,873,117	2,711,521	270,161,595	-	-	-
Total financial liabilities	\$ 390,396,893	\$ 920,131,785	\$ 2,711,521	\$ 387,685,371	\$ -	\$ -	\$ -

D. Not Practicable to Estimate Fair Value – The Company has no financial instruments that fall under this classification.

E. NAV Practical Expedient Investments – The Company has no financial investments that fall under this classification.

Note 21 – Other Items

A. On February 17, 2022, MMALIC entered into a Funds Withheld Coinsurance agreement effective February 1, 2022, with Martello Re Limited, a Bermuda-domiciled Class E life and annuity reinsurer launched in 2022. MMALIC ceded statutory reserves of \$14,188,769,319 on a closed block of fixed, fixed-indexed and payout annuity policies, in exchange for a \$320,000,000 ceding commission paid by Martello Re. Under this agreement, the Company ceded \$11,300,933,678 and \$12,648,690,025 of annuity reserves at June 30, 2023 and December 31, 2022, respectively.

The Company entered into a quota share indemnity reinsurance agreement on fixed-indexed annuity (“FIA”) policies with Hannover Life Reassurance Company of America (“HLR”) effective December 31, 2018. Effective January 1, 2022 the Company has recaptured the FIA policies ceded to HLR in the agreement that became effective on December 31, 2018. The financial impact of the reinsurance recapture was a decrease to statutory capital of \$140,568,399.

B. The Company had no troubled debt restructuring.

C. Other Disclosures:

The impact of the Martello Re transaction on MMALIC’s income statement for 2022 is as follows:

	12-2022
Premiums and other revenues:	
Premiums and annuity considerations for life and accident and health contracts	\$ (14,113,436,353)
Net investment income	(451,786,096)
Commissions and expense allow ances on reinsurance ceded	451,581,204
Aggregate w rite-ins for miscellaneous income	(34,606,397)
Total premiums and other revenues	\$ (14,148,247,642)
Benefits and expenses:	
Annuity benefits	\$ (470,692,560)
Surrender benefits and w ithdraw als for life contracts	(1,604,832,240)
Increase in aggregate reserves for life and accident and health contracts	(12,416,592,021)
Aggregate w rite-ins for deductions	317,161,240
Total benefits and expenses	\$ (14,174,955,581)

Note 22 – Events Subsequent/Other items

No significant change.

Note 23 – Reinsurance

No significant change.

Note 24 – Retrospectively Rated Contracts & Contracts Subject to Redetermination

Not applicable.

NOTES TO FINANCIAL STATEMENTS

Note 25 – Change in Incurred Losses and Loss Adjustment Expenses

Reserves on accident and health contracts for incurred and loss adjustment expenses attributable to insured events of prior years developed as anticipated during the period. Original estimates are increased or decreased as additional information becomes known regarding individual claims. However, no significant trends or unanticipated events were noted. None of the Company's accident and health contracts are subject to retrospective rating or experience refunds.

Note 26 – Intercompany Pooling Arrangements

Not applicable.

Note 27 – Structured Settlements

Not applicable.

Note 28 – Health Care Receivables

Not applicable.

Note 29 – Participating Policies

No significant change.

Note 30 – Premium Deficiency Reserves

Not applicable.

Note 31 – Reserves for Life Contracts and Annuity Contracts

No significant change.

Note 32 – Analysis of Annuity Actuarial Reserves and Deposit Type Liabilities by Withdrawal Characteristics

No significant change.

Note 33 – Analysis of Life Actuarial Reserves by Withdrawal Characteristics

No significant change.

Note 34 – Premiums and Annuity Considerations Deferred and Uncollected

No significant change.

Note 35 – Separate Accounts

No significant change.

Note 36 – Loss/Claim Adjustment Expenses

No significant change.

GENERAL INTERROGATORIES

PART 1 - COMMON INTERROGATORIES

GENERAL

1.1

Did the reporting entity experience any material transactions requiring the filing of Disclosure of Material Transactions with the State of Domicile, as required by the Model Act?

Yes [] No [X]

1.2

If yes, has the report been filed with the domiciliary state?

Yes [] No []

2.1

Has any change been made during the year of this statement in the charter, by-laws, articles of incorporation, or deed of settlement of the reporting entity?

Yes [] No [X]

2.2

If yes, date of change:

3.1

Is the reporting entity a member of an Insurance Holding Company System consisting of two or more affiliated persons, one or more of which is an insurer?
If yes, complete Schedule Y, Parts 1 and 1A.

Yes [X] No []

3.2

Have there been any substantial changes in the organizational chart since the prior quarter end?

Yes [] No [X]

3.3

If the response to 3.2 is yes, provide a brief description of those changes.

3.4

Is the reporting entity publicly traded or a member of a publicly traded group?

Yes [] No [X]

3.5

If the response to 3.4 is yes, provide the CIK (Central Index Key) code issued by the SEC for the entity/group.

4.1

Has the reporting entity been a party to a merger or consolidation during the period covered by this statement?

Yes [] No [X]

4.2

If yes, provide the name of the entity, NAIC Company Code, and state of domicile (use two letter state abbreviation) for any entity that has ceased to exist as a result of the merger or consolidation.

1	2	3
Name of Entity	NAIC Company Code	State of Domicile

5.

If the reporting entity is subject to a management agreement, including third-party administrator(s), managing general agent(s), attorney-in-fact, or similar agreement, have there been any significant changes regarding the terms of the agreement or principals involved?
If yes, attach an explanation.

Yes [] No [X] N/A []

6.1

State as of what date the latest financial examination of the reporting entity was made or is being made.

12/31/2021

6.2

State the as of date that the latest financial examination report became available from either the state of domicile or the reporting entity. This date should be the date of the examined balance sheet and not the date the report was completed or released.

12/31/2016

6.3

State as of what date the latest financial examination report became available to other states or the public from either the state of domicile or the reporting entity. This is the release date or completion date of the examination report and not the date of the examination (balance sheet date).

01/11/2018

6.4

By what department or departments?
State of Ohio, Department of Insurance

6.5

Have all financial statement adjustments within the latest financial examination report been accounted for in a subsequent financial statement filed with Departments?

Yes [] No [] N/A [X]

6.6

Have all of the recommendations within the latest financial examination report been complied with?

Yes [] No [] N/A [X]

7.1

Has this reporting entity had any Certificates of Authority, licenses or registrations (including corporate registration, if applicable) suspended or revoked by any governmental entity during the reporting period?

Yes [] No [X]

7.2

If yes, give full information:

8.1

Is the company a subsidiary of a bank holding company regulated by the Federal Reserve Board?

Yes [] No [X]

8.2

If response to 8.1 is yes, please identify the name of the bank holding company.

8.3

Is the company affiliated with one or more banks, thrifts or securities firms?

Yes [X] No []

8.4

If response to 8.3 is yes, please provide below the names and location (city and state of the main office) of any affiliates regulated by a federal regulatory services agency [i.e. the Federal Reserve Board (FRB), the Office of the Comptroller of the Currency (OCC), the Federal Deposit Insurance Corporation (FDIC) and the Securities Exchange Commission (SEC)] and identify the affiliate's primary federal regulator.

1	2	3	4	5	6
Affiliate Name	Location (City, State)	FRB	OCC	FDIC	SEC
Barings LLC	Charlotte, NC	..NO..	..NO..	..NO..	..YES..
Baring International Investment Limited	London, UK	..NO..	..NO..	..NO..	..YES..
Baring Securities LLC	Charlotte, NC	..NO..	..NO..	..NO..	..YES..
Flourish Financial, LLC	New York, NY	..NO..	..NO..	..NO..	..YES..
MM Ascend Life Investor Services, LLC	Cincinnati, OH	..NO..	..NO..	..NO..	..YES..
MML Distributors, LLC	Springfield, MA	..NO..	..NO..	..NO..	..YES..
MML Investment Advisers, LLC	Springfield, MA	..NO..	..NO..	..NO..	..YES..
MML Investors Services	Springfield, MA	..NO..	..NO..	..NO..	..YES..
MML Strategic Distributors, LLC	Springfield, MA	..NO..	..NO..	..NO..	..YES..
The MassMutual Trust Company, OCC	Enfield, CT	..NO..	..YES..	..NO..	..NO..

GENERAL INTERROGATORIES

- 9.1

Are the senior officers (principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions) of the reporting entity subject to a code of ethics, which includes the following standards?
(a) Honest and ethical conduct, including the ethical handling of actual or apparent conflicts of interest between personal and professional relationships;
(b) Full, fair, accurate, timely and understandable disclosure in the periodic reports required to be filed by the reporting entity;
(c) Compliance with applicable governmental laws, rules and regulations;
(d) The prompt internal reporting of violations to an appropriate person or persons identified in the code; and
(e) Accountability for adherence to the code.

Yes [X] No []
- 9.11

If the response to 9.1 is No, please explain:
.....
- 9.2

Has the code of ethics for senior managers been amended?

Yes [] No [X]
- 9.21

If the response to 9.2 is Yes, provide information related to amendment(s).
.....
- 9.3

Have any provisions of the code of ethics been waived for any of the specified officers?

Yes [] No [X]
- 9.31

If the response to 9.3 is Yes, provide the nature of any waiver(s).
.....

FINANCIAL

- 10.1

Does the reporting entity report any amounts due from parent, subsidiaries or affiliates on Page 2 of this statement?

Yes [X] No []
- 10.2

If yes, indicate any amounts receivable from parent included in the Page 2 amount:

\$

INVESTMENT

- 11.1

Were any of the stocks, bonds, or other assets of the reporting entity loaned, placed under option agreement, or otherwise made available for use by another person? (Exclude securities under securities lending agreements.)

Yes [] No [X]
- 11.2

If yes, give full and complete information relating thereto:
.....
12.

Amount of real estate and mortgages held in other invested assets in Schedule BA:

\$ 232,764,912
13.

Amount of real estate and mortgages held in short-term investments:

\$
- 14.1

Does the reporting entity have any investments in parent, subsidiaries and affiliates?

Yes [X] No []
- 14.2

If yes, please complete the following:

	1	2
	Prior Year-End Book/Adjusted Carrying Value	Current Quarter Book/Adjusted Carrying Value
14.21 Bonds	\$ 520,760,496	\$ 519,042,420
14.22 Preferred Stock	\$ 0	\$
14.23 Common Stock	\$ 401,901,977	\$ 411,377,764
14.24 Short-Term Investments	\$ 0	\$
14.25 Mortgage Loans on Real Estate	\$ 0	\$
14.26 All Other	\$ 152,544,036	\$ 165,229,796
14.27 Total Investment in Parent, Subsidiaries and Affiliates (Subtotal Lines 14.21 to 14.26)	\$ 1,075,206,509	\$ 1,095,649,980
14.28 Total Investment in Parent included in Lines 14.21 to 14.26 above	\$	\$

15.1

Has the reporting entity entered into any hedging transactions reported on Schedule DB?

Yes [X] No []

15.2

If yes, has a comprehensive description of the hedging program been made available to the domiciliary state?
If no, attach a description with this statement.
.....

Yes [X] No [] N/A []

16.

For the reporting entity's security lending program, state the amount of the following as of the current statement date:

16.1

Total fair value of reinvested collateral assets reported on Schedule DL, Parts 1 and 2.

\$ 0

16.2

Total book/adjusted carrying value of reinvested collateral assets reported on Schedule DL, Parts 1 and 2

\$ 0

16.3

Total payable for securities lending reported on the liability page.

\$ 0
- 8.1

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

GENERAL INTERROGATORIES

17. Excluding items in Schedule E - Part 3 - Special Deposits, real estate, mortgage loans and investments held physically in the reporting entity's offices, vaults or safety deposit boxes, were all stocks, bonds and other securities, owned throughout the current year held pursuant to a custodial agreement with a qualified bank or trust company in accordance with Section 1, III - General Examination Considerations, F. Outsourcing of Critical Functions, Custodial or Safekeeping Agreements of the NAIC Financial Condition Examiners Handbook? Yes [X] No []
- 17.1 For all agreements that comply with the requirements of the NAIC Financial Condition Examiners Handbook, complete the following:

1 Name of Custodian(s)	2 Custodian Address
Bank of New York Mellon	1 Wall Street, New York, NY 10286
State Street Global Services	801 Pennsylvania Avenue, Kansas City, MO 64105

- 17.2 For all agreements that do not comply with the requirements of the NAIC Financial Condition Examiners Handbook, provide the name, location and a complete explanation:

1 Name(s)	2 Location(s)	3 Complete Explanation(s)

- 17.3 Have there been any changes, including name changes, in the custodian(s) identified in 17.1 during the current quarter? Yes [] No [X]
- 17.4 If yes, give full information relating thereto:

1 Old Custodian	2 New Custodian	3 Date of Change	4 Reason

- 17.5 Investment management – Identify all investment advisors, investment managers, broker/dealers, including individuals that have the authority to make investment decisions on behalf of the reporting entity. For assets that are managed internally by employees of the reporting entity, note as such. ["...that have access to the investment accounts"; "...handle securities"]

1 Name of Firm or Individual	2 Affiliation
ARES Capital Management LLC	U.....
Ares Management LLC	U.....
Barings LLC	A.....
Centerbridge Martello Advisors, LLC	U.....
Fractal Investments LLC	U.....
Western Asset Management Company	U.....
Angelo, Gordon & Co., L.P	U.....

- 17.5097 For those firms/individuals listed in the table for Question 17.5, do any firms/individuals unaffiliated with the reporting entity (i.e. designated with a "U") manage more than 10% of the reporting entity's invested assets?..... Yes [] No [X]
- 17.5098 For firms/individuals unaffiliated with the reporting entity (i.e. designated with a "U") listed in the table for Question 17.5, does the total assets under management aggregate to more than 50% of the reporting entity's invested assets?..... Yes [] No [X]

- 17.6 For those firms or individuals listed in the table for 17.5 with an affiliation code of "A" (affiliated) or "U" (unaffiliated), provide the information for the table below.

1 Central Registration Depository Number	2 Name of Firm or Individual	3 Legal Entity Identifier (LEI)	4 Registered With	5 Investment Management Agreement (IMA) Filed
130074	ARES Capital Management LLC	549300R4YHRZ8JUZU385	SEC	NO.....
130074	Ares Management LLC	549300JA9GMPFTSVQQ05	SEC	NO.....
106006	Barings LLC	549300G36F1EZS4MQM37	SEC	DS.....
131940	Angelo, Gordon & Co., L.P.	XXJ808RONB9FETFPGB63	SEC	NO.....
157359	Centerbridge Martello Advisors, LLC	549300F5X7LPP05D3544	SEC	NO.....
311767	Fractal Investments LLC – Pending Mandate	984500D14JFD006CBC96	SEC	NO.....
801-8162	Western Asset Management Company	549300C5A561UXU1CN46	SEC	NO.....

- 18.1 Have all the filing requirements of the Purposes and Procedures Manual of the NAIC Investment Analysis Office been followed? Yes [] No [X]
- 18.2 If no, list exceptions:
At 6/30/2023, 69 issues for 52 issuers did not meet the filing requirements of the Purposes and Procedures Manual. The majority of these issues currently lack one or more of the following: Valid cusip/PPN, audited financials and/or executed legal documentation.
Exceptions totaled \$512,983,142 or 1.48% of all assets.

19. By self-designating 5GI securities, the reporting entity is certifying the following elements for each self-designated 5GI security:
- a. Documentation necessary to permit a full credit analysis of the security does not exist or an NAIC CRP credit rating for an FE or PL security is not available.
- b. Issuer or obligor is current on all contracted interest and principal payments.
- c. The insurer has an actual expectation of ultimate payment of all contracted interest and principal.
- Has the reporting entity self-designated 5GI securities? Yes [X] No []

20. By self-designating PLGI securities, the reporting entity is certifying the following elements of each self-designated PLGI security:
- a. The security was purchased prior to January 1, 2018.
- b. The reporting entity is holding capital commensurate with the NAIC Designation reported for the security.
- c. The NAIC Designation was derived from the credit rating assigned by an NAIC CRP in its legal capacity as a NRSRO which is shown on a current private letter rating held by the insurer and available for examination by state insurance regulators.
- d. The reporting entity is not permitted to share this credit rating of the PL security with the SVO.
- Has the reporting entity self-designated PLGI securities? Yes [] No [X]

21. By assigning FE to a Schedule BA non-registered private fund, the reporting entity is certifying the following elements of each self-designated FE fund:
- a. The shares were purchased prior to January 1, 2019.
- b. The reporting entity is holding capital commensurate with the NAIC Designation reported for the security.
- c. The security had a public credit rating(s) with annual surveillance assigned by an NAIC CRP in its legal capacity as an NRSRO prior to January 1, 2019.
- d. The fund only or predominantly holds bonds in its portfolio.
- e. The current reported NAIC Designation was derived from the public credit rating(s) with annual surveillance assigned by an NAIC CRP in its legal capacity as an NRSRO.
- f. The public credit rating(s) with annual surveillance assigned by an NAIC CRP has not lapsed.
- Has the reporting entity assigned FE to Schedule BA non-registered private funds that complied with the above criteria? Yes [] No [X]

GENERAL INTERROGATORIES

PART 2 - LIFE AND ACCIDENT AND HEALTH COMPANIES/FRATERNAL BENEFIT SOCIETIES

Life and Accident Health Companies/Fraternal Benefit Societies:

1.

Report the statement value of mortgage loans at the end of this reporting period for the following categories:

1

Amount

1.1

Long-Term Mortgages In Good Standing

1.11

Farm Mortgages

\$

1.12

Residential Mortgages

\$

2,248,278,640

1.13

Commercial Mortgages

\$

1,393,895,957

1.14

Total Mortgages in Good Standing

\$

3,642,174,597

1.2

Long-Term Mortgages In Good Standing with Restructured Terms

1.21

Total Mortgages in Good Standing with Restructured Terms

\$

1.3

Long-Term Mortgage Loans Upon which Interest is Overdue more than Three Months

1.31

Farm Mortgages

\$

1.32

Residential Mortgages

\$

1.33

Commercial Mortgages

\$

1.34

Total Mortgages with Interest Overdue more than Three Months

\$

0

1.4

Long-Term Mortgage Loans in Process of Foreclosure

1.41

Farm Mortgages

\$

1.42

Residential Mortgages

\$

1.43

Commercial Mortgages

\$

1.44

Total Mortgages in Process of Foreclosure

\$

0

1.5

Total Mortgage Loans (Lines 1.14 + 1.21 + 1.34 + 1.44) (Page 2, Column 3, Lines 3.1 + 3.2)

\$

3,642,174,597

1.6

Long-Term Mortgages Foreclosed, Properties Transferred to Real Estate in Current Quarter

1.61

Farm Mortgages

\$

1.62

Residential Mortgages

\$

1.63

Commercial Mortgages

\$

1.64

Total Mortgages Foreclosed and Transferred to Real Estate

\$

0

2.

Operating Percentages:

2.1

A&H loss percent

%

2.2

A&H cost containment percent

%

2.3

A&H expense percent excluding cost containment expenses

%

3.1

Do you act as a custodian for health savings accounts?

Yes

[]

No

[X]

3.2

If yes, please provide the amount of custodial funds held as of the reporting date

\$

3.3

Do you act as an administrator for health savings accounts?

Yes

[]

No

[X]

3.4

If yes, please provide the balance of the funds administered as of the reporting date

\$

4.

Is the reporting entity licensed or chartered, registered, qualified, eligible or writing business in at least two states?

Yes

[X]

No

[]

4.1

If no, does the reporting entity assume reinsurance business that covers risks residing in at least one state other than the state of domicile of the reporting entity?

Yes

[]

No

[]

Fraternal Benefit Societies Only:

5.1

In all cases where the reporting entity has assumed accident and health risks from another company, provisions should be made in this statement on account of such reinsurances for reserve equal to that which the original company would have been required to establish had it retained the risks. Has this been done?

Yes

[]

No

[]

N/A

[]

5.2

If no, explain:

6.1

Does the reporting entity have outstanding assessments in the form of liens against policy benefits that have increased surplus?

Yes

[]

No

[]

6.2

If yes, what is the date(s) of the original lien and the total outstanding balance of liens that remain in surplus?

Date	Outstanding Lien Amount

SCHEDULE S - CEDED REINSURANCE

1	2	3	4	5	6	7	8	9	10
NAIC Company Code	ID Number	Effective Date	Name of Reinsurer	Domiciliary Jurisdiction	Type of Reinsurance Ceded	Type of Business Ceded	Type of Reinsurer	Certified Reinsurer Rating (1 through 6)	Effective Date of Certified Reinsurer Rating
			NONE						

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE T - PREMIUMS AND ANNUITY CONSIDERATIONS

Current Year To Date - Allocated by States and Territories

States, Etc.			Direct Business Only					
			Life Contracts		4 Accident and Health Insurance Premiums, Including Policy, Membership and Other Fees	5 Other Considerations	6 Total Columns 2 Through 5	7 Deposit-Type Contracts
			2 Life Insurance Premiums	3 Annuity Considerations				
1	Active Status (a)							
1. Alabama	AL	L	76,059	90,301,062	17,921		90,395,042	
2. Alaska	AK	L	4,767	1,824,643			1,829,410	
3. Arizona	AZ	L	258,150	80,865,915	4,364		81,128,429	627,769
4. Arkansas	AR	L	77,202	33,963,924	586		34,041,712	481,048
5. California	CA	L	2,218,345	348,704,930	4,268		350,927,543	382,284
6. Colorado	CO	L	98,972	42,430,840	45,225		42,575,037	
7. Connecticut	CT	L	171,663	84,404,575	2,672		84,578,910	
8. Delaware	DE	L	21,887	22,311,404			22,333,291	
9. District of Columbia	DC	L	11,346	3,406,515			3,417,861	
10. Florida	FL	L	807,908	334,458,751	133,726		335,400,385	279,219
11. Georgia	GA	L	377,344	101,714,290	36,548		102,128,182	
12. Hawaii	HI	L	129,087	36,818,859			36,947,946	
13. Idaho	ID	L	34,496	23,505,229	1,302		23,541,027	
14. Illinois	IL	L	332,654	152,231,505	69,519		152,633,678	113,404
15. Indiana	IN	L	84,392	96,143,890	65,524		96,293,806	255,372
16. Iowa	IA	L	78,458	34,722,404	55,986		34,856,848	
17. Kansas	KS	L	52,683	17,034,339	75,783		17,162,805	
18. Kentucky	KY	L	80,859	55,263,332	89,321		55,433,512	
19. Louisiana	LA	L	106,993	96,052,701	644		96,160,338	585,080
20. Maine	ME	L	35,457	14,397,804	3,815		14,437,076	
21. Maryland	MD	L	246,175	67,577,215	5,066		67,828,456	
22. Massachusetts	MA	L	192,586	97,347,115			97,539,701	197,933
23. Michigan	MI	L	137,786	177,286,859	1,580		177,426,225	31,349
24. Minnesota	MN	L	200,781	61,178,195	4,901		61,383,877	125,955
25. Mississippi	MS	L	67,446	27,229,156	1,466		27,298,068	813,644
26. Missouri	MO	L	149,229	164,852,538	83,081		165,084,848	186,221
27. Montana	MT	L	4,988	3,875,670	6,987		3,887,645	82,553
28. Nebraska	NE	L	114,835	18,394,492	35,334		18,544,661	
29. Nevada	NV	L	138,640	22,619,714	6,791		22,765,145	
30. New Hampshire	NH	L	25,729	17,275,288	27,647		17,328,664	1,101,145
31. New Jersey	NJ	L	264,050	162,273,445	2,215		162,539,710	522,202
32. New Mexico	NM	L	91,274	6,789,125			6,880,399	
33. New York	NY	N	61,022	8,050,174	2,768		8,113,964	
34. North Carolina	NC	L	521,256	165,799,297	745,750		167,066,303	
35. North Dakota	ND	L	25,778	9,414,006			9,439,784	
36. Ohio	OH	L	254,298	196,371,508	30,548		196,656,354	321,851
37. Oklahoma	OK	L	247,431	18,835,675	36,186		19,119,292	
38. Oregon	OR	L	53,180	28,431,757	25,576		28,510,513	
39. Pennsylvania	PA	L	542,599	269,304,114	5,826		269,852,539	232,988
40. Rhode Island	RI	L	22,823	29,911,595	2,020		29,936,438	
41. South Carolina	SC	L	194,155	97,803,850	125,133		98,123,138	
42. South Dakota	SD	L	15,869	10,130,468	25		10,146,362	
43. Tennessee	TN	L	183,079	154,309,737	105,569		154,598,385	
44. Texas	TX	L	1,087,647	199,791,201	70,831		200,949,679	
45. Utah	UT	L	72,251	31,218,433	19,661		31,310,345	
46. Vermont	VT	L	13,704	5,886,600	10,284		5,910,588	
47. Virginia	VA	L	427,713	72,293,967	115,906		72,837,586	
48. Washington	WA	L	138,597	82,021,919	81,194		82,241,710	756,565
49. West Virginia	WV	L	53,683	25,663,611	3,002		25,720,296	
50. Wisconsin	WI	L	112,906	91,015,620	129,536		91,258,062	
51. Wyoming	WY	L	10,028	1,635,307			1,645,335	
52. American Samoa	AS	N					0	
53. Guam	GU	N	38,960				38,960	
54. Puerto Rico	PR	N	172				172	
55. U.S. Virgin Islands	VI	N	1,186				1,186	
56. Northern Mariana Islands	MP	N					0	
57. Canada	CAN	N					0	
58. Aggregate Other Aliens	OT	XXX	41,317	27,714	0	0	69,031	0
59. Subtotal	XXX		10,811,895	3,995,172,277	2,292,087	0	4,008,276,259	7,096,582
90. Reporting entity contributions for employee benefits plans	XXX						0	
91. Dividends or refunds applied to purchase paid-up additions and annuities	XXX						0	
92. Dividends or refunds applied to shorten endowment or premium paying period	XXX						0	
93. Premium or annuity considerations waived under disability or other contract provisions	XXX		135,887		146,925		282,812	
94. Aggregate or other amounts not allocable by State	XXX		0	0	0	0	0	0
95. Totals (Direct Business)	XXX		10,947,782	3,995,172,277	2,439,012	0	4,008,559,071	7,096,582
96. Plus Reinsurance Assumed	XXX		1,467,953	517,982	1,611,437		3,597,372	
97. Totals (All Business)	XXX		12,415,735	3,995,690,259	4,050,449	0	4,012,156,443	7,096,582
98. Less Reinsurance Ceded	XXX		4,940,023	202,022,361	2,439,012		209,401,396	24,943
99. Totals (All Business) less Reinsurance Ceded	XXX		7,475,712	3,793,667,898	1,611,437	0	3,802,755,047	7,071,639
DETAILS OF WRITE-INS								
58001. Other Alien	XXX		41,317	27,714			69,031	
58002.	XXX							
58003.	XXX							
58998. Summary of remaining write-ins for Line 58 from overflow page	XXX		0	0	0	0	0	0
58999. Totals (Lines 58001 through 58003 plus 58998)(Line 58 above)	XXX		41,317	27,714	0	0	69,031	0
9401.	XXX							
9402.	XXX							
9403.	XXX							
9498. Summary of remaining write-ins for Line 94 from overflow page	XXX		0	0	0	0	0	0
9499. Totals (Lines 9401 through 9403 plus 9498)(Line 94 above)	XXX		0	0	0	0	0	0

(a) Active Status Counts:

1. L - Licensed or Chartered - Licensed insurance carrier or domiciled RRG	50	4. Q - Qualified - Qualified or accredited reinsurer	0
2. R - Registered - Non-domiciled RRGs	0	5. N - None of the above - Not allowed to write business in the state	7
3. E - Eligible - Reporting entities eligible or approved to write surplus lines in the state	0		

SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

The following entities are general partner level or above of **Massachusetts Mutual Life Insurance Company** (Parent)

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY	04-1590850	65935	Massachusetts
Direct & Indirect Owned Subsidiaries:			
C.M. Life Insurance Company	06-1041383	93432	Connecticut
MML Bay State Life Insurance Company	43-0581430	70416	Connecticut
CML Special Situations Investor LLC	None		Delaware
CM Life Mortgage Lending LLC	None		Delaware
CML Mezzanine Investor III, LLC	None		Delaware
CML Global Capabilities LLC	None		Delaware
MM Global Capabilities I LLC	None		Delaware
MassMutual Global Business Services India LLP	None		India
MM Global Capabilities (Netherlands) B.V.	None		Netherlands
MassMutual Global Business Services Romania S.R.L.	None		Romania
MM Global Capabilities II LLC	None		Delaware
MM Global Capabilities III LLC	None		Delaware
MM/Barings Multifamily TEBS 2020 LLC	None		Delaware
Berkshire Way LLC	04-1590850		Delaware
MML Special Situations Investor LLC	None		Delaware
Timberland Forest Holding LLC	47-5322979		Delaware
Lyme Adirondack Forest Company, LLC	None		Delaware
Lyme Adirondack Timberlands I, LLC	None		Delaware
Lyme Adirondack Timberlands II, LLC	None		Delaware
Lyme Adirondack Timber Sales, LLC	None		Delaware
MSP-SC, LLC	04-1590850		Delaware
Insurance Road LLC	04-1590850		Delaware
MassMutual Trad Private Equity LLC	04-1590850		Delaware
MassMutual Intellectual Property LLC	04-1590850		Delaware
Trad Investments I LLC	None		Delaware
ITPS Holding LLC	None		Delaware
HITPS LLC	None		Delaware
EM Opportunities LLC	None		Delaware
MassMutual MCAM Insurance Company, Inc.	None		Vermont
MassMutual Ventures US IV, GP, LLC	None		Delaware
MassMutual Ventures US IV, L.P.	None		Delaware
MassMutual Ventures Europe/APAC I GP, LLC	None		Delaware
MassMutual Ventures Europe/APAC I GP, L.P.	None		Cayman Islands
MassMutual Ventures Europe/APAC I L.P.	None		Cayman Islands
Counterpointe Sustainable Advisors LLC	None		Delaware
CSA Intermediate Holdco LLC	None		Delaware
Counterpointe Trust Services LLC	None		Delaware

*This entity is owned by another or multiple entities in the group. Please refer to Sch Y Part 1A for the ownership and percentage information.

SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

12.1

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
CP PACE LLC	None		Delaware
CSA Employee Services Company LLC	None		Delaware
Counterpointe Sustainable Real Estate II LLC	None		Delaware
Counterpointe Energy Solutions II LLC	None		Delaware
Counterpointe Energy Solutions (CA) II LLC	27-0105644		Delaware
Counterpointe Energy Services LLC	None		Delaware
JFIN Parent LLC	None		Delaware
Jefferies Finance LLC	27-0105644		Delaware
JFIN GP Adviser LLC	None		Delaware
JFIN Fund III LLC	None		Delaware
Jefferies Credit Partners LLC	None		Delaware
APEX Credit Partners LLC	None		Delaware
Jefferies Credit Management LLC	None		Delaware
JCP Direct Lending CLO 2022 LLC	None		Delaware
Jefferies Direct Lending Europe SCSp SICAV-RAIF	None		Luxembourg
Jefferies Credit Management Holdings LLC	None		Delaware
Senior Credit Investments, LLC	None		Delaware
JDLF GP (Europe) S.a.r.l	None		Luxembourg
JFAM GP LLC	None		Delaware
JFAM GP LP	None		Delaware
Jefferies Direct Lending Fund C LP	None		Delaware
Jefferies DLF C Holdings LLC	None		Delaware
Jefferies Direct Lending Fund C SPE LLC	None		Delaware
JDLF II GP LLC	None		Delaware
JDLF II GP LP	None		Delaware
Jefferies Direct Lending Fund II C LP	None		Delaware
Jefferies DLF 2 C Holdings LLC	None		Delaware
Jefferies Direct Lending Fund II C SPE LLC	None		Delaware
JCP Direct Lending CLO 2023-1 LLC	None		Delaware
JCP Direct Lending CLO 2023 Ltd.	None		Jersey Channel Islands
Jefferies Private Credit BDC Inc.	None		Maryland
Jefferies Senior Lending LLC	None		Delaware
Jefferies Credit Partners BDC Inc	None		Maryland
JFIN Revolver Holdings LLC	None		Delaware
JFIN Revolver Holdings II LLC	None		Delaware
JFIN Revolver Holdings IV LLC	None		Delaware
JFIN Co-Issuer Corporation	None		Delaware
JFIN Europe GP, S.a.r.l.	None		Luxembourg
Jefferies Finance Europe, S.L.P.	None		Luxembourg
Jefferies Finance Europe, SCSp	None		Luxembourg
Jefferies Finance Business Credit LLC	None		Delaware
JFIN Business Credit Fund I LLC	None		Delaware
JFIN Funding 2021 LLC	None		Delaware

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	Federal Tax ID	NAIC Co Code	State of Domicile
JFIN High Yield Investments LLC	None		Delaware
JFIN LC Fund LLC	None		Delaware
JFIN Revolver CLO 2017 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2017-II Ltd.	None		Cayman Islands
JFIN Revolver CLO 2017-III Ltd.	None		Cayman Islands
JFIN Revolver CLO 2018 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2019 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2019-II Ltd.	None		Cayman Islands
JFIN Revolver CLO 2020 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2021-II Ltd.	None		Cayman Islands
JFIN Revolver CLO 2021-V Ltd.	None		Cayman Islands
JFIN Revolver CLO 2022-II Ltd.	None		Cayman Islands
JFIN Revolver CLO 2022-III Ltd.	None		Cayman Islands
JFIN Revolver CLO 2022-IV Ltd.	None		Cayman Islands
JFIN Revolver CLO 2022-IV LLC	None		Cayman Islands
JFIN Revolver Fund, L.P.	None		Delaware
JFIN Revolver Funding 2021 Ltd.	None		Delaware
JFIN Revolver Funding 2021-III Ltd.	None		Delaware
JFIN Revolver Funding 2021-IV Ltd.	None		Delaware
JFIN Revolver Funding 2022-I Ltd.	None		Bermuda
JFIN Revolver SPE1 2022 LLC	None		Delaware
JFIN Revolver SPE3 2022 LLC	None		Delaware
JFIN Revolver SPE4 2022 LLC	None		Delaware
SFL Parkway Funding 2022 LLC	None		Delaware
JCP Private Loan Management GP LLC	None		Delaware
JCP Private Loan Management LP	None		Delaware
Beauty Brands Acquisition Holdings LLC	None		Delaware
Beauty Brands Acquisition LLC	None		Delaware
Beauty Brands Acquisition Intermediate LLC	None		Delaware
Forma Brands, LLC	None		Delaware
Apex Credit Holdings LLC	None		Delaware
JFIN CLO 2012 Ltd.	None		Cayman Islands
JFIN CLO 2013 Ltd.	None		Cayman Islands
JFIN CLO 2014 Ltd.	None		Cayman Islands
JFIN CLO 2014-II Ltd.	None		Cayman Islands
JFIN CLO 2015 Ltd.	None		Cayman Islands
JFIN CLO 2015-II Ltd.	None		Cayman Islands
JFIN CLO 2016 Ltd.	None		Cayman Islands
JFIN CLO 2017 Ltd.	None		Cayman Islands
JFIN CLO 2017 II Ltd.	None		Cayman Islands
Tomorrow Parent, LLC	None		Delaware
Custom Ecology Holdco, LLC	None		Delaware
Glidepath Holdings Inc.	86-2294635		Delaware

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	Federal Tax ID	NAIC Co Code	State of Domicile
MassMutual Ascend Life Insurance Company	13-1935920	63312	Ohio
AAG Insurance Agency, LLC	31-1422717		Kentucky
Annuity Investors Life Insurance Company	31-1021738	93661	Ohio
MM Ascend Life Investor Services, LLC	31-1395344		Ohio
MM Ascend Mortgage Lending LLC	31-1395344		Ohio
Manhattan National Holding, LLC	26-3260520		Ohio
Manhattan National Life Insurance Company	45-0252531	67083	Ohio
MassMutual Mortgage Lending LLC	None		Delaware
MM Copper Hill Road LLC	04-1590850		Delaware
MMV CTF I GP LLC	None		Delaware
MassMutual Ventures Climate Technology Fund I LP	None		Delaware
MM Direct Private Investment Holding LLC	None		Delaware
MM Direct Private Investments UK Limited	None		England & Wales
DPI-ACRES Capital LLC	None		Delaware
MM Investment Holding	None		Cayman Islands
MMIH Bond Holdings LLC	None		Delaware
MassMutual Asset Finance LLC*	26-0073611		Delawar
MMAF Equipment Finance LLC 2017-B	32-0546197		Delaware
MMAF Equipment Finance LLC 2018-A	82-5335801		Delaware
MMAF Equipment Finance LLC 2019-A	83-3722640		Delaware
MMAF Equipment Finance LLC 2019-B	None		Delaware
MMAF Equipment Finance LLC 2020-A	None		Delaware
MMAF Equipment Finance LLC 2020-B	None		Delaware
MMAF Equipment Finance LLC 2021-A	None		Delaware
MMAF Equipment Finance LLC 2022-A	None		Delaware
MMAF Equipment Finance LLC 2022-B	None		Delaware
MMAF Equipment Finance LLC 2023-A	None		Delaware
Rozier LLC	None		Delaware
MML Management Corporation	04-2443240		Massachusetts
MassMutual International Holding MSC, Inc.	04-3548444		Massachusetts
MassMutual Holding MSC, Inc.	04-3341767		Massachusetts
MML CM LLC	None		Delaware
Blueprint Income LLC	None		New York
Flourish Digital Assets LLC	None		Delaware
Flourish Financial LLC	None		Delaware
Flourish Holding Company LLC	None		Delaware
Flourish Insurance Agency LLC	None		Delaware
Flourish Technologies LLC	None		Delaware
MassMutual Ventures US IV GP	04-1590850		Delaware
MassMutual Venture US IV LP	04-1590850		Delaware
MML Distributors LLC*	04-3356880		Massachusetts
MML Investment Advisers, LLC	None		Delaware
MML Strategic Distributors, LLC	46-3238013		Delaware

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	Federal Tax ID	NAIC Co Code	State of Domicile
The MassMutual Trust Company, FSB	06-1563535		Connecticut
MML Private Placement Investment Company I, LLC	04-1590850		Delaware
MML Private Equity Fund Investor LLC	04-1590850		Delaware
MM Private Equity Intercontinental LLC	04-1590850		Delaware
Pioneers Gate LLC	45-2738137		Delaware
MassMutual Holding LLC	04-2854319		Delaware
Fern Street LLC	37-1732913		Delaware
Low Carbon Energy Holding	None		United Kingdom
Sleeper Street LLC	None		Delaware
Teaktree Acquisition, LLC	None		Delaware
VGS Acquisition Holding, LLC	None		Delaware
Haven Life Insurance Agency, LLC	46-2252944		Delaware
Aland Royalty Holdings LP	None		Delaware
GASL Holdings LLC	None		Delaware
Barings Asset-Based Income Fund (US) LP	None		Delaware
Babson Capital Global Special Situation Credit Fund 2*	98-1206017		Delaware
Barings Global Real Assets Fund LP	82-3867745		Delaware
Barings Global Special Situations Credit Fund 3	None		Ireland
Barings North American Private Loan Fund LP	38-4010344		Delaware
MassMutual Assignment Company	06-1597528		North Carolina
MassMutual Capital Partners LLC	04-1590850		Delaware
Marco Hotel LLC	46-4255307		Delaware
HB Naples Golf Owner LLC	45-3623262		Delaware
RB Apartments LLC	82-4411267		Delaware
MassMutual Ventures Holding LLC	None		Delaware
Athens Fund Management LLC	None		Delaware
Crane Venture Partners LLP	None		United Kingdom
MassMutual Ventures Management LLC	None		Delaware
MassMutual Ventures SEA Management Private Limited	None		Singapore
MMV UK/SEA Limited	None		England & Wales
MassMutual Ventures Southeast Asia I LLC	None		Delaware
MassMutual Ventures Southeast Asia II LLC	None		Delaware
MassMutual Ventures Southeast Asia III LLC	None		Delaware
MMV Digital I LLC	None		Cayman Islands
MassMutual Ventures UK LLC	None		Delaware
MassMutual Ventures US I LLC	47-1296410		Delaware
MassMutual Ventures US II LLC	None		Delaware
MassMutual Ventures US III LLC	None		Delaware
MassMutual Ventures US IV LLC	None		Delaware
MM Catalyst Fund LLC	None		Delaware
MM Catalyst Fund II LLC	None		Delaware
MM Rothesay Holdco US LLC	04-1590850		Delaware
Rothesay Limited	None		United Kingdom

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	Federal Tax ID	NAIC Co Code	State of Domicile
Rothesay Mortgages Limited	None		United Kingdom
Rothesay Life Plc	None		United Kingdom
Rothesay MA No.1 Limited	None		United Kingdom
Rothesay MA No.3 Limited	None		United Kingdom
Rothesay MA No.4 Limited	None		United Kingdom
LT Mortgage Finance Limited	None		United Kingdom
Rothesay Property Partnership 1 LLP	None		United Kingdom
Rothesay Foundation	None		United Kingdom
Rothesay Pensions Management Limited	None		United Kingdom
Rothesay Asset Management UK Limited	None		United Kingdom
Rothesay Asset Management Australia Pty Ltd	None		Australia
Rothesay Asset Management North America LLC	None		Delaware
MML Investors Services, LLC	04-1590850		Massachusetts
MML Insurance Agency, LLC	04-1590850		Massachusetts
MMLISI Financial Alliances, LLC	41-2011634		Delaware
LifeScore Labs, LLC	47-1466022		Massachusetts
MM Asset Management Holding LLC	45-4000072		Delaware
Barings LLC	51-0504477		Delaware
Baring Asset Management (Asia) Holdings Limited	98-0524271		Hong Kong, Special Administrative Region of China
Baring International Fund Managers (Bermuda) Limited	98-0457465		Bermuda
Baring Asset Management (Asia) Limited	98-0457463		Hong Kong, Special Administrative Region of China
Baring Asset Management Korea Limited	None		Korea
Barings Investment Management (Shanghai) Limited	None		Hong Kong, Special Administrative Region of China
Barings Overseas Investment Fund Management (Shanghai) Limited	None		Hong Kong, Special Administrative Region of China
Baring SICE (Taiwan) Limited	98-0457707		Taiwan ROC
Barings Singapore Pte. Ltd.	None		Singapore
Barings Japan Limited	98-0236449		Japan
Barings Australia Holding Company Pty Ltd	None		Australia
Barings Australia Pty Ltd	None		Australia
Barings Australia Real Estate Holdings Pty Ltd	None		Australia
Barings Australia Real Estate Pty Ltd	14-0045656		Australia
Altis Property Partners Holdings Pty Ltd	98-0457456		Australia
Altis Asset Management Pty Ltd	None		Australia
Altis Property Partners Pty Ltd	None		Australia
Barings Australia Structured Finance Holdings Pty Ltd	None		Australia
Barings Australia Structured Finance Pty Ltd	None		Australia
Gryphon Capital Partners Pty Ltd	None		Australia
Gryphon Capital Management Pty Ltd	None		Australia
Gryphon Capital Investments Pty Ltd	None		Australia
Barings Finance LLC	80-0875475		Delaware
BCF Europe Funding Limited	None		Ireland
BCF Senior Funding I LLC	None		Delaware
BCF Senior Funding I Designated Activity Company	None		Ireland

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

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	Federal Tax ID	NAIC Co Code	State of Domicile
Barings Real Estate Acquisitions LLC	None		Delaware
Barings Securities LLC	04-3238351		Delaware
Barings Guernsey Limited	98-0437588		Guernsey
Barings Europe Limited	None		United Kingdom
Barings Asset Management Spain SL	None		Spain
Baring France SAS	None		France
Baring International Fund Managers (Ireland) Limited	None		Ireland
Barings GmbH	None		Germany
Barings Italy S.r.l.	None		Italy
Barings Sweden AB	None		Sweden
Barings Netherlands B.V.	None		Netherlands
Barings (U.K.) Limited	98-0432153		United Kingdom
Barings Switzerland Sàrl	None		Switzerland
Baring Asset Management Limited	98-0241935		United Kingdom
Barings European Direct Lending 1 GP LLP	None		United Kingdom
Baring International Investment Limited	98-0457328		United Kingdom
Baring International Investment Management Holdings	98-0457587		United Kingdom
Baring Asset Management UK Holdings Limited	98-0457576		United Kingdom
Baring Fund Managers Limited	98-0457586		United Kingdom
BCGSS 2 GP LLP	None		United Kingdom
Baring Investment Services Limited	98-0457578		United Kingdom
Barings Core Fund Feeder I GP S.à.r.l.	None		Luxembourg
Barings Investment Fund (LUX) GP S.à r.l.	None		Luxembourg
Barings BME GP S.à.r.l.	None		United Kingdom
Barings GPC GP S.à.r.l.	None		Luxembourg
Barings European Core Property Fund GP Sà.r.l	None		United Kingdom
Barings Umbrella Fund (LUX) GP S.à.r.l.	None		Luxembourg
GPLF4(S) GP S.à r. l	None		Luxembourg
PREIF Holdings Limited Partnership	None		United Kingdom
BMC Holdings DE LLC	None		Delaware
Barings Real Estate Advisers Inc.	04-3238351		Delaware
CRA Aircraft Holding LLC*	81-4258759		Delaware
Chassis Acquisition Holding LLC	81-2244465		Delaware
EIP Holdings I, LLC	None		Delaware
Red Lake Ventures, LLC	46-5460309		Delaware
Remington L & W Holdings LLC	81-4065378		Delaware
Validus Holding Company LLC	46-0687392		Delaware
Aland Royalty GP, LLC	None		Delaware
Alaska Future Fund GP, LLC	None		Delaware
BAI Funds SLP, LLC	None		Delaware
BAI GP, LLC	None		Delaware
Baring Asset-Based Income Fund (US) GP, LLC	None		Delaware
Barings CMS Fund GP, LLC	None		Delaware

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

12.7

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Barings Infiniti Fund Management LLC	None		Delaware
Barings Hotel Opportunity Venture I GP, LLC	None		Delaware
Barings Investment Series LLC	None		Delaware
Barings Emerging Generation Fund GP, LLC	None		Delaware
Barings Emerging Generation Fund GP II, LLC	None		Delaware
Barings ERS PE Emerging Manager III GP, LLC	None		Delaware
Barings Global Investment Funds (U.S.) Management LLC	04-1590850		Delaware
Barings CLO Investment Partners GP, LLC	None		Delaware
Barings Core Property Fund GP LLC	None		Delaware
Barings Direct Lending GP Ltd.	None		Cayman Islands
Barings Emerging Generation Fund LP	84-3784245		Delaware
Barings Global Energy Infrastructure Advisors, LLC	None		Delaware
Barings Centre Street CLO Equity Partnership GP, LLC	None		Delaware
Barings Centre Street CLO Equity Partnership LP	None		Delaware
Barings Global Real Assets Fund GP, LLC	None		Delaware
Barings GPSF LLC	None		Delaware
Barings North American Private Loan Fund Management, LLC	None		Delaware
Barings North American Private Loan Fund II Management, LLC	None		Delaware
Barings North American Private Loan Fund III Management, LLC	None		Delaware
Barings Global Special Situations Credit Fund 4 GP (Delaware) LLC	None		Delaware
Barings - MM Revolver Fund GP LLC	None		Delaware
Barings Real Estate European Value Add Fund II Feeder LLC	None		Cayman Islands
BMT RE Debt Fund GP LLC	None		Delaware
Barings Small Business Fund LLC	84-5063008		Delaware
Benton Street Advisors, Inc.	98-0536233		Cayman Islands
BHOVI Incentive LLC	None		Delaware
BIG Real Estate Fund GP LLC	None		Delaware
BIG Real Estate Incentive I LLC	None		Delaware
BIG Real Estate Incentive II LLC	None		Delaware
BRECS VII GP LLC	None		Delaware
BREDIF GP LLC	None		Delaware
CREF X GP LLC	None		Delaware
Great Lakes III GP, LLC	04-1590850		Delaware
Lake Jackson LLC	None		Delaware
Barings Emerging Markets Blended Fund I GP, LLC	None		Delaware
Mezzco III LLC	41-2280126		Delaware
Mezzco IV LLC	80-0920285		Delaware
Mezzco Australia II LLC	None		Delaware
RECSA-NY GP LLC	None		Delaware
SBNP SIA II LLC	None		Delaware
SBNP SIA III LLC	None		Delaware
Barings CLO 2022-I	98-1624360		Cayman Island
Barings CLO 2022-II	None		Cayman Island

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	Federal Tax ID	NAIC Co Code	State of Domicile
Amherst Long Term Holdings, LLC	None		Delaware
MassMutual International LLC	04-3313782		Delaware
MassMutual Solutions LLC	None		Delaware
Haven Technologies Asia Limited	None		Hong Kong
Yunfeng Financial Group Limited	None		Hong Kong
MassMutual Asia Limited (SPV)	None		Hong Kong
MassMutual External Benefits Group LLC	27-3576835		Delaware
MMV CTF I GP LLC	None		Delaware
MassMutual Ventures Climate Technology Fund I LP	27-3576835		Delaware
Other Affiliates & Funds:			
100 w. 3 rd Street LLC	04-1590850		Delaware
300 South Tryon Hotel LLC	82-2432216		Delaware
2160 Grand Manager LLC	04-1590850		Delaware
300 South Tryon LLC	04-1590850		Delaware
Almack Mezzanine Fund II Unleveraged LP	None		United Kingdom
Barings Affordable Housing Mortgage Fund I LLC	82-3468147		Delaware
Barings Affordable Housing Mortgage Fund II LLC	61-1902329		Delaware
Barings Affordable Housing Mortgage Fund III LLC	85-3036663		Delaware
Barings Emerging Markets Corporate Bond Fund*	None		Ireland
Barings European Real Estate Debt Income Fund	None		Luxembourg
Babson Capital Loan Strategies Fund, L.P.*	37-1506417		Delaware
Barings US High Yield Bond Fund*	None		Ireland
Babson CLO Ltd. 2012-II	None		Cayman Islands
Babson CLO Ltd. 2015-I	None		Cayman Islands
Babson CLO Ltd. 2015-II	None		Cayman Islands
Babson CLO Ltd. 2016-I	None		Cayman Islands
Babson CLO Ltd. 2016-II	None		Cayman Islands
Barings CLO Ltd. 2017-I	None		Cayman Islands
Barings CLO 2018-III	None		Cayman Islands
Barings CLO 2018-IV	None		Cayman Islands
Barings CLO 2019-II	98-1473665		Cayman Islands
Barings CLO 2019-III	None		Cayman Islands
Barings CLO 2019-IV	None		Cayman Islands
Barings CLO 2020-I	None		Cayman Islands
Barings CLO 2020-II	None		Cayman Islands
Barings CLO 2020-III	None		Cayman Islands
Barings CLO 2020-IV	None		Cayman Islands
Barings CLO 2021-I	None		Cayman Islands
Barings CLO 2021-II	None		Cayman Islands
Barings CLO 2021-III	None		Cayman Islands
Babson Euro CLO 2014-I BV	None		Netherlands
Babson Euro CLO 2014-II BV	None		Netherlands
Babson Euro CLO 2015-I BV	None		Netherlands

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Barings Euro CLO 2019-I	3603726OH		Ireland
Barings Euro CLO 2019-II	None		Ireland
Barings Euro CLO 2020-I DAC	None		Ireland
Barings Euro CLO 2021-I DAC	3715576VH		Ireland
Barings Euro CLO 2021-II DAC	3750378QH		Ireland
Barings Euro CLO 2021-III DAC	None		Ireland
Barings Euro CLO 2022-I DAC	None		Ireland
Barings Global Em. Markets Equity Fund	82-5330194		North Carolina
Barings Global Energy Infrastructure Fund I LP	98-1332384		Cayman Islands
Barings Global Special Situations Credit 4 Delaware*	85-1465973		Delaware
Barings Global Special Situations Credit 4 LUX*	98-1570693		Luxembourg
Barings Global Technology Equity Fund	None		Ireland
Barings Europe Select Fund	None		Ireland
Barings Hotel Opportunity Venture	87-0977058		Connecticut
Barings Innovations & Growth Real Estate Fund*	86-3661023		Delaware
Barings Middle Market CLO 2017-I Ltd & LLC	None		Cayman Islands
Barings Middle Market CLO 2018-I	None		Cayman Islands
Barings Middle Market CLO 2019-I	None		Cayman Islands
Barings Middle Market CLO Ltd 2021-I	98-1612604		Cayman Islands
Barings RE Credit Strategies VII LP	98-1332384		Delaware
Barings Target Yield Infrastructure Debt Fund*	98-1567942		Luxembourg
Barings CLO Investment Partners LP	81-0841854		Delaware
Barings Euro Value Add II (BREEVA II) *	None		Luxembourg
Barings Real Estate European Value Add I SCSp*	None		United Kingdom
Barings Real Estate Debt Income Fund LP*	85-3449260		Delaware
Barings Transportation Fund LP*	87-1262754		Delaware
Braemar Energy Ventures I, L.P.*	None		Delaware
Barings European Core Property Fund SCSp	None		Luxembourg
Barings European Private Loan Fund III A	46-5001122		Luxembourg
Benchmark 2018-B2 Mortgage Trust	38-4059932		New York
Benchmark 2018-B4	None		New York
Benchmark 2018-B8	38-4096530		New York
Barings Core Property Fund LP	20-5578089		Delaware
DPI Acres Capital SPV LLC	04-1590850		Delaware
Gateway Mezzanine Partners II LP*	90-0991195		Delaware
Great Lakes III, L.P.	37-1708623		Delaware
GIA EU Holdings - Emerson JV Sarl	98-1607033		Luxembourg
JPMCC Commercial Mortgage Securities Trust 2017-JP7	38-4041011; 38-4041012		New York
JPMDB Commercial Mortgage Securities Trust 2017-C5	38-4032059		New York
Martello Re Limited	None		Bermuda
Miami Douglas Three MM LLC	04-1590850		Delaware
MM BIG Peninsula Co-Invest Member LLC	87-4021641		Delaware
MM Direct Private Investment Holding	04-1590850		Delaware

*This entity is owned by another or multiple entities in the group. Please refer to Sch Y Part 1A for the ownership and percentage information.

SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	Federal Tax ID	NAIC Co Code	State of Domicile
MM CM Holding LLC	None		Delaware
MM Debt Participations LLC	81-3000420		Delaware
MM MD1 Station Member LLC	04-1590850		Delaware
MM MD2 Station Member LLC	04-1590850		Delaware
MMV Climate Technology Fund GP	04-1590850		Delaware
MM Subline Borrower LLC	04-1590850		Delaware
Washington Pine LLC	04-1590850		Delaware
Somerset Special Opportunities Fund L.P.*	20-8856877		Delaware
Ten Fan Pier Boulevard LLC	35-2553915		Delaware
Tower Square Capital Partners III, L.P.	41-2280127		Delaware
Tower Square Capital Partners IIIA, L.P.	41-2280129		Delaware
Trailside MM Member LLC*	04-1590850		Delaware
Washington Gateway Two LLC*	83-1325764		Delaware
Washington Gateway Three LLC*	32-0574045		Delaware
Barings Affiliates & Funds:			
Babson Capital Loan Strategies Master Fund LP	None		Cayman Islands
Barings China Aggregate Bond Private Securities Investment Fund	None		Peoples Republic of China
Barings European Growth Trust Fund	None		United Kingdom
Barings Global High Yield Fund	47-3790192		Massachusetts
CCIC Fund	None		Peoples Republic of China
Great Lakes II LLC*	71-1018134		Delaware
Wood Creek Venture Fund LLC	04-1590850		Delaware
Barings Real Estate Affiliates & Funds:			
Barings California Mortgage Fund IV	None		California
Barings Umbrella Fund LUX SCSp SICAV RAIF*	None		Luxembourg
Calgary Railway Holding LLC*	82-2285211		Delaware
Cornbrook PRS Holdings LLC	82-3307907		Delaware
Cornerstone California Mortgage Fund I LLC	95-4207717		California
Cornerstone California Mortgage Fund II LLC	95-4207717		California
Cornerstone California Mortgage Fund III LLC	95-4207717		California
Cornerstone Fort Pierce Development LLC*	56-2630592		Delaware
Cornerstone Permanent Mortgage Fund	45-2632610		Massachusetts
Cornerstone Permanent Mortgage Fund II	61-1750537		Massachusetts
Cornerstone Permanent Mortgage Fund III	35-2531693		Massachusetts
Cornerstone Permanent Mortgage Fund IV	61-1793735		Massachusetts
CREA/PPC Venture LLC	20-0348173		Delaware
Danville Riverwalk Venture, LLC	82-2783393		Delaware
Euro Real Estate Holdings LLC	04-1590850		Delaware
Fan Pier Development LLC*	20-3347091		Delaware
GIA EU Holdings LLC	04-1590850		Delaware
Landmark Manchester Holdings LLC	81-5360103		Delaware
MMLIC Debt Participations LLC	13-1935920		Delaware
MM Brookhaven Member LLC	04-1590850		Delaware

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	Federal Tax ID	NAIC Co Code	State of Domicile
MM Kannapolis Industrial Member LLC	04-1590850		Delaware
MM East South Crossing Member LLC	04-1590850		Delaware
MM Horizon Savannah Member LLC*	04-1590850		Delaware
MM National Self-Storage Program Member LLC	04-1590850		Delaware
MM 1400 E 4th Street Member LLC	04-1590850		Delaware
One Harbor Shore LLC*	80-0948028		Delaware
PACO France Logistics LLC	04-1590850		Delaware
Salomon Brothers Commercial Mortgage Trust 2001-MM	None		Delaware
Three PW Office Holding LLC	81-5273574		Delaware
Trailside MM Member II LLC	04-1590850		Delaware
Unna, Dortmund Holding LLC	82-3250684		Delaware
Washington Gateway Apartments Venture LLC*	45-5401109		Delaware
West 37th Street Hotel LLC*	88-3861481		Delaware
MassMutual Premier Funds:			
MassMutual Premier Main Street Fund	51-0529328		Massachusetts
MassMutual Premier Strategic Emerging Markets Fund	26-3229251		Massachusetts
MassMutual Select Funds:			
MassMutual Select Fundamental Growth Fund	04-3512593		Massachusetts
MassMutual Select Mid-Cap Value Fund	42-1710935		Massachusetts
MassMutual Select Small Capital Value Equity Fund	02-0769954		Massachusetts
MassMutual Select Small Company Value Fund	04-3584140		Massachusetts
MassMutual Select T. Rowe Price Retirement 2005 Fund	82-3347422		Massachusetts
MassMutual Select T. Rowe Price Retirement 2010 Fund	82-3355639		Massachusetts
MassMutual Select T. Rowe Price Retirement 2015 Fund	82-3382389		Massachusetts
MassMutual Select T. Rowe Price Retirement 2020 Fund	82-3396442		Massachusetts
MassMutual Select T. Rowe Price Retirement 2025 Fund	82-3417420		Massachusetts
MassMutual Select T. Rowe Price Retirement 2030 Fund	82-3430358		Massachusetts
MassMutual Select T. Rowe Price Retirement 2035 Fund	82-3439837		Massachusetts
MassMutual Select T. Rowe Price Retirement 2040 Fund	82-3451779		Massachusetts
MassMutual Select T. Rowe Price Retirement 2045 Fund	82-3472295		Massachusetts
MassMutual Select T. Rowe Price Retirement 2050 Fund	82-3481715		Massachusetts
MassMutual Select T. Rowe Price Retirement 2055 Fund	82-3502011		Massachusetts
MassMutual Select T. Rowe Price Retirement 2060 Fund	82-3525148		Massachusetts
MassMutual Select T. Rowe Price Retirement Balanced Fund	82-3533944		Massachusetts
MML Series Investment Funds:			
MML Series International Equity Fund	46-4257056		Massachusetts
MML Series Investment Funds II:			
MML Series II Dynamic Bond Fund	47-3529636		Massachusetts
MML Series II Equity Rotation Fund	47-3544629		Massachusetts
MassMutual RetireSMART Funds:			
MassMutual RetireSMART 2035 Fund	27-1933380		Massachusetts
MassMutual RetireSMART 2045 Fund	27-1932769		Massachusetts
MassMutual RetireSMART 2055 Fund	46-3289207		Massachusetts

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
MassMutual RetireSMART 2060 Fund	47-5326235		Massachusetts
MassMutual 20/80 Allocation Fund	45-1618155		Massachusetts
MassMutual 80/20 Allocation Fund	45-1618222		Massachusetts
MassMutual RetireSMART In Retirement Fund	03-0532464		Massachusetts
MassMutual 40/60 Allocation Fund	45-1618262		Massachusetts
MassMutual 60/40 Allocation Fund	45-1618046		Massachusetts
MassMutual ishares 60/40 Allocation Fund	45-1618046		Massachusetts
MassMutual Balanced Fund	04-3212054		Massachusetts
MassMutual Blue Chip Growth Fund	04-3556992		Massachusetts
MassMutual Core Bond Fund	04-3277549		Massachusetts
MassMutual Disciplined Growth Fund	04-3539084		Massachusetts
MassMutual Disciplined Value Fund	04-3539083		Massachusetts
MassMutual Diversified Value Fund	01-0821120		Massachusetts
MassMutual Equity Opportunities Fund	04-3512590		Massachusetts
MassMutual Growth Opportunities Fund	04-3512589		Massachusetts
MassMutual Inflation-Protected and Income Fund	03-0532475		Massachusetts
MassMutual Mid Cap Growth Fund	04-3512596		Massachusetts
MassMutual Premier Diversified Bond Fund	04-3464165		Massachusetts
MassMutual RetireSMART by JPMorgan 2065 Fund	92-1441036		Massachusetts
MassMutual Select 80/20 Allocation Fund	45-1618222		Massachusetts
MassMutual Select Fundamental Value Fund	04-3584138		Massachusetts
MassMutual Select Overseas Fund	04-3557000		Massachusetts
MassMutual Select T Rowe Price Retirement 2065 Fund	92-1427882		Massachusetts
MassMutual Small Cap Growth Equity Fund	04-3464205		Massachusetts
MassMutual Small Cap Opportunities Fund	04-3424705		Massachusetts
MassMutual Small Cap Value Equity Fund	02-0769954		Massachusetts
MassMutual Strategic Bond Fund	26-0099965		Massachusetts

12.12

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SCHEDULE Y
PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12 Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	13 If Control is Owner- ship Provide Percen- tage	14 Ultimate Controlling Entity(ies)/Person(s)	15 Is an SCA Filing Re- quired? (Yes/No)	16 *
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi- ciliary Loca- tion	Rela- tion- ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)					
. 0435 ...	Massachusetts Mut Life Ins Co	 65935	04-1590850 ..	3848388 .....	.....	.....	Massachusetts Mutual Life Insurance Company (MMLIC)	.. MA.....	.. UIP.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000	MMLIC .....	.....	.....
.....							MassMutual Ventures Europe/APAC I GP, LLC ..	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000	MMLIC .....	.....	.....
.....							MassMutual Ventures Europe/APAC I GP, L.P. .	.. CYM.....	.. NIA.....	MassMutual Ventures Europe/APAC I GP, LLC	Ownership.....	.. 100.000	MMLIC .....	.....	.....
.....							MassMutual Ventures Europe/APAC I GP, L.P. .	.. CYM.....	.. NIA.....	MassMutual Ventures Europe/APAC I GP, L.P.	Ownership.....	.. 100.000	MMLIC .....	.....	.....
.....							Counterpointe Sustainable Advisors LLC	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000	MMLIC .....	.....	.....
.....							CSA Intermediate Holdco LLC	.. DE.....	.. NIA.....	Counterpointe Sustainable Advisors LLC	Ownership.....	.. 100.000	MMLIC .....	.....	.....
.....							Counterpointe Trust Services LLC	.. DE.....	.. NIA.....	CSA Intermediate Holdco LLC	Ownership.....	.. 100.000	MMLIC .....	.....	.....
.....							CP PACE LLC	.. DE.....	.. NIA.....	CSA Intermediate Holdco LLC	Ownership.....	.. 100.000	MMLIC .....	.....	.....
.....							CSA Employee Services Company LLC	.. DE.....	.. NIA.....	CSA Intermediate Holdco LLC	Ownership.....	.. 100.000	MMLIC .....	.....	.....
.....							Counterpointe Sustainable Real Estate II LLC	.. DE.....	.. NIA.....	CSA Intermediate Holdco LLC	Ownership.....	.. 100.000	MMLIC .....	.....	.....
.....							Counterpointe Energy Solutions II LLC	.. DE.....	.. NIA.....	CSA Intermediate Holdco LLC	Ownership.....	.. 100.000	MMLIC .....	.....	.....
.....							Counterpointe Energy Solutions (CA) II LLC .	.. DE.....	.. NIA.....	Counterpointe Energy Solutions (CA) II LLC ..	Ownership.....	.. 100.000	MMLIC .....	.....	.....
.....							Counterpointe Energy Services LLC	.. DE.....	.. NIA.....	CSA Intermediate Holdco LLC	Ownership.....	.. 100.000	MMLIC .....	.....	.....
. 0435 ...	Massachusetts Mut Life Ins Co	 93432	06-1041383 ..	.....	.....	.....	C.M. Life Insurance Company	.. CT.....	.. IA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000	MMLIC .....	.....	.....
. 0435 ...	Massachusetts Mut Life Ins Co	 70416	43-0581430 ..	.....	.....	.....	MML Bay State Life Insurance Company	.. CT.....	.. IA.....	C.M. Life Insurance Company	Ownership.....	.. 100.000	MMLIC .....	.....	.....
.....							CM Life Mortgage Lending LLC	.. DE.....	.. NIA.....	C.M. Life Insurance Company	Ownership.....	.. 100.000	MMLIC .....	.....	.....
.....							CML Mezzanine Investor III, LLC	.. DE.....	.. NIA.....	C.M. Life Insurance Company	Ownership.....	.. 100.000	MMLIC .....	.....	.....
. 0000 ...							CML Special Situations Investor LLC	.. DE.....	.. NIA.....	C.M. Life Insurance Company	Ownership.....	.. 100.000	MMLIC .....	.....	.....
.....							CML Global Capabilities LLC	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000	MMLIC .....	.....	.....
. 0000 ...							MM Global Capabilities I LLC	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000	MMLIC .....	.....	.....
.....							MassMutual Global Business Services India LLP	.. IND.....	.. NIA.....	MM Global Capabilities I LLC	Ownership.....	.. 100.000	MMLIC .....	.....	.....
. 0000 ...							MM Global Capabilities (Netherlands) B.V. ...	.. NLD.....	.. NIA.....	MM Global Capabilities I LLC	Ownership.....	.. 100.000	MMLIC .....	.....	.....
.....							MassMutual Global Business Services Romania S.R.L.	.. ROU.....	.. NIA.....	MM Global Capabilities (Netherlands) B.V. ..	Ownership.....	.. 100.000	MMLIC .....	.....	.....
. 0000 ...							MM Global Capabilities II LLC	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000	MMLIC .....	.....	.....
.....							MM Global Capabilities III LLC	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000	MMLIC .....	.....	.....
. 0000 ...							MM/Barings Multifamily TEBS 2020 LLC	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000	MMLIC .....	.....	.....
.....							MML Special Situations Investor LLC	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000	MMLIC .....	.....	.....
. 0000 ...			47-5322979 ..	.....	.....	.....	Timberland Forest Holding LLC	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000	MMLIC .....	.....	.....
. 0000 ...			47-5322979 ..	.....	.....	.....	Timberland Forest Holding LLC	.. DE.....	.. NIA.....	C.M. Life Insurance Company	Influence.....	.. 0.000	MMLIC .....	.....	.....
. 0000 ...			47-5322979 ..	.....	.....	.....	Timberland Forest Holding LLC	.. DE.....	.. NIA.....	Wood Creek Capital Management LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000 ...							Lyme Adirondack Forest Company, LLC	.. DE.....	.. NIA.....	Timberland Forest Holding LLC	Ownership.....	.. 100.000	MMLIC .....	.....	.....
. 0000 ...							Lyme Adirondack Timberlands I, LLC	.. DE.....	.. NIA.....	Lyme Adirondack Forest Company, LLC	Ownership.....	.. 100.000	MMLIC .....	.....	.....
. 0000 ...							Lyme Adirondack Timberlands II, LLC	.. DE.....	.. NIA.....	Lyme Adirondack Forest Company, LLC	Ownership.....	.. 100.000	MMLIC .....	.....	.....
. 0000 ...							Lyme Adirondack Timber Sales, LLC	.. DE.....	.. NIA.....	Lyme Adirondack Forest Company, LLC	Ownership.....	.. 100.000	MMLIC .....	.....	.....

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE Y
PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12 Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	13 If Control is Owner- ship Provide Percen- tage	14 Ultimate Controlling Entity(ies)/Person(s)	15 Is an SCA Filing Re- quired? (Yes/No)	16 *
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi- ciliary Loca- tion	Rela- tion- ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)					
. 0000 ...			04-1590850 ..	.....	.....	.....	Berkshire Way LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	MSP-SC, LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...							EM Opportunities LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...							MassMutual MCAM Insurance Company, Inc.	.. VT.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...							MassMutual Ventures US IV, GP, LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...							MassMutual Ventures US IV, LP	.. DE.....	 NIA.....	MassMutual Ventures US IV, GP, LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	Insurance Road LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	MassMutual Trad Private Equity LLC	.. DE.....	 NIA.....	Insurance Road LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	MassMutual Intellectual Property LLC	.. DE.....	 NIA.....	Insurance Road LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...							Trad Investments I LLC	.. DE.....	 NIA.....	Insurance Road LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...							ITPSHolding LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...							HITPS LLC	.. DE.....	 NIA.....	ITPS Holding LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...							JFIN Parent LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...							Forma Brands, LLC*	.. DE.....	 NIA.....	JFIN Parent LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...			27-0105644 ..	.....	.....	.....	Jefferies Finance LLC	.. DE.....	 NIA.....	JFIN Parent LLC	Ownership.....	50.000 ...	MMLIC .....	.....	1
. 0000 ...			86-2294635 ..	.....	.....	.....	Glidepath Holdings Inc.	.. DE.....	 UDP.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0435 ...	Massachusetts Mut Life Ins Co	 63312 ..	13-1935920 ..	.....	.....	.....	MassMutual Ascend Life Insurance Company ...	.. OH.....	 RE.....	Glidepath Holdings Inc.	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...			31-1422717 ..	.....	.....	.....	AAG Insurance Agency, LLC	.. KY.....	 NIA.....	MassMutual Ascend Life Insurance Company .	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0435 ...	Massachusetts Mut Life Ins Co	 93661 ..	31-1021738 ..	.....	.....	.....	Annuity Investors Life Insurance Company ...	.. OH.....	 DS.....	MassMutual Ascend Life Insurance Company .	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...			31-1395344 ..	.....	.....	.....	MM Ascend Life Investor Services, LLC	.. OH.....	 NIA.....	MassMutual Ascend Life Insurance Company .	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...							MM Ascend Mortgage Lending LLC	.. OH.....	 DS.....	MassMutual Ascend Life Insurance Company .	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...			26-3260520 ..	.....	.....	.....	Manhattan National Holding, LLC	.. OH.....	 DS.....	MassMutual Ascend Life Insurance Company .	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0435 ...	Massachusetts Mut Life Ins Co	 67083 ..	45-0252531 ..	.....	.....	.....	Manhattan National Life Insurance Company ...	.. OH.....	 DS.....	Manhattan National Holding LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...							MassMutual Mortgage Lending LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...							Jefferies Private Credit BDC Inc.	.. MD.....	 NIA.....	Jefferies Finance LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...							JFIN GP Adviser LLC	.. DE.....	 NIA.....	Jefferies Finance LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...							JFIN Fund III LLC	.. DE.....	 NIA.....	Jefferies Finance LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...							Jefferies Credit Partners LLC	.. DE.....	 NIA.....	Jefferies Finance LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...							Apex Credit Partners LLC	.. DE.....	 NIA.....	Jefferies Credit Partners LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...							Jefferies Credit Management LLC	.. DE.....	 NIA.....	Jefferies Credit Partners LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...							JCP Direct Lending CLO 2022 LLC	.. DE.....	 NIA.....	Jefferies Credit Partners LLC	Ownership.....	9.900 ...	MMLIC .....	.....	.....
. 0000 ...							Jefferies Direct Lending Europe SCSp SICAV- RAIF	.. LUX.....	 NIA.....	Jefferies Credit Partners LLC	Ownership.....	9.900 ...	MMLIC .....	.....	.....
. 0000 ...							Jefferies Credit Management Holdings LLC	.. DE.....	 NIA.....	Jefferies Credit Partners LLC	Ownership.....	9.900 ...	MMLIC .....	.....	.....
. 0000 ...							Senior Credit Investments, LLC	.. DE.....	 NIA.....	Jefferies Credit Partners LLC	Ownership.....	9.900 ...	MMLIC .....	.....	.....
. 0000 ...							JDLF GP (Europe) S.a.r.l	.. LUX.....	 NIA.....	Jefferies Credit Partners LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...							JFAM GP LLC	.. DE.....	 NIA.....	Jefferies Credit Partners LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...							JFAM GP LP	.. DE.....	 NIA.....	Jefferies Credit Partners LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...							Jefferies Direct Lending Fund C LP	.. DE.....	 NIA.....	JFAM GP LP	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...							Jefferies DLF C Holdings LLC	.. DE.....	 NIA.....	Jefferies Direct Lending Fund C LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000 ...							Jefferies Direct Lending Fund C SPE LLC	.. DE.....	 NIA.....	Jefferies DLF C Holdings LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....

SCHEDULE Y
PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi-ciliary Location	Relation-ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Ownership Provide Per-centage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Re-quired? (Yes/No)	*
.0000							JDLF II GP LLC	.DE	NIA	Jefferies Credit Partners LLC	Ownership	100.000	MMLIC		
.0000							JDLF II GP LP	.DE	NIA	JDLF II GP LLC	Ownership	100.000	MMLIC		
.0000							Jefferies Direct Lending Fund II C LP	.DE	NIA	JDLF II GP LP	Ownership	100.000	MMLIC		
.0000							Jefferies DLF 2 C Holdings LLC	.DE	NIA	Jefferies Direct Lending Fund II C LP	Ownership	100.000	MMLIC		
.0000							Jefferies Direct Lending Fund II C SPE LLC	.DE	NIA	Jefferies DLF 2 C Holdings LLC	Ownership	100.000	MMLIC		
.0000							JCP Direct Lending CLO 2023-1 LLC	.DE	NIA	Jefferies Credit Partners LLC	Ownership	100.000	MMLIC		
.0000							JCP Direct Lending CLO 2023 Ltd.	.DE	NIA	JCP Direct Lending CLO 2023 Ltd.	Ownership	100.000	MMLIC		
.0000							Jefferies Senior Lending LLC	.DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							Jefferies Credit Partners BDC Inc	.MD	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Holdings LLC	.DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Holdings II LLC	.DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Holdings IV LLC	.DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Co-Issuer Corporation	.DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Europe GP, S.a.r.l.	.LUX	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							Jefferies Finance Europe, S.L.P.	.LUX	NIA	JFIN Europe GP, S.a.r.l.	Ownership	100.000	MMLIC		
.0000							Jefferies Finance Europe, SCSp	.LUX	NIA	JFIN Europe GP, S.a.r.l.	Ownership	100.000	MMLIC		
.0000							Jefferies Finance Business Credit LLC	.DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Business Credit Fund I LLC	.DE	NIA	Jefferies Finance Business Credit LLC	Ownership	100.000	MMLIC		
.0000							JFIN Funding 2021 LLC	.DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN High Yield Investments LLC	.DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN LC Fund LLC	.DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							Beauty Brands Acquisition Holdings LLC	.DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							Beauty Brands Acquisition LLC	.DE	NIA	Beauty Brands Acquisition Holdings LLC	Ownership	100.000	MMLIC		
.0000							Beauty Brands Acquisition Intermediate LLC	.DE	NIA	Beauty Brands Acquisition LLC	Ownership	100.000	MMLIC		
										Beauty Brands Acquisition Intermediate LLC					
.0000							Forma Brands, LLC	.DE	NIA		Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2017 Ltd.	.CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2017-III Ltd.	.CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2017-III Ltd.	.CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2018 Ltd.	.CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2019 Ltd.	.CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2019-II Ltd.	.CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2020 Ltd.	.CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2021-III Ltd.	.CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2021-V Ltd.	.CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2022-II Ltd.	.CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2022-III Ltd.	.CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2022-IV Ltd.	.CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2022-IV LLC	.CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Fund, L.P.	.DE	NIA	Jefferies Finance LLC	Ownership	90.000	MMLIC		
.0000							JFIN Revolver Funding 2021 Ltd.	.DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Funding 2021 III Ltd.	.DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Funding 2021 IV Ltd.	.DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Funding 2022-I Ltd.	.BMU	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver SPE1 2022 LLC	.DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver SPE3 2022 LLC	.DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver SPE4 2022 LLC	.DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							SPL Parkway Funding 2022 LLC	.DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JCP Private Loan Management GP LLC	.DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		

SCHEDULE Y
PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12 Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	13 If Control is Owner- ship Provide Percen- tage	14 Ultimate Controlling Entity(ies)/Person(s)	15 Is an SCA Filing Re- quired? (Yes/No)	16 *
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi- ciliary Loca- tion	Relation- ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)					
.0000							JCP Private Loan Management LP	..DE.....	NIA.....	JCP Private Loan Management GP LLC	Ownership.....	100.000	MMLIC		
.0000							Apex Credit Holdings LLC	..DE.....	NIA.....	JFIN Parent LLC	Ownership.....	100.000	MMLIC		
.0000							JFIN CLO 2012 Ltd.	..CYM.....	NIA.....	Apex Credit Partners LLC	Ownership.....	100.000	MMLIC		
.0000							JFIN CLO 2013 Ltd.	..CYM.....	NIA.....	Apex Credit Partners LLC	Ownership.....	100.000	MMLIC		
.0000							JFIN CLO 2014 Ltd.	..CYM.....	NIA.....	Apex Credit Partners LLC	Ownership.....	100.000	MMLIC		
.0000							JFIN CLO 2014-II Ltd.	..CYM.....	NIA.....	Apex Credit Partners LLC	Ownership.....	100.000	MMLIC		
.0000							JFIN CLO 2015 Ltd.	..CYM.....	NIA.....	Apex Credit Partners LLC	Ownership.....	100.000	MMLIC		
.0000							JFIN CLO 2015-II Ltd.	..CYM.....	NIA.....	Apex Credit Partners LLC	Ownership.....	85.000	MMLIC		
.0000							JFIN CLO 2016 Ltd.	..CYM.....	NIA.....	Apex Credit Partners LLC	Ownership.....	100.000	MMLIC		
.0000							JFIN CLO 2017 Ltd.	..CYM.....	NIA.....	Apex Credit Partners LLC	Ownership.....	100.000	MMLIC		
.0000							JFIN CLO 2017-II Ltd.	..CYM.....	NIA.....	Apex Credit Partners LLC	Ownership.....	100.000	MMLIC		
.0000							Tomorrow Parent, LLC	..DE.....	NIA.....	JFIN Parent LLC	Ownership.....	100.000	MMLIC		
.0000							Custom Ecology Holdco, LLC	..DE.....	NIA.....	JFIN Parent LLC	Ownership.....	100.000	MMLIC		
.0000			04-1590850				MM Copper Hill Road LLC	..DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000	MMLIC		
.0000							MM Direct Private Investments Holding LLC ..	..DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000	MMLIC		
.0000							MM Direct Private Investments UK Limited	..GBR.....	NIA.....	MM Direct Private Investments Holding LLC	Ownership.....	100.000	MMLIC		
.0000							DPI-ACRES Capital LLC	..DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000	MMLIC		
.0000							MM Investment Holding	..CYM.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000	MMLIC		
.0000							MMIH Bond Holdings LLC	..DE.....	NIA.....	MM Investment Holding	Ownership.....	99.600	MMLIC		
.0000			26-0073611				MassMutual Asset Finance LLC	..DE.....	NIA.....	C.M. Life Insurance Company	Ownership.....	0.400	MMLIC		
.0000			26-0073611				MassMutual Asset Finance LLC	..DE.....	NIA.....	MM Investment Holding	Ownership.....	99.600	MMLIC		
.0000			32-0546197				MMAF Equipment Finance LLC 2017-B	..DE.....	NIA.....	MassMutual Asset Finance LLC	Ownership.....	100.000	MMLIC		
.0000			82-5335801				MMAF Equipment Finance LLC 2018-A	..DE.....	NIA.....	MassMutual Asset Finance LLC	Ownership.....	100.000	MMLIC		
.0000			83-3722640				MMAF Equipment Finance LLC 2019-A	..DE.....	NIA.....	MassMutual Asset Finance LLC	Ownership.....	100.000	MMLIC		
.0000							MMAF Equipment Finance LLC 2019-B	..DE.....	NIA.....	MassMutual Asset Finance LLC	Ownership.....	100.000	MMLIC		
.0000							MMAF Equipment Finance LLC 2020-A	..DE.....	NIA.....	MassMutual Asset Finance LLC	Ownership.....	100.000	MMLIC		
.0000							MMAF Equipment Finance LLC 2020-B	..DE.....	NIA.....	MassMutual Asset Finance LLC	Ownership.....	100.000	MMLIC		
.0000							MMAF Equipment Finance LLC 2021-A	..DE.....	NIA.....	MassMutual Asset Finance LLC	Ownership.....	100.000	MMLIC		
.0000							MMAF Equipment Finance LLC 2022-A	..DE.....	NIA.....	MassMutual Asset Finance LLC	Ownership.....	100.000	MMLIC		
.0000							MMAF Equipment Finance LLC 2022-B	..DE.....	NIA.....	MassMutual Asset Finance LLC	Ownership.....	100.000	MMLIC		
.0000							MMAF Equipment Finance LLC 2023-A	..DE.....	NIA.....	MassMutual Asset Finance LLC	Ownership.....	100.000	MMLIC		
.0000							Rozier LLC	..DE.....	NIA.....	MassMutual Asset Finance LLC	Ownership.....	100.000	MMLIC		
.0000			04-2443240				MMI Management Corporation	..MA.....	NIA.....	MM Investment Holding	Ownership.....	100.000	MMLIC	...YES...	
.0000			04-3548444				MassMutual International Holding MSC, Inc. .	..MA.....	NIA.....	MMI Management Corporation	Ownership.....	100.000	MMLIC		
.0000			04-3341767				MassMutual Holding MSC, Inc.	..MA.....	NIA.....	MMI Management Corporation	Ownership.....	100.000	MMLIC		
.0000							MMI CM LLC	..DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000	MMLIC		
.0000							Blueprint Income LLC	..NY.....	NIA.....	MMI CM LLC	Ownership.....	100.000	MMLIC		
.0000							Flourish Digital Assets LLC	..DE.....	NIA.....	MMI CM LLC	Ownership.....	100.000	MMLIC		
.0000							Flourish Financial LLC	..DE.....	NIA.....	MMI CM LLC	Ownership.....	100.000	MMLIC		
.0000							Flourish Holding Company LLC	..DE.....	NIA.....	MMI CM LLC	Ownership.....	100.000	MMLIC		
.0000							Flourish Insurance Agency LLC	..DE.....	NIA.....	MMI CM LLC	Ownership.....	100.000	MMLIC		
.0000							Flourish Technologies LLC	..DE.....	NIA.....	MMI CM LLC	Ownership.....	100.000	MMLIC		
.0000			04-3356880				MMI Distributors LLC	..MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	99.000	MMLIC		

SCHEDULE Y
PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12 Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	13 If Control is Owner- ship Provide Percen- tage	14 Ultimate Controlling Entity(ies)/Person(s)	15 Is an SCA Filing Re- quired? (Yes/No)	16 *
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi- ciliary Loca- tion	Rela- tion- ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)					
.0000			04-3356880				MML Distributors LLC	..MA	NIA	MassMutual Holding LLC Massachusetts Mutual Life Insurance Company	Ownership	1.000	MMLIC		
.0000							MML Investment Advisers, LLC	..DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			46-3238013				MML Strategic Distributors, LLC	..DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			06-1563535	2881445			The MassMutual Trust Company, FSB	..CT	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	...YES	
.0000			04-1590850				MML Private Placement Investment Company I, LLC	..DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MML Private Equity Fund Investor LLC	..DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MML Private Equity Fund Investor LLC	..DE	NIA	Baring Asset Management Limited Massachusetts Mutual Life Insurance Company	Management		MMLIC		
.0000			04-1590850				MM Private Equity Intercontinental LLC	..DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			45-2738137				Pioneers Gate LLC	..DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-2854319	2392316			MassMutual Holding LLC	..DE	NIA	Company	Ownership	100.000	MMLIC	...YES	
.0000			06-1597528				MassMutual Assignment Company	..NC	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			37-1732913				Fern Street LLC	..DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000							Low Carbon Energy Holding	..GBR	NIA	MassMutual Holding LLC	Ownership	49.000	MMLIC		
.0000							Sleeper Street LLC	..DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000							Intermodal Holding II LLC	..DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			46-2252944				Haven Life Insurance Agency, LLC	..DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MassMutual Capital Partners LLC	..DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			46-4255307				Marco Hotel LLC	..DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			45-3623262				HB Naples Golf Owner LLC	..DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			82-4411267				RB Apartments LLC	..DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures Holding LLC	..DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000							Athens Fund Management LLC	..DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							Crane Venture Partners LLP	..GBR	NIA	MassMutual Ventures Holding LLC	Ownership	33.000	MMLIC		
.0000							MassMutual Ventures Management LLC	..DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures SEA Management Private Limited	..DE	NIA	MassMutual Ventures Management LLC MassMutual Ventures SEA Management Private Limited	Ownership	100.000	MMLIC		
.0000							MMV UK/SEA Limited	..GBR	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures Southeast Asia I LLC	..DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures Southeast Asia II LLC	..DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures Southeast Asia III LLC	..DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							MMV Digital I LLC	..CYM	NIA	MassMutual Ventures Southeast Asia III LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures UK LLC	..DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000			47-1296410				MassMutual Ventures US I LLC	..DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures US II LLC	..DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures US III LLC	..DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures US IV LLC	..DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MM Rothesay Holdco US LLC	..DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000							Rothesay Limited	..GBR	NIA	MM Rothesay Holdco US LLC	Ownership	48.800	MMLIC		
.0000							Rothesay Life Plc	..GBR	NIA	Rothesay Limited	Ownership	100.000	MMLIC		
.0000							Rothesay MA No.1 Limited	..GBR	NIA	Rothesay Life PLC	Ownership	100.000	MMLIC		
.0000							Rothesay Mortgages Limited	..GBR	NIA	Rothesay Limited	Ownership	100.000	MMLIC		

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE Y
PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi-ciliary Location	Relation-ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Owner-ship Provide Percen-tage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Re-quired? (Yes/No)	*
.0000							Rothesay MA No.3 Limited	.GBR	NIA	Rothesay Life PLC	Ownership	100.000	MMLIC		
.0000							Rothesay MA No.4 Limited	.GBR	NIA	Rothesay Life PLC	Ownership	100.000	MMLIC		
.0000							LT Mortgage Finance Limited	.GBR	NIA	Rothesay Life PLC	Ownership	100.000	MMLIC		
.0000							Rothesay Property Partnership 1 LLP	.GBR	NIA	Rothesay Life PLC	Ownership	100.000	MMLIC		
.0000							Rothesay Foundation	.GBR	NIA	Rothesay Limited	Ownership	100.000	MMLIC		
.0000							Rothesay Pensions Management Limited	.GBR	NIA	Rothesay Limited	Ownership	100.000	MMLIC		
.0000							Rothesay Asset Management UK Limited	.GBR	NIA	Rothesay Limited	Ownership	100.000	MMLIC		
.0000							Rothesay Asset Management Australia Pty Ltd	.AUS	NIA	Rothesay Asset Management UK Limited	Ownership	100.000	MMLIC		
.0000							Rothesay Asset Management North America LLC	.DE	NIA	Rothesay Asset Management UK Limited	Ownership	100.000	MMLIC		
.0000							MM Catalyst Fund LLC	.DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000							MM Catalyst Fund II LLC	.DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			47-1466022				LifeScore Labs, LLC	.MA	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			45-4000072				MM Asset Management Holding LLC	.MA	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			51-0504477				Barings LLC	.MA	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MML Investors Services, LLC	.MA	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MML Insurance Agency, LLC	.MA	NIA	MML Investors Services, LLC	Ownership	100.000	MMLIC		
.0000			41-2011634				MMLISI Financial Alliances, LLC	.DE	NIA	MML Investors Services, LLC	Ownership	100.000	MMLIC		
.0000			51-0504477				Barings LLC	.DE	NIA	MassMutual Asset Management Holding LLC	Ownership	100.000	MMLIC		
.0000			98-0524271				Baring Asset Management (Asia) Holdings Limited	.HKG	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			98-0457465				Baring International Fund Managers (Bermuda) Limited	.BMU	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0457463				Baring Asset Management (Asia) Limited	.HKG	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000							Baring Asset Management Korea Limited	.KOR	NIA	Baring Asset Management (Asia) Limited	Ownership	100.000	MMLIC		
.0000							Barings Investment Management (Shanghai) Limited	.HKG	NIA	Baring Asset Management (Asia) Limited	Ownership	100.000	MMLIC		
.0000							Barings Overseas Investment Fund Management (Shanghai) Limited	.HKG	NIA	Barings Investment Management (Shanghai) Limited	Ownership	100.000	MMLIC		
.0000			98-0457707				Baring SICE (Taiwan) Limited	.TWN	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000							Barings Singapore Pte. Ltd.	.SGP	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0236449				Barings Japan Limited	.JPN	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000							Barings Australia Holding Company Pty Ltd	.AUS	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000							Barings Australia Pty Ltd	.AUS	NIA	Barings Australia Holding Company Pty Ltd	Ownership	100.000	MMLIC		
.0000							Barings Australia Real Estate Holdings Pty Ltd	.AUS	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			14-0045656				Barings Australia Real Estate Pty Ltd	.AUS	NIA	Barings Australia Real Estate Holdings Pty Ltd	Ownership	100.000	MMLIC		
.0000			98-0457456				Altis Property Partners Holdings Pty Ltd	.AUS	NIA	Barings Australia Real Estate Pty Ltd	Ownership	100.000	MMLIC		
.0000							Altis Asset Management Pty Ltd	.AUS	NIA	Altis Property Partners Holdings Pty Ltd	Ownership	100.000	MMLIC		
.0000							Altis Property Partners Pty Ltd	.AUS	NIA	Altis Property Partners Holdings Pty Ltd	Ownership	100.000	MMLIC		
.0000							Barings Australia Structured Finance Holdings Pty Ltd	.AUS	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Australia Structured Finance Pty Ltd	.AUS	NIA	Barings Australia Structured Finance Holdings Pty Ltd	Ownership	100.000	MMLIC		
.0000							Gryphon Capital Partners Pty Ltd	.AUS	NIA	Barings Australia Structured Finance Pty Ltd	Ownership	100.000	MMLIC		

SCHEDULE Y
PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

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.0000							Gryphon Capital Management Pty Ltd	.AUS	NIA	Gryphon Capital Partners Pty Ltd	Ownership	100.000	MMLIC		
.0000							Gryphon Capital Investments Pty Ltd	.AUS	NIA	Gryphon Capital Partners Pty Ltd	Ownership	100.000	MMLIC		
.0000			80-0875475				Barings Finance LLC	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							BCF Europe Funding Limited	.IRL	NIA	Barings Finance LLC	Ownership	100.000	MMLIC		
.0000							BCF Senior Funding I LLC	.DE	NIA	Barings Finance LLC	Ownership	100.000	MMLIC		
.0000							BCF Senior Funding I Designated Activity Company	.IRL	NIA	Barings Finance LLC	Ownership	100.000	MMLIC		
.0000							Barings Real Estate Acquisitions LLC	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-3238351				Barings Securities LLC	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			98-0437588				Barings Guernsey Limited	.GGY	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Europe Limited	.GBR	NIA	Barings Guernsey Limited	Ownership	100.000	MMLIC		
.0000							Barings Asset Management Spain SL	.ESP	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Baring France SAS	.FRA	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Baring International Fund Managers (Ireland) Limited	.IRL	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings GmbH	.DEU	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings Italy S.r.l.	.ITA	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings Sweden AB	.SWE	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings Netherlands B.V.	.NLD	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000			98-0432153				Barings (U.K.) Limited	.GBR	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings Switzerland Sàrl	.CHE	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000			98-0241935				Baring Asset Management Limited	.GBR	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings European Direct Lending 1 GP LLP	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-0457328				Baring International Investment Limited	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Baring International Investment Management Holdings	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-0457587				Baring International Investment Management Holdings	.GBR	NIA	Baring International Investment Management Holdings	Ownership	100.000	MMLIC		
.0000			98-0457576				Baring Asset Management UK Holdings Limited	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-0457586				Baring Fund Managers Limited	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							BCGSS 2 GP LLP	.GBR	NIA	Baring Fund Managers Limited	Ownership	100.000	MMLIC		
.0000			98-0457578				Baring Investment Services Limited	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings Core Fund Feeder I GP S.à.r.l.	.LUX	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings BME GP S.à.r.l.	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings GPC GP S.à. r.l.	.LUX	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings European Core Property Fund GP Sàrl	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings Investment Fund (LUX) GP S.à. r.l.	.LUX	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings Umbrella Fund (LUX) GP S.à.r.l.	.LUX	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							GPLF4(S) GP S.à r. l	.LUX	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							PREIF Holdings Limited Partnership	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							BMC Holdings DE LLC	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-3238351	3456895			Barings Real Estate Advisers Inc.	.CA	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Chassis Acquisition Holding LLC	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	30.000	MMLIC		
.0000			81-2244465				Massachusetts Mutual Life Insurance Company			Massachusetts Mutual Life Insurance Company	Ownership/Influence	40.000	MMLIC		
.0000			81-4258759				CRA Aircraft Holding LLC	.DE	NIA	Barings LLC	Influence		MMLIC		
.0000			81-4258759				CRA Aircraft Holding LLC	.DE	NIA	Barings LLC	Management		MMLIC		
.0000			83-0560183				Aland Royalty Holdings LP	.DE	NIA	Barings LLC	Ownership/Influence	26.700	MMLIC		
.0000			83-0560183				Aland Royalty Holdings LP	.DE	NIA	MassMutual Holding LLC	Ownership/Influence	26.700	MMLIC		
.0000			82-2932156				GASL Holdings LLC	.DE	NIA	MassMutual Holding LLC	Ownership	11.300	MMLIC		
.0000			82-2932156				GASL Holdings LLC	.DE	NIA	Barings LLC	Board		MMLIC		

SCHEDULE Y
PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi-ciliary Location	Relation-ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Owner-ship Provide Percen-tage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Re-quired? (Yes/No)	*
. 0000 ...			47-3055009 ..	.....	.....	.....	Milestone Acquisition Holding, LLC, ...	.. DE.....	 NIA.....	MassMutual Holding LLC	Ownership/Influence	..19.800	MMLIC .....	.....	.....
. 0000 ...			46-5460309 ..	.....	.....	.....	Red Lake Ventures, LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..31.500	MMLIC .....	.....	.....
. 0000 ...			46-5460309 ..	.....	.....	.....	Red Lake Ventures, LLC	.. DE.....	 NIA.....	Barings LLC	Influence.....	.....	MMLIC .....	.....	.....
. 0000 ...			81-4065378 ..	.....	.....	.....	Remington L & W Holdings LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..19.900	MMLIC .....	.....	.....
. 0000 ...			81-4065378 ..	.....	.....	.....	Remington L & W Holdings LLC	.. DE.....	 NIA.....	Barings LLC	Influence.....	.....	MMLIC .....	.....	.....
. 0000 ...							Teaktree Acquisition, LLC	.. DE.....	 NIA.....	MassMutual Holding LLC	Ownership/Influence	..14.700	MMLIC .....	.....	.....
. 0000 ...							Teaktree Acquisition, LLC	.. DE.....	 NIA.....	Barings LLC	Influence.....	.....	MMLIC .....	.....	.....
. 0000 ...							EIP Holdings I, LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..29.000	MMLIC .....	.....	.....
. 0000 ...			46-0687392 ..	.....	.....	.....	Validus Holding Company LLC	.. DE.....	 NIA.....	Barings LLC	Ownership.....	..40.400	MMLIC .....	.....	.....
. 0000 ...							VGS Acquisition Holding, LLC	.. DE.....	 NIA.....	MassMutual Holding LLC	Ownership/Influence	..33.300	MMLIC .....	.....	.....
. 0000 ...							VGS Acquisition Holding, LLC	.. DE.....	 NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000 ...							Aland Royalty GP, LLC	.. DE.....	 NIA.....	Barings LLC	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							Alaska Future Fund GP, LLC	.. DE.....	 NIA.....	Barings LLC	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							BAI GP, LLC	.. DE.....	 NIA.....	Barings LLC	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							BAI Funds SLP, LLC	.. DE.....	 NIA.....	Barings LLC	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							Baring Asset-Based Income Fund (US) GP, LLC	.. DE.....	 NIA.....	Barings LLC	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							Barings CMS Fund GP, LLC	.. DE.....	 NIA.....	Barings LLC	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							Barings Infiniti Fund Management LLC	.. DE.....	 NIA.....	Barings LLC	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							Barings Hotel Opportunity Venture I GP, LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							Barings Investment Series LLC	.. DE.....	 NIA.....	Barings LLC	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							Barings Emerging Generation Fund GP, LLC	.. DE.....	 NIA.....	Barings LLC	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							Barings Emerging Generation Fund GP II, LLC	.. DE.....	 NIA.....	Barings LLC	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							Barings ERS PE Emerging Manager III GP, LLC	.. DE.....	 NIA.....	Barings LLC	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	Barings Global Investment Funds (U.S.) Management LLC	.. DE.....	 NIA.....	Barings LLC	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							Barings CLO Investment Partners GP, LLC	.. DE.....	 NIA.....	Barings LLC	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							Barings Core Property Fund GP LLC	.. DE.....	 NIA.....	Barings LLC	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							Barings Direct Lending GP Ltd.	..CYM.....	 NIA.....	Barings LLC	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...			84-3784245 ..	.....	.....	.....	Barings Emerging Generation Fund LP	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..42.400	MMLIC .....	.....	.....
. 0000 ...			84-3784245 ..	.....	.....	.....	Barings Emerging Generation Fund LP	.. DE.....	 NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000 ...							Barings Global Energy Infrastructure Advisors, LLC	.. DE.....	 NIA.....	Barings LLC	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							Barings Centre Street CLO Equity Partnership GP, LLC	.. DE.....	 NIA.....	Barings LLC	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							Barings North American Private Loan Fund Management, LLC	.. DE.....	 NIA.....	Barings LLC	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							Barings North American Private Loan Fund II Management, LLC	.. DE.....	 NIA.....	Barings LLC	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							Barings North American Private Loan Fund III Management, LLC	.. DE.....	 NIA.....	Barings LLC	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							Barings Global Special Situations Credit Fund 4 GP (Delaware) LLC	.. DE.....	 NIA.....	Barings LLC	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							Barings - MM Revolver Fund GP LLC	.. DE.....	 NIA.....	Barings LLC	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							Barings Real Estate European Value Add Fund II Feeder LLC	.. DE.....	 NIA.....	Barings LLC	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							BMT RE Debt Fund GP LLC	.. DE.....	 NIA.....	Barings LLC	Ownership.....	..100.000	MMLIC .....	.....	.....

SCHEDULE Y
PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12 Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	13 If Control is Owner- ship Provide Percen- tage	14 Ultimate Controlling Entity(ies)/Person(s)	15 Is an SCA Filing Re- quired? (Yes/No)	16 *
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi- ciliary Loca- tion	Rela- tion- ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)					
.0000 ...							Barings Global Real Assets Fund GP, LLC	.. DE.....	NIA.....	Barings LLC	Ownership.....	100.000 ...	MMLIC		
.0000 ...							Barings GPSF LLC	.. DE.....	NIA.....	Barings LLC	Ownership.....	100.000 ...	MMLIC		
.0000 ...			84-5063008 ..				Barings Small Business Fund LLC	.. DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	33.600 ...	MMLIC		
.0000 ...			84-5063008 ..				Barings Small Business Fund LLC	.. DE.....	NIA.....	Barings LLC	Management.....		MMLIC		
.0000 ...			98-0536233 ..				Benton Street Advisors, Inc.	.. CVM.....	NIA.....	Barings LLC	Ownership.....	100.000 ...	MMLIC		
.0000 ...							BHOVI Incentive LLC	.. DE.....	NIA.....	Barings LLC	Ownership.....	100.000 ...	MMLIC		
.0000 ...							BIG Real Estate Fund GP LLC	.. DE.....	NIA.....	Barings LLC	Ownership.....	100.000 ...	MMLIC		
.0000 ...							BIG Real Estate Incentive I LLC	.. DE.....	NIA.....	Barings LLC	Ownership.....	100.000 ...	MMLIC		
.0000 ...							BIG Real Estate Incentive II LLC	.. DE.....	NIA.....	Barings LLC	Ownership.....	100.000 ...	MMLIC		
.0000 ...							BRECS VII GP LLC	.. DE.....	NIA.....	Barings LLC	Ownership.....	100.000 ...	MMLIC		
.0000 ...							BREDIF GP LLC	.. DE.....	NIA.....	Barings LLC	Ownership.....	100.000 ...	MMLIC		
.0000 ...							CREF X GP LLC	.. DE.....	NIA.....	Barings LLC	Ownership.....	100.000 ...	MMLIC		
.0000 ...			04-1590850 ..				Great Lakes III GP, LLC	.. DE.....	NIA.....	Barings LLC	Ownership.....	100.000 ...	MMLIC		
.0000 ...							Lake Jackson LLC	.. DE.....	NIA.....	Barings LLC	Ownership.....	100.000 ...	MMLIC		
.0000 ...							Barings Emerging Markets Blended Fund I GP, LLC	.. DE.....	NIA.....	Barings LLC	Ownership.....	100.000 ...	MMLIC		
.0000 ...			41-2280126 ..				Mezzco III LLC	.. DE.....	NIA.....	Barings LLC	Ownership.....	99.300 ...	MMLIC		
.0000 ...			80-0920285 ..				Mezzco IV LLC	.. DE.....	NIA.....	Barings LLC	Ownership.....	99.300 ...	MMLIC		
.0000 ...							Mezzco Australia II LLC	.. DE.....	NIA.....	Barings LLC	Ownership.....	100.000 ...	MMLIC		
.0000 ...							RECSA-NY GP LLC	.. DE.....	NIA.....	Barings LLC	Ownership.....	100.000 ...	MMLIC		
.0000 ...			04-1590850 ..				SBNP SIA II LLC	.. DE.....	NIA.....	Barings LLC	Ownership.....	100.000 ...	MMLIC		
.0000 ...							SBNP SIA III LLC	.. DE.....	NIA.....	Barings LLC	Ownership.....	100.000 ...	MMLIC		
.0000 ...							Massachusetts Mutual Life Insurance Company			Massachusetts Mutual Life Insurance Company	Ownership.....	24.500 ...	MMLIC		
.0000 ...			04-3313782 ..				Amherst Long Term Holdings, LLC	.. DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC	...YES...	
.0000 ...							MassMutual International LLC	.. DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC		
.0000 ...							MassMutual Solutions LLC	.. DE.....	NIA.....	MassMutual International LLC	Ownership.....	100.000 ...	MMLIC		
.0000 ...							Haven Technologies Asia Limited	.. HKG.....	NIA.....	MassMutual Solutions LLC	Ownership.....	100.000 ...	MMLIC		
.0000 ...							Yunfeng Financial Group Limited	.. HKG.....	NIA.....	MassMutual International LLC	Ownership.....	24.900 ...	MMLIC		
.0000 ...							MassMutual Asia Limited (SPV)	.. HKG.....	NIA.....	MassMutual International LLC	Ownership.....	100.000 ...	MMLIC		
.0000 ...			27-3576835 ..				Massachusetts Mutual Life Insurance Company			Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC		
.0000 ...							MassMutual External Benefits Group LLC	.. DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC		
.0000 ...							MMV CTF I GP LLC	.. DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC		
.0000 ...							MassMutual Ventures Climate Technology Fund I LP	.. DE.....	NIA.....	MMV CTF I GP LLC	Ownership.....	100.000 ...	MMLIC		
.0000 ...			04-1590850 ..				Massachusetts Mutual Life Insurance Company	.. DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC		
.0000 ...			04-1590850 ..				100 w. 3rd Street LLC	.. DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	95.000 ...	MMLIC		
.0000 ...			82-2432216 ..				2160 Grand Manager LLC	.. DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC		
.0000 ...			04-1590850 ..				300 South Tryon Hotel LLC	.. DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC		
.0000 ...							Massachusetts Mutual Life Insurance Company	.. DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC		
.0000 ...							300 South Tryon LLC	.. DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	72.900 ...	MMLIC		
.0000 ...							Almack Mezzanine Fund II Unleveraged LP	.. GBR.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	100.000 ...	MMLIC		
.0000 ...							Barings Affordable Housing Mortgage Fund I LLC	.. DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC		

SCHEDULE Y
PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi-ciliary Location	Relation-ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Ownership Provide Percen-tage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Re-quired? (Yes/No)	*
.0000							Barings Affordable Housing Mortgage Fund I LLC	..DE	NIA.....	Barings LLC	Management.....		MMLIC		
.0000			61-1902329				Barings Affordable Housing Mortgage Fund II LLC	..DE	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000	MMLIC		
.0000			61-1902329				Barings Affordable Housing Mortgage Fund II LLC	..DE	NIA.....	Barings LLC	Management.....		MMLIC		
.0000			85-3036663				Barings Affordable Housing Mortgage Fund III LLC	..DE	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000	MMLIC		
.0000			85-3036663				Barings Affordable Housing Mortgage Fund III LLC	..DE	NIA.....	Barings LLC	Management.....		MMLIC		
.0000			36-4868350				Barings Asset-Based Income Fund (US) LP	..DE	NIA.....	MassMutual Holding LLC	Ownership/Influence	11.200	MMLIC		
.0000			36-4868350				Barings Asset-Based Income Fund (US) LP	..DE	NIA.....	C.M. Life Insurance Company	Ownership/Influence	1.100	MMLIC		
.0000			36-4868350				Barings Asset-Based Income Fund (US) LP	..DE	NIA.....	Barings LLC	Management.....		MMLIC		
.0000							Barings Emerging Markets Corporate Bond Fund	..IRL	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	56.000	MMLIC		
.0000							Barings Emerging Markets Corporate Bond Fund	..IRL	NIA.....	Barings LLC	Ownership.....	17.800	MMLIC		
.0000							Barings European Real Estate Debt Income Fund	..LUX	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	65.300	MMLIC		
.0000							Barings European Real Estate Debt Income Fund	..LUX	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000			98-1206017				Babson Capital Global Special Situation Credit Fund 2	..DE	NIA.....	MassMutual Holding LLC	Ownership/Influence	23.300	MMLIC		
.0000			98-1206017				Babson Capital Global Special Situation Credit Fund 2	..DE	NIA.....	C.M. Life Insurance Company	Ownership.....		MMLIC		
.0000			98-1206017				Babson Capital Global Special Situation Credit Fund 2	..DE	NIA.....	Barings LLC	Management.....		MMLIC		
.0000			37-1506417				Babson Capital Loan Strategies Fund, L.P.	..DE	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	75.700	MMLIC		
.0000			37-1506417				Babson Capital Loan Strategies Fund, L.P.	..DE	NIA.....	C.M. Life Insurance Company	Ownership.....	3.800	MMLIC		
.0000			37-1506417				Babson Capital Loan Strategies Fund, L.P.	..DE	NIA.....	Barings LLC	Management.....		MMLIC		
.0000							Barings US High Yield Bond Fund	..IRL	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	58.700	MMLIC		
.0000							Barings US High Yield Bond Fund	..IRL	NIA.....	Barings LLC	Management.....		MMLIC		
.0000							Babson CLO Ltd. 2015-I	..CYM	NIA.....	Barings LLC	Influence.....		MMLIC		2
.0000							Babson CLO Ltd. 2015-II	..CYM	NIA.....	Barings LLC	Influence.....		MMLIC		3
.0000							Babson CLO Ltd. 2016-I	..CYM	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000							Babson CLO Ltd. 2016-II	..CYM	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000							Barings CLO Ltd. 2017-I	..CYM	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000							Barings CLO 2018-III	..CYM	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000							Barings CLO 2018-IV	..CYM	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000			98-1473665				Barings CLO 2019-I	..CYM	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000							Barings CLO 2019-III	..CYM	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000							Barings CLO 2019-IV	..CYM	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000							Barings CLO 2020-I	..CYM	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000							Barings CLO 2020-II	..CYM	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000							Barings CLO 2020-III	..CYM	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000							Barings CLO 2020-IV	..CYM	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000							Barings CLO 2021-I	..CYM	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000							Barings CLO 2021-II	..CYM	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000							Barings CLO 2021-III	..CYM	NIA.....	Barings LLC	Influence.....		MMLIC		

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE Y
PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi-ciliary Location	Relation-ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Ownership Provide Percen-tage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Re-quired? (Yes/No)	*
.0000 ...			98-1624360 ..				Barings CLO 2022-I	..CYM.....	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000 ...							Barings CLO 2022-II	..CYM.....	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000 ...							Babson Euro CLO 2014-I BV	..NLD.....	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000 ...							Babson Euro CLO 2014-II BV	..NLD.....	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000 ...							Babson Euro CLO 2015-I BV	..NLD.....	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000 ...			36-037260H ..				Barings Euro CLO 2019-I BV	..IRL.....	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000 ...							Barings Euro CLO 2019-II BV	..IRL.....	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000 ...							Barings Euro CLO 2020-I DAC	..IRL.....	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000 ...			37-15576VH ..				Barings Euro CLO 2021-I DAC	..IRL.....	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000 ...							Barings Euro CLO 2021-II DAC	..IRL.....	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000 ...							Barings Euro CLO 2021-III DAC	..IRL.....	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000 ...							Barings Euro CLO 2022-I DAC	..IRL.....	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000 ...			81-0841854 ..				Barings CLO Investment Partners LP	..DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..99.200	MMLIC		
.0000 ...			81-0841854 ..				Barings CLO Investment Partners LP	..DE.....	NIA.....	Barings LLC	Management.....		MMLIC		
.0000 ...			88-3792609 ..				Barings Centre Street CLO Equity Partnership LP	..DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..26.200	MMLIC		
.0000 ...							Barings Euro Value Add II (BREEVA II)	..LUX.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..30.200	MMLIC		
.0000 ...							Barings Euro Value Add II (BREEVA II)	..LUX.....	NIA.....	C.M. Life Insurance Company	Ownership.....	..2.600	MMLIC		
.0000 ...							Barings Euro Value Add II (BREEVA II)	..LUX.....	NIA.....	Barings LLC	Management.....		MMLIC		
.0000 ...							Barings Real Estate European Value Add I SCSp	..GBR.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..42.900	MMLIC		
.0000 ...							Barings Real Estate European Value Add I SCSp	..GBR.....	NIA.....	C.M. Life Insurance Company	Ownership.....	..4.800	MMLIC		
.0000 ...							Barings Real Estate European Value Add I SCSp	..GBR.....	NIA.....	Barings LLC	Management.....		MMLIC		
.0000 ...			85-3449260 ..				Barings Real Estate Debt Income Fund LP	..DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..82.700	MMLIC		
.0000 ...			85-3449260 ..				Barings Real Estate Debt Income Fund LP	..DE.....	NIA.....	C.M. Life Insurance Company	Influence.....		MMLIC		
.0000 ...			85-3449260 ..				Barings Real Estate Debt Income Fund LP	..DE.....	NIA.....	Barings LLC	Management.....		MMLIC		
.0000 ...			82-5330194 ..				Barings Global Em. Markets Equity Fund	..NC.....	NIA.....	Barings LLC	Management.....		MMLIC		
.0000 ...			98-1332384 ..				Barings Global Energy Infrastructure Fund I LP	..CYM.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..99.200	MMLIC		
.0000 ...			98-1332384 ..				Barings Global Energy Infrastructure Fund I LP	..CYM.....	NIA.....	Baring Asset Management Limited	Management.....		MMLIC		
.0000 ...							Barings Global Dividends Champion Fund	..IRL.....	NIA.....	Barings LLC	Management.....		MMLIC		
.0000 ...							Barings LLC	..IRL.....	NIA.....	Barings LLC			MMLIC		
.0000 ...			82-3867745 ..				Barings Global Real Assets Fund LP	..DE.....	NIA.....	MassMutual Holding LLC	Ownership/Influence	..26.900	MMLIC		
.0000 ...			82-3867745 ..				Barings Global Real Assets Fund LP	..DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..13.900	MMLIC		
.0000 ...			82-3867745 ..				Barings Global Real Assets Fund LP	..DE.....	NIA.....	C.M. Life Insurance Company	Ownership.....	..7.000	MMLIC		
.0000 ...			82-3867745 ..				Barings Global Real Assets Fund LP	..DE.....	NIA.....	Barings LLC	Management.....		MMLIC		
.0000 ...							Barings Global Special Situations Credit Fund 3	..IRL.....	NIA.....	MassMutual Holding LLC	Ownership/Influence	..19.700	MMLIC		
.0000 ...							Barings Global Special Situations Credit 4 Delaware	..DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..67.500	MMLIC		
.0000 ...							Barings Global Special Situations Credit 4 Delaware	..DE.....	NIA.....	C.M. Life Insurance Company	Ownership.....	..3.600	MMLIC		

SCHEDULE Y
PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi-ciliary Location	Relation-ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Ownership Provide Percen-tage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Re-quired? (Yes/No)	*
.0000							Barings Global Special Situations Credit 4 Delaware	..DE	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Global Special Situations Credit 4 LUX	..LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership	..13.100	MMLIC		
.0000							Barings Global Special Situations Credit 4 LUX	..LUX	NIA	C.M. Life Insurance Company	Ownership	..0.700	MMLIC		
.0000							Barings Global Special Situations Credit 4 LUX	..LUX	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Global Special Situations Credit Fund 3	..IRL	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Global Technology Equity Fund	..IRL	NIA	Barings LLC	Ownership/Influence	..71.900	MMLIC		
.0000			87-0977058				Barings Hotel Opportunity Venture	..CT	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..65.000	MMLIC		
.0000			87-0977058				Barings Hotel Opportunity Venture	..CT	NIA	Barings LLC	Management		MMLIC		
.0000			86-3661023				Barings Innovations & Growth Real Estate Fund	..DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	..34.000	MMLIC		
.0000			86-3661023				Barings Innovations & Growth Real Estate Fund	..DE	NIA	C.M. Life Insurance Company	Ownership	..0.400	MMLIC		
.0000							Barings Middle Market CLO 2017-I Ltd & LLC	..CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings Middle Market CLO 2018-I	..CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings Middle Market CLO 2019-I	..CYM	NIA	Barings LLC	Influence		MMLIC		
.0000			98-1612604				Barings Middle Market CLO Ltd 2021-I	..CYM	NIA	Barings LLC	Influence		MMLIC		
.0000			38-4010344				Barings North American Private Loan Fund LP	..DE	NIA	MassMutual Holding LLC	Ownership/Influence	..47.600	MMLIC		
.0000			38-4010344				Barings North American Private Loan Fund LP	..DE	NIA	Baring Asset Management Limited	Management		MMLIC		
.0000			98-1332384				Barings RE Credit Strategies VII LP	..DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..34.000	MMLIC		
.0000			98-1332384				Barings RE Credit Strategies VII LP	..DE	NIA	Baring Asset Management Limited	Management		MMLIC		
.0000			98-1567942				Barings Target Yield Infrastructure Debt Fund	..LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership	..20.400	MMLIC		
.0000			98-1567942				Barings Target Yield Infrastructure Debt Fund	..LUX	NIA	Baring Asset Management Limited	Management		MMLIC		
.0000			87-1262754				Barings Transportation Fund LP	..DE	NIA	MassMutual Holding LLC	Ownership/Influence	..11.200	MMLIC		
.0000			87-1262754				Barings Transportation Fund LP	..DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	..8.200	MMLIC		
.0000							Braemar Energy Ventures I, L.P.	..DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..79.400	MMLIC		
.0000							Braemar Energy Ventures I, L.P.	..DE	NIA	C.M. Life Insurance Company	Ownership	..1.300	MMLIC		
.0000							Braemar Energy Ventures I, L.P.	..DE	NIA	Barings LLC	Management		MMLIC		
.0000							Barings European Core Property Fund SCSp	..LUX	NIA	MassMutual Holding LLC	Ownership/Influence	..7.400	MMLIC		
.0000							Barings European Core Property Fund SCSp	..LUX	NIA	C.M. Life Insurance Company	Ownership	..0.500	MMLIC		
.0000							Barings European Core Property Fund SCSp	..LUX	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
.0000			46-5001122				Barings European Private Loan Fund III A	..LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership	..45.200	MMLIC		
.0000			38-4059932				Benchmark 2018-B2 Mortgage Trust	..NY	NIA	Barings LLC	Influence		MMLIC		
.0000							Benchmark 2018-B4	..NY	NIA	Barings LLC	Influence		MMLIC		
.0000			38-4096530				Benchmark 2018-B8	..NY	NIA	Barings LLC	Influence		MMLIC		
.0000			20-5578089				Barings Core Property Fund LP	..DE	NIA	MassMutual Holding LLC	Ownership/Influence	..23.600	MMLIC		
.0000			20-5578089				Barings Core Property Fund LP	..DE	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
.0000			35-2531693				Cornerstone Permanent Mortgage Fund III LLC	..MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..100.000	MMLIC		

SCHEDULE Y
PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi-ciliary Location	Relation-ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Ownership Provide Percen-tage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Re-quired? (Yes/No)	*
. 0000 ...			61-1793735 ..	.....	.....	.....	Cornerstone Permanent Mortgage Fund IV LLC ..	.. MA.....	.. NIA.....	Massachusetts Mutual Life Insurance Company ..	Ownership.....	.. 100.000 ..	MM LIC ..	.....	.....
. 0000 ...			90-0991195 ..	.....	0001597511 ..	.....	Gateway Mezzanine Partners II LP ..	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company ..	Ownership/Influence ..	.. 34.300 ..	MM LIC ..	.....	.....
. 0000 ...			90-0991195 ..	.....	0001597511 ..	.....	Gateway Mezzanine Partners II LP ..	.. DE.....	.. NIA.....	C.M. Life Insurance Company ..	Ownership.....	.. 5.100 ..	MM LIC ..	.....	.....
. 0000 ...			90-0991195 ..	.....	0001597511 ..	.....	Gateway Mezzanine Partners II LP ..	.. DE.....	.. NIA.....	Barings LLC ..	Management.....	.....	MM LIC ..	.....	.....
. 0000 ...			37-1708623 ..	.....	.....	.....	Great Lakes III, L.P.	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company ..	Ownership/Influence ..	.. 41.500 ..	MM LIC ..	.....	.....
. 0000 ...			37-1708623 ..	.....	.....	.....	Great Lakes III, L.P.	.. DE.....	.. NIA.....	Barings LLC ..	Management.....	.....	MM LIC ..	.....	.....
. 0000 ...							GIA EU Holdings – Emerson JV Sarl ..	.. LUX.....	.. NIA.....	Massachusetts Mutual Life Insurance Company ..	Ownership/Influence ..	.. 54.100 ..	MM LIC ..	.....	.....
. 0000 ...							GIA EU Holdings – Emerson JV Sarl ..	.. LUX.....	.. NIA.....	Barings LLC ..	Management.....	.....	MM LIC ..	.....	.....
. 0000 ...			38-4041011 ..	.....	.....	.....	JPMCC Commercial Mortgage Securities Trust 2017-JP7 ..	.. NY.....	.. NIA.....	Barings LLC ..	Influence.....	.....	MM LIC ..	.....	.....
. 0000 ...			38-4032059 ..	.....	.....	.....	JPMDB Commercial Mortgage Securities Trust 2017-C5 ..	.. NY.....	.. NIA.....	Barings LLC ..	Influence.....	.....	MM LIC ..	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	Miami Douglas Three MM LLC ..	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company ..	Ownership.....	.. 100.000 ..	MM LIC ..	.....	.....
. 0000 ...			87-4021641 ..	.....	.....	.....	MM BIG Peninsula Co-Invest Member LLC ..	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company ..	Ownership.....	.. 25.600 ..	MM LIC ..	.....	.....
. 0000 ...			87-4021641 ..	.....	.....	.....	MM BIG Peninsula Co-Invest Member LLC ..	.. DE.....	.. NIA.....	C.M. Life Insurance Company ..	Ownership.....	.. 0.800 ..	MM LIC ..	.....	.....
. 0000 ...							MM CM Holding LLC ..	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company ..	Ownership.....	.. 100.000 ..	MM LIC ..	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	MM Direct Private Invetment Holding ..	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company ..	Ownership.....	.. 100.000 ..	MM LIC ..	.....	.....
. 0000 ...			81-3000420 ..	.....	.....	.....	MM Debt Participations LLC ..	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company ..	Ownership/Influence ..	.. 100.000 ..	MM LIC ..	.....	.....
. 0000 ...			81-3000420 ..	.....	.....	.....	MM Debt Participations LLC ..	.. DE.....	.. NIA.....	Barings LLC ..	Management.....	.....	MM LIC ..	.....	.....
. 0000 ...			20-8856877 ..	.....	.....	.....	Somerset Special Opportunities Fund L.P.	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company ..	Ownership/Influence ..	.. 40.100 ..	MM LIC ..	.....	.....
. 0000 ...			20-8856877 ..	.....	.....	.....	Somerset Special Opportunities Fund L.P.	.. DE.....	.. NIA.....	C.M. Life Insurance Company ..	Ownership.....	.. 1.900 ..	MM LIC ..	.....	.....
. 0000 ...			35-2553915 ..	.....	.....	.....	Ten Fan Pier Boulevard LLC ..	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company ..	Ownership.....	.. 100.000 ..	MM LIC ..	.....	.....
. 0000 ...			41-2280127 ..	.....	.....	.....	Tower Square Capital Partners III, L.P.	.. DE.....	.. NIA.....	Barings LLC ..	Management.....	.....	MM LIC ..	.....	.....
. 0000 ...			41-2280127 ..	.....	.....	.....	Tower Square Capital Partners III, L.P.	.. DE.....	.. NIA.....	MassMutual Holding LLC ..	Ownership/Influence ..	.. 16.800 ..	MM LIC ..	.....	.....
. 0000 ...			41-2280129 ..	.....	.....	.....	Tower Square Capital Partners IIIA, L.P.	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company ..	Ownership/Influence ..	.. 95.000 ..	MM LIC ..	.....	.....
. 0000 ...			41-2280129 ..	.....	.....	.....	Tower Square Capital Partners IIIA, L.P.	.. DE.....	.. NIA.....	Barings LLC ..	Management.....	.....	MM LIC ..	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	Trailside MM Member LLC ..	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company ..	Ownership.....	.. 66.970 ..	MM LIC ..	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	Trailside MM Member LLC ..	.. DE.....	.. NIA.....	C.M. Life Insurance Company ..	Ownership.....	.. 7.400 ..	MM LIC ..	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	Trailside MM Member II LLC ..	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company ..	Ownership.....	.. 47.100 ..	MM LIC ..	.....	.....
. 0000 ...			83-1325764 ..	.....	.....	.....	Washington Gateway Two LLC ..	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company ..	Ownership.....	.. 96.020 ..	MM LIC ..	.....	.....
. 0000 ...			83-1325764 ..	.....	.....	.....	Washington Gateway Two LLC ..	.. DE.....	.. NIA.....	C.M. Life Insurance Company ..	Ownership.....	.. 0.100 ..	MM LIC ..	.....	.....
. 0000 ...			32-0574045 ..	.....	.....	.....	Washington Gateway Three LLC ..	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company ..	Ownership.....	.. 95.380 ..	MM LIC ..	.....	.....
. 0000 ...			32-0574045 ..	.....	.....	.....	Washington Gateway Three LLC ..	.. DE.....	.. NIA.....	C.M. Life Insurance Company ..	Ownership.....	.. 11.400 ..	MM LIC ..	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	Washington Pine LLC ..	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company ..	Ownership.....	.. 100.000 ..	MM LIC ..	.....	.....

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE Y
PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi-ciliary Location	Relation-ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Ownership Provide Percentage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Re-quired? (Yes/No)	*
. 0000 ...			88-3861481 ..	.....	.....	.....	West 37th Street Hotel LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..93.800	MMLIC .....	.....	.....
. 0000 ...			88-3861481 ..	.....	.....	.....	West 37th Street Hotel LLC	.. DE.....	 NIA.....	C.M. Life Insurance Company	Ownership.....	..6.300	MMLIC .....	.....	.....
. 0000 ...							Martello Re Limited	.. BMU.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	..0.300	MMLIC .....	.....	.....
. 0000 ...							Babson Capital Loan Strategies Master Fund LP	.. CYM.....	 NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000 ...							Barings China Aggregate Bond Private Securities Investment Fund	.. CHN.....	 NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000 ...							Barings European Growth Trust Fund	.. GBR.....	 NIA.....	Barings LLC	Ownership/Influence	..28.600	MMLIC .....	.....	.....
. 0000 ...			47-3790192 ..	.....	.....	.....	Barings Global High Yield Fund	.. MA.....	 NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000 ...							CCIC Fund	.. CHN.....	 NIA.....	Barings LLC	Ownership/Influence	..72.100	MMLIC .....	.....	.....
. 0000 ...			71-1018134 ..	.....	.....	.....	Great Lakes II LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..10.600	MMLIC .....	.....	.....
. 0000 ...			71-1018134 ..	.....	.....	.....	Great Lakes II LLC	.. DE.....	 NIA.....	C.M. Life Insurance Company	Ownership.....	..0.980	MMLIC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	Wood Creek Venture Fund LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..40.000	MMLIC .....	.....	.....
. 0000 ...			13-1935920 ..	.....	.....	.....	MMLIC Debt Participations LLC	.. DE.....	 NIA.....	Massachusetts Mutual Ascend	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							Barings California Mortgage Fund IV	.. CA.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							Barings Umbrella Fund LUX SCSp SICAV RAIF ...	.. LUX.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..50.000	MMLIC .....	.....	.....
. 0000 ...							Barings Umbrella Fund LUX SCSp SICAV RAIF ...	.. LUX.....	 NIA.....	C.M. Life Insurance Company	Ownership.....	..2.300	MMLIC .....	.....	.....
. 0000 ...			82-2285211 ..	.....	.....	.....	Calgary Railway Holding LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..90.000	MMLIC .....	.....	.....
. 0000 ...			82-2285211 ..	.....	.....	.....	Calgary Railway Holding LLC	.. DE.....	 NIA.....	C.M. Life Insurance Company	Ownership.....	..10.000	MMLIC .....	.....	.....
. 0000 ...			82-3307907 ..	.....	.....	.....	Cornbrook PRS Holdings LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...			95-4207717 ..	.....	.....	.....	Cornerstone California Mortgage Fund I LLC ..	.. CA.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...			95-4207717 ..	.....	.....	.....	Cornerstone California Mortgage Fund II LLC ..	.. CA.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...			95-4207717 ..	.....	.....	.....	Cornerstone California Mortgage Fund III LLC ..	.. CA.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...			56-2630592 ..	.....	.....	.....	Cornerstone Fort Pierce Development LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..90.000	MMLIC .....	.....	.....
. 0000 ...			56-2630592 ..	.....	.....	.....	Cornerstone Fort Pierce Development LLC	.. DE.....	 NIA.....	C.M. Life Insurance Company	Ownership.....	..5.900	MMLIC .....	.....	.....
. 0000 ...			45-2632610 ..	.....	.....	.....	Cornerstone Permanent Mortgage Fund	.. MA.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...			45-2632610 ..	.....	.....	.....	Cornerstone Permanent Mortgage Fund	.. MA.....	 NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000 ...			61-1750537 ..	.....	.....	.....	Cornerstone Permanent Mortgage Fund II	.. MA.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...			61-1750537 ..	.....	.....	.....	Cornerstone Permanent Mortgage Fund II	.. MA.....	 NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000 ...			61-1793735 ..	.....	.....	.....	Cornerstone Permanent Mortgage Fund IV	.. MA.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...			20-0348173 ..	.....	.....	.....	CREA/PPC Venture LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..28.500	MMLIC .....	.....	.....
. 0000 ...			82-2783393 ..	.....	.....	.....	Danville Riverwalk Venture, LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..94.400	MMLIC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	DPI Acres Capital SPV LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000	MMLIC .....	.....	.....

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE Y
PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi-ciliary Location	Relation-ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Owner-ship Provide Percen-tage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Re-quired? (Yes/No)	*
. 0000 ...			04-1590850 ..	.....	.....	.....	Euro Real Estate Holdings LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..50.000	MMLIC .....	.....	.....
. 0000 ...			20-3347091 ..	.....	.....	.....	Fan Pier Development LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..65.000	MMLIC .....	.....	.....
. 0000 ...			20-3347091 ..	.....	.....	.....	Fan Pier Development LLC	.. DE.....	 NIA.....	C.M. Life Insurance Company	Ownership.....	..5.900	MMLIC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	GIA EU Holdings LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...			81-5360103 ..	.....	.....	.....	Landmark Manchester Holdings LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	MM Brookhaven Member LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..95.000	MMLIC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	MM Kannapolis Industrial Member LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..82.720	MMLIC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	MM Kannapolis Industrial Member LLC	.. DE.....	 NIA.....	Massachusetts Mutual Ascend	Ownership.....	..12.300	MMLIC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	MM MD1 Station Member LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..47.000	MMLIC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	MM MD1 Station Member LLC	.. DE.....	 NIA.....	C.M. Life Insurance Company	Ownership.....	..3.100	MMLIC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	MM MD2 Station Member LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..47.000	MMLIC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	MM MD2 Station Member LLC	.. DE.....	 NIA.....	C.M. Life Insurance Company	Ownership.....	..3.100	MMLIC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	MM East South Crossing Member LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..95.000	MMLIC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	MM Horizon Savannah Member LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..95.000	MMLIC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	MM Horizon Savannah Member LLC	.. DE.....	 NIA.....	C.M. Life Insurance Company	Ownership.....	..3.700	MMLIC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	MM National Self-Storage Program Member LLC	.. DE.....	 NIA.....	C.M. Life Insurance Company	Ownership.....	..98.000	MMLIC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	MM 1400 E 4th Street Member LLC	.. DE.....	 NIA.....	C.M. Life Insurance Company	Ownership.....	..96.000	MMLIC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	MassMutual Ventures US IV GP	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..99.000	MMLC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	MassMutual Ventures US IV GP	.. DE.....	 NIA.....	Massachusetts Mutual Ascend	Ownership.....	..1.000	MMLC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	MassMutual Venture US IV LP	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..99.000	MMLC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	MMV Climate Technology Fund GP	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..99.000	MMLC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	MMV Climate Technology Fund GP	.. DE.....	 NIA.....	Massachusetts Mutual Ascend	Ownership.....	..1.000	MMLC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	MM Subline Borrower LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000	MMLC .....	.....	.....
. 0000 ...			80-0948028 ..	.....	.....	.....	One Harbor Shore LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..94.990	MMLIC .....	.....	.....
. 0000 ...			80-0948028 ..	.....	.....	.....	One Harbor Shore LLC	.. DE.....	 NIA.....	C.M. Life Insurance Company	Ownership.....	..6.000	MMLIC .....	.....	.....
. 0000 ...			04-1590850 ..	.....	.....	.....	PACO France Logistics LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...							Salomon Brothers Commercial Mortgage Trust 2001-MM	.. DE.....	 NIA.....	Barings Real Estate Advisers LLC	Influence.....	.....	MMLIC .....	.....	.....
. 0000 ...			81-5273574 ..	.....	.....	.....	Three PW Office Holding LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..95.100	MMLIC .....	.....	.....
. 0000 ...			82-3250684 ..	.....	.....	.....	Unna, Dortmund Holding LLC	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000 ...			45-5401109 ..	.....	.....	.....	Washington Gateway Apartments Venture LLC ...	.. DE.....	 NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..95.440	MMLIC .....	.....	.....
. 0000 ...			45-5401109 ..	.....	.....	.....	Washington Gateway Apartments Venture LLC ...	.. DE.....	 NIA.....	C.M. Life Insurance Company	Ownership.....	..4.800	MMLIC .....	.....	.....

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE Y
PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi-ciliary Location	Relation-ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Ownership Provide Percen-tage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Re-quired? (Yes/No)	*
. 0000 ...			51-0529328 ..	.....	0000927972 ..	OQ	MassMutual Premier Main Street Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..88.700	MMLIC .....	.....	.....
. 0000 ...			26-3229251 ..	.....	0000927972 ..	OQ	MassMutual Premier Strategic Emerging Markets Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..26.930	MMLIC .....	.....	.....
. 0000 ...			04-3512593 ..	.....	0000916053 ..	OQ	MassMutual Select Fundamental Growth Fund ...	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..3.820	MMLIC .....	.....	.....
. 0000 ...			42-1710935 ..	.....	0000916053 ..	OQ	MassMutual Select Mid-Cap Value Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..30.030	MMLIC .....	.....	.....
. 0000 ...			02-0769954 ..	.....	0000916053 ..	OQ	MassMutual Select Small Capital Value Equity Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	..0.000	MMLIC .....	.....	.....
. 0000 ...			04-3584140 ..	.....	0000916053 ..	OQ	MassMutual Select Small Company Value Fund ..	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..18.000	MMLIC .....	.....	.....
. 0000 ...			82-3347422 ..	.....	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement 2005 Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..5.300	MMLIC .....	.....	.....
. 0000 ...			82-3355639 ..	.....	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement 2010 Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	..0.000	MMLIC .....	.....	.....
. 0000 ...			82-3382389 ..	.....	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement 2015 Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	..0.000	MMLIC .....	.....	.....
. 0000 ...			82-3396442 ..	.....	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement 2020 Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	..0.000	MMLIC .....	.....	.....
. 0000 ...			82-3417420 ..	.....	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement 2025 Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	..0.000	MMLIC .....	.....	.....
. 0000 ...			82-3430358 ..	.....	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement 2030 Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	..0.000	MMLIC .....	.....	.....
. 0000 ...			82-3439837 ..	.....	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement 2035 Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	..0.000	MMLIC .....	.....	.....
. 0000 ...			82-3451779 ..	.....	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement 2040 Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	..0.000	MMLIC .....	.....	.....
. 0000 ...			82-3472295 ..	.....	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement 2045 Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	..0.000	MMLIC .....	.....	.....
. 0000 ...			82-3481715 ..	.....	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement 2050 Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	..0.000	MMLIC .....	.....	.....
. 0000 ...			82-3502011 ..	.....	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement 2055 Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	..0.000	MMLIC .....	.....	.....
. 0000 ...			82-3525148 ..	.....	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement 2060 Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	..0.000	MMLIC .....	.....	.....
. 0000 ...			82-3533944 ..	.....	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement Balanced Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	..0.000	MMLIC .....	.....	.....
. 0000 ...			46-4257056 ..	.....	.....	.....	MML Series International Equity Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	..100.000	MMLIC .....	.....	.....
. 0000 ...			47-3529636 ..	.....	.....	.....	MML Series II Dynamic Bond Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	..0.000	MMLIC .....	.....	.....
. 0000 ...			47-3544629 ..	.....	.....	.....	MML Series II Equity Rotation Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..95.900	MMLIC .....	.....	.....
. 0000 ...			27-1933389 ..	.....	0000916053 ..	OQ	MassMutual RetireSMART 2035 Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..3.700	MMLIC .....	.....	.....
. 0000 ...			27-1932769 ..	.....	0000916053 ..	OQ	MassMutual RetireSMART 2045 Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..8.600	MMLIC .....	.....	.....
. 0000 ...			46-3289207 ..	.....	0000916053 ..	OQ	MassMutual RetireSMART 2055 Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..24.400	MMLIC .....	.....	.....
. 0000 ...			47-5326235 ..	.....	0000916053 ..	OQ	MassMutual RetireSMART 2060 Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..42.700	MMLIC .....	.....	.....

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE Y
PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi-ciliary Location	Relation-ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Owner-ship Provide Percen-tage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Re-quired? (Yes/No)	*
. 0000 ...			45-1618155 ..	.....	0000916053 ..	OQ	MassMutual 20/80 Allocation Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	..100.000 ..	MLLIC .....	.....	.....
. 0000 ...			45-1618222 ..	.....	0000916053 ..	OQ	MassMutual 80/20 Allocation Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..45.200 ..	MLLIC .....	.....	.....
. 0000 ...			03-0532464 ..	.....	0000916053 ..	OQ	MassMutual RetireSMART In Retirement Fund ...	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..2.100 ..	MLLIC .....	.....	.....
. 0000 ...			45-1618262 ..	.....	0000916053 ..	OQ	MassMutual 40/60 Allocation Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	..100.000 ..	MLLIC .....	.....	.....
. 0000 ...			45-1618046 ..	.....	0000916053 ..	OQ	MassMutual 60/40 Allocation Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000 ..	MLLIC .....	.....	.....
. 0000 ...			45-1618046 ..	.....	0000916053 ..	OQ	MassMutual ishares 60/40 Allocation Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..72.200 ..	MLLIC .....	.....	.....
. 0000 ...			04-3212054 ..	.....	0000916053 ..	OQ	MassMutual Balanced Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000 ..	MLLIC .....	.....	.....
. 0000 ...			04-3556992 ..	.....	0000916053 ..	OQ	MassMutual Blue Chip Growth Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000 ..	MLLIC .....	.....	.....
. 0000 ...			04-3277549 ..	.....	0000916053 ..	OQ	MassMutual Core Bond Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000 ..	MLLIC .....	.....	.....
. 0000 ...			04-3539084 ..	.....	0000916053 ..	OQ	MassMutual Disciplined Growth Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000 ..	MLLIC .....	.....	.....
. 0000 ...			04-3539083 ..	.....	0000916053 ..	OQ	MassMutual Disciplined Value Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000 ..	MLLIC .....	.....	.....
. 0000 ...			01-0821120 ..	.....	0000916053 ..	OQ	MassMutual Diversified Value Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000 ..	MLLIC .....	.....	.....
. 0000 ...			04-3512590 ..	.....	0000916053 ..	OQ	MassMutual Equity Opportunities Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000 ..	MLLIC .....	.....	.....
. 0000 ...			04-3512589 ..	.....	0000916053 ..	OQ	MassMutual Growth Opportunities Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000 ..	MLLIC .....	.....	.....
. 0000 ...			03-0532475 ..	.....	0000916053 ..	OQ	MassMutual Inflation-Protected and Income Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000 ..	MLLIC .....	.....	.....
. 0000 ...			04-3512596 ..	.....	0000916053 ..	OQ	MassMutual Mid Cap Growth Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000 ..	MLLIC .....	.....	.....
. 0000 ...			04-3464165 ..	.....	0000916053 ..	OQ	MassMutual Premier Diversified Bond Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000 ..	MLLIC .....	.....	.....
. 0000 ...			92-1441036 ..	.....	0000916053 ..	OQ	MassMutual RetireSMART by JPMorgan 2065 Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000 ..	MLLIC .....	.....	.....
. 0000 ...			45-1618222 ..	.....	0000916053 ..	OQ	MassMutual Select 80/20 Allocation Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000 ..	MLLIC .....	.....	.....
. 0000 ...			04-3584138 ..	.....	0000916053 ..	OQ	MassMutual Select Fundamental Value Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000 ..	MLLIC .....	.....	.....
. 0000 ...			04-3557000 ..	.....	0000916053 ..	OQ	MassMutual Select Overseas Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000 ..	MLLIC .....	.....	.....
. 0000 ...			92-1427882 ..	.....	0000916053 ..	OQ	MassMutual Select T Rowe Price Retirement 2065 Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..98.100 ..	MLLIC .....	.....	.....
. 0000 ...			04-3464205 ..	.....	0000916053 ..	OQ	MassMutual Small Cap Growth Equity Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000 ..	MLLIC .....	.....	.....
. 0000 ...			04-3424705 ..	.....	0000916053 ..	OQ	MassMutual Small Cap Opportunities Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000 ..	MLLIC .....	.....	.....
. 0000 ...			02-0769954 ..	.....	0000916053 ..	OQ	MassMutual Small Cap Value Equity Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000 ..	MLLIC .....	.....	.....
. 0000 ...			26-0099965 ..	.....	0000916053 ..	OQ	MassMutual Strategic Bond Fund	.. MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000 ..	MLLIC .....	.....	.....

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

Asterisk	Explanation
1	Massachusetts Mutual Life Insurance Company owns 14.23% of the affiliated debt of Jefferies Finance LLC
2	Debt investors own .5% and includes only Great Lakes III, L.P.
3	Debt investors own .2% and includes only Great Lakes III, L.P.

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SUPPLEMENTAL EXHIBITS AND SCHEDULES INTERROGATORIES

The following supplemental reports are required to be filed as part of your statement filing. However, in the event that your company does not transact the type of business for which the special report must be filed, your response of NO to the specific interrogatory will be accepted in lieu of filing a "NONE" report and a bar code will be printed below. If the supplement is required of your company but is not being filed for whatever reason enter SEE EXPLANATION and provide an explanation following the interrogatory questions.

	Response
1. Will the Trusteed Surplus Statement be filed with the state of domicile and the NAIC with this statement?	NO
2. Will the Medicare Part D Coverage Supplement be filed with the state of domicile and the NAIC with this statement?	NO
3. Will the Reasonableness of Assumptions Certification required by Actuarial Guideline XXXV be filed with the state of domicile and electronically with the NAIC?	NO
4. Will the Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXV be filed with the state of domicile and electronically with the NAIC?	YES
5. Will the Reasonableness of Assumptions Certification for Implied Guaranteed Rate Method required by Actuarial Guideline XXXVI be filed with the state of domicile and electronically with the NAIC?	NO
6. Will the Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI (Updated Average Market Value) be filed with the state of domicile and electronically with the NAIC?	NO
7. Will the Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI (Updated Market Value) be filed with the state of domicile and electronically with the NAIC?	NO
8. Will the Life PBR Statement of Exemption be filed with the state of domicile by July 1st and electronically with the NAIC with the second quarterly filing per the Valuation Manual (by August 15)? (2nd Quarter Only) The response for 1st and 3rd quarters should be N/A. A NO response resulting with a bar code is only appropriate in the 2nd quarter. In the case of an ongoing statement of exemption, enter "SEE EXPLANATION" and provide as an explanation that the company is utilizing an ongoing statement of exemption.	SEE EXPLANATION

AUGUST FILING

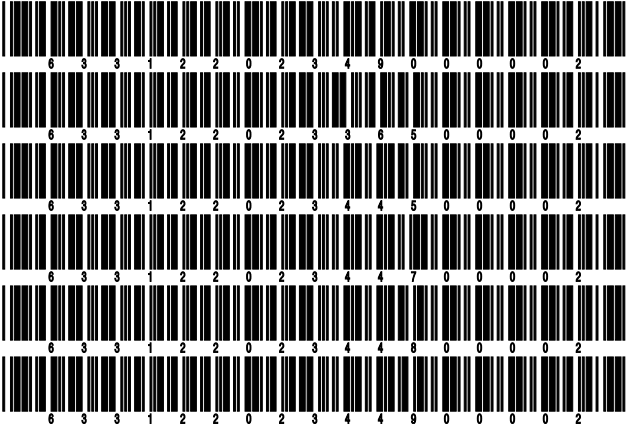
9. Will the regulator-only (non-public) Communication of Internal Control Related Matters Noted in Audit be filed with the state of domicile and electronically with the NAIC (as a regulator-only non-public document) by August 1? The response for 1st and 3rd quarters should be N/A. A NO response resulting with a bar code is only appropriate in the 2nd quarter.	YES
--	-----

Explanation:

1. The data for this supplement is not required to be filed
2. The data for this supplement is not required to be filed
3. The data for this supplement is not required to be filed
5. The data for this supplement is not required to be filed
6. The data for this supplement is not required to be filed
7. The data for this supplement is not required to be filed
8. The Company is utilizing an ongoing statement of exemption

Bar Code:

1. Trusteed Surplus Statement [Document Identifier 490]
2. Medicare Part D Coverage Supplement [Document Identifier 365]
3. Reasonableness of Assumptions Certification required by Actuarial Guideline XXXV [Document Identifier 445]
5. Reasonableness of Assumptions Certification for Implied Guaranteed Rate Method required by Actuarial Guideline XXXVI [Document Identifier 447]
6. Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI [Document Identifier 448]
7. Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI (Updated Market Value) [Document Identifier 449]



STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

OVERFLOW PAGE FOR WRITE-INS

Additional Write-ins for Assets Line 25

	Current Statement Date			4 December 31 Prior Year Net Admitted Assets
	1 Assets	2 Nonadmitted Assets	3 Net Admitted Assets (Cols. 1 - 2)	
2504. Accounts receivable	7,528,365	7,528,365	0	0
2597. Summary of remaining write-ins for Line 25 from overflow page	7,528,365	7,528,365	0	0

Additional Write-ins for Summary of Operations Line 8.3

	1 Current Year To Date	2 Prior Year To Date	3 Prior Year Ended December 31
08.304. Miscellaneous income	50,295	26,612	87,840
08.397. Summary of remaining write-ins for Line 8.3 from overflow page	50,295	26,612	87,840

SCHEDULE A - VERIFICATION

Real Estate

	1	2
	Year to Date	Prior Year Ended December 31
1. Book/adjusted carrying value, December 31 of prior year		
2. Cost of acquired:		
2.1 Actual cost at time of acquisition		
2.2 Additional investment made after acquisition		
3. Current year change in encumbrances		
4. Total gain (loss) on disposals		
5. Deduct amounts received on disposals		
6. Total foreign exchange change in book/adjusted carrying value		
7. Deduct current year's other than temporary impairment recognized		
8. Deduct current year's depreciation		
9. Book/adjusted carrying value at the end of current period (Lines 1+2+3+4-5+6-7-8)		
10. Deduct total nonadmitted amounts		
11. Statement value at end of current period (Line 9 minus Line 10)		

SCHEDULE B - VERIFICATION

Mortgage Loans

	1	2
	Year to Date	Prior Year Ended December 31
1. Book value/recorded investment excluding accrued interest, December 31 of prior year	3,088,813,561	2,148,469,101
2. Cost of acquired:		
2.1 Actual cost at time of acquisition	652,027,366	1,426,971,997
2.2 Additional investment made after acquisition	59,590,646	43,507,818
3. Capitalized deferred interest and other	305,231	1,081,607
4. Accrual of discount	(95,293)	13,017,034
5. Unrealized valuation increase (decrease)	0	0
6. Total gain (loss) on disposals	849	0
7. Deduct amounts received on disposals	153,395,815	537,024,492
8. Deduct amortization of premium and mortgage interest points and commitment fees	5,071,948	7,209,504
9. Total foreign exchange change in book value/recorded investment excluding accrued interest		0
10. Deduct current year's other than temporary impairment recognized		0
11. Book value/recorded investment excluding accrued interest at end of current period (Lines 1+2+3+4+5+6-7-8+9-10)	3,642,174,597	3,088,813,561
12. Total valuation allowance		
13. Subtotal (Line 11 plus Line 12)	3,642,174,597	3,088,813,561
14. Deduct total nonadmitted amounts		0
15. Statement value at end of current period (Line 13 minus Line 14)	3,642,174,597	3,088,813,561

SCHEDULE BA - VERIFICATION

Other Long-Term Invested Assets

	1	2
	Year to Date	Prior Year Ended December 31
1. Book/adjusted carrying value, December 31 of prior year	1,363,435,253	1,092,315,061
2. Cost of acquired:		
2.1 Actual cost at time of acquisition	58,290,496	34,554,124
2.2 Additional investment made after acquisition	104,739,924	386,006,631
3. Capitalized deferred interest and other		0
4. Accrual of discount		0
5. Unrealized valuation increase (decrease)	(7,983,391)	130,291,068
6. Total gain (loss) on disposals	(10,532,327)	(362,017)
7. Deduct amounts received on disposals	86,382,068	291,108,114
8. Deduct amortization of premium and depreciation	896,690	1,983,147
9. Total foreign exchange change in book/adjusted carrying value	28,900	7,800
10. Deduct current year's other than temporary impairment recognized	5,723,741	(13,713,847)
11. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5+6-7-8+9-10)	1,414,976,356	1,363,435,253
12. Deduct total nonadmitted amounts		
13. Statement value at end of current period (Line 11 minus Line 12)	1,414,976,356	1,363,435,253

SCHEDULE D - VERIFICATION

Bonds and Stocks

	1	2
	Year to Date	Prior Year Ended December 31
1. Book/adjusted carrying value of bonds and stocks, December 31 of prior year	34,200,158,053	32,199,605,856
2. Cost of bonds and stocks acquired	5,021,343,718	16,491,151,584
3. Accrual of discount	41,938,289	161,977,324
4. Unrealized valuation increase (decrease)	(20,013,562)	(54,103,127)
5. Total gain (loss) on disposals	(163,956,846)	51,389,809
6. Deduct consideration for bonds and stocks disposed of	4,254,311,289	14,559,739,657
7. Deduct amortization of premium	25,518,117	59,049,938
8. Total foreign exchange change in book/adjusted carrying value	5,794,257	8,850,307
9. Deduct current year's other than temporary impairment recognized	63,843,021	40,527,854
10. Total investment income recognized as a result of prepayment penalties and/or acceleration fees		603,750
11. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9+10)	34,741,591,482	34,200,158,053
12. Deduct total nonadmitted amounts	0	0
13. Statement value at end of current period (Line 11 minus Line 12)	34,741,591,482	34,200,158,053

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 1B

Showing the Acquisitions, Dispositions and Non-Trading Activity
During the Current Quarter for all Bonds and Preferred Stock by NAIC Designation

NAIC Designation	1 Book/Adjusted Carrying Value Beginning of Current Quarter	2 Acquisitions During Current Quarter	3 Dispositions During Current Quarter	4 Non-Trading Activity During Current Quarter	5 Book/Adjusted Carrying Value End of First Quarter	6 Book/Adjusted Carrying Value End of Second Quarter	7 Book/Adjusted Carrying Value End of Third Quarter	8 Book/Adjusted Carrying Value December 31 Prior Year
BONDS								
1. NAIC 1 (a)	18,497,533,939	6,984,920,639	6,065,066,073	(187,300,688)	18,497,533,939	19,230,087,817	0	18,045,112,153
2. NAIC 2 (a)	14,526,556,682	24,656,237,151	24,297,877,182	(434,901,400)	14,526,556,682	14,450,015,251	0	14,733,321,762
3. NAIC 3 (a)	1,507,308,006	13,805,182	73,230,745	(10,215,768)	1,507,308,006	1,437,666,675	0	1,475,937,217
4. NAIC 4 (a)	491,742,016	24,409,317	26,224,401	(18,856,609)	491,742,016	471,070,323	0	454,644,574
5. NAIC 5 (a)	165,873,924	3,240,233	16,813,161	19,284,457	165,873,924	171,585,453	0	209,363,131
6. NAIC 6 (a)	37,684,003	618,785	3,705,328	395,650	37,684,003	34,993,110	0	31,207,325
7. Total Bonds	35,226,698,570	31,683,231,307	30,482,916,890	(631,594,358)	35,226,698,570	35,795,418,629	0	34,949,586,162
PREFERRED STOCK								
8. NAIC 1	4,481,201	0	0	125,017	4,481,201	4,606,218	0	4,037,177
9. NAIC 2	95,874,754	0	0	(452,331)	95,874,754	95,422,423	0	92,640,241
10. NAIC 3	6,998,696	0	0	0	6,998,696	6,998,696	0	6,998,696
11. NAIC 4	0	0	0	0	0	0	0	1,399,018
12. NAIC 5	54,915,854	0	16,431,864	(13,274,818)	54,915,854	25,209,172	0	79,292,676
13. NAIC 6	802,714	442,451	0	(597,464)	802,714	647,701	0	600,376
14. Total Preferred Stock	163,073,219	442,451	16,431,864	(14,199,596)	163,073,219	132,884,210	0	184,968,184
15. Total Bonds and Preferred Stock	35,389,771,789	31,683,673,758	30,499,348,754	(645,793,954)	35,389,771,789	35,928,302,839	0	35,134,554,346

(a) Book/Adjusted Carrying Value column for the end of the current reporting period includes the following amount of short-term and cash equivalent bonds by NAIC designation:

NAIC 1 \$ 503,610,704 ; NAIC 2 \$ 1,351,349,105 ; NAIC 3 \$ 0 NAIC 4 \$ 0 ; NAIC 5 \$ 0 ; NAIC 6 \$ 0

SCHEDULE DA - PART 1

Short-Term Investments

	1	2	3	4	5
	Book/Adjusted Carrying Value	Par Value	Actual Cost	Interest Collected Year-to-Date	Paid for Accrued Interest Year-to-Date
7709999999 Totals	547,504,319	xxx	547,930,201	951,998	5,135

SCHEDULE DA - VERIFICATION

Short-Term Investments

	1	2
	Year To Date	Prior Year Ended December 31
1. Book/adjusted carrying value, December 31 of prior year	389,684,178	476,420,524
2. Cost of short-term investments acquired	520,036,414	433,155,035
3. Accrual of discount	6,565,759	742,798
4. Unrealized valuation increase (decrease)	0	0
5. Total gain (loss) on disposals	(32,162)	(87,555)
6. Deduct consideration received on disposals	368,749,869	520,546,624
7. Deduct amortization of premium	0	0
8. Total foreign exchange change in book/adjusted carrying value	0	0
9. Deduct current year's other than temporary impairment recognized	0	0
10. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9)	547,504,319	389,684,178
11. Deduct total nonadmitted amounts	0	0
12. Statement value at end of current period (Line 10 minus Line 11)	547,504,319	389,684,178

SCHEDULE DB - PART A - VERIFICATION

Options, Caps, Floors, Collars, Swaps and Forwards

1.	Book/Adjusted Carrying Value, December 31, prior year (Line 10, prior year)	172,090,191
2.	Cost Paid/(Consideration Received) on additions	286,626,036
3.	Unrealized Valuation increase/(decrease)	(10,442,823)
4.	SSAP No. 108 adjustments	
5.	Total gain (loss) on termination recognized	110,184,706
6.	Considerations received/(paid) on terminations	110,184,706
7.	Amortization	(247,584,234)
8.	Adjustment to the Book/Adjusted Carrying Value of hedged item	
9.	Total foreign exchange change in Book/Adjusted Carrying Value	49,799
10.	Book/Adjusted Carrying Value at End of Current Period (Lines 1+2+3+4+5-6+7+8+9)	200,738,969
11.	Deduct nonadmitted assets	
12.	Statement value at end of current period (Line 10 minus Line 11)	200,738,969

SCHEDULE DB - PART B - VERIFICATION

Futures Contracts

1.	Book/Adjusted carrying value, December 31 of prior year (Line 6, prior year)	
2.	Cumulative cash change (Section 1, Broker Name/Net Cash Deposits Footnote - Cumulative Cash Change column)	
3.1	Add:	
	Change in variation margin on open contracts - Highly Effective Hedges	
3.11	Section 1, Column 15, current year to date minus	
3.12	Section 1, Column 15, prior year	
	Change in variation margin on open contracts - All Other	
3.13	Section 1, Column 18, current year to date minus	
3.14	Section 1, Column 18, prior year	
3.2	Add:	
	Change in adjustment to basis of hedged item	
3.21	Section 1, Column 17, current year to date minus	
3.22	Section 1, Column 17, prior year	
	Change in amount recognized	
3.23	Section 1, Column 19, current year to date minus	
3.24	Section 1, Column 19, prior year plus	
3.25	SSAP No. 108 adjustments	
3.3	Subtotal (Line 3.1 minus Line 3.2)	
4.1	Cumulative variation margin on terminated contracts during the year	
4.2	Less:	
	4.21 Amount used to adjust basis of hedged item	
	4.22 Amount recognized	
	4.23 SSAP No. 108 adjustments	
4.3	Subtotal (Line 4.1 minus Line 4.2)	
5.	Dispositions gains (losses) on contracts terminated in prior year:	
	5.1 Total gain (loss) recognized for terminations in prior year	
	5.2 Total gain (loss) adjusted into the hedged item(s) for terminations in prior year	
6.	Book/Adjusted carrying value at end of current period (Lines 1+2+3.3-4.3-5.1-5.2)	
7.	Deduct total nonadmitted amounts	
8.	Statement value at end of current period (Line 6 minus Line 7)	

NONE

Schedule DB - Part C - Section 1 - Replication (Synthetic Asset) Transactions (RSATs) Open
N O N E

Schedule DB-Part C-Section 2-Reconciliation of Replication (Synthetic Asset) Transactions Open
N O N E

SCHEDULE DB - VERIFICATION

Verification of Book/Adjusted Carrying Value, Fair Value and Potential Exposure of all Open Derivative Contracts

		Book/Adjusted Carrying Value Check
1.	Part A, Section 1, Column 14.....	200,738,967
2.	Part B, Section 1, Column 15 plus Part B, Section 1 Footnote - Total Ending Cash Balance.....	0
3.	Total (Line 1 plus Line 2)	200,738,967
4.	Part D, Section 1, Column 6	847,997,636
5.	Part D, Section 1, Column 7	(647,258,669)
6.	Total (Line 3 minus Line 4 minus Line 5)	0
		Fair Value Check
7.	Part A, Section 1, Column 16	691,235,165
8.	Part B, Section 1, Column 13	
9.	Total (Line 7 plus Line 8)	691,235,165
10.	Part D, Section 1, Column 9	763,851,557
11.	Part D, Section 1, Column 10	(72,616,392)
12.	Total (Line 9 minus Line 10 minus Line 11)	0
		Potential Exposure Check
13.	Part A, Section 1, Column 21	56,445,855
14.	Part B, Section 1, Column 20	
15.	Part D, Section 1, Column 12	56,445,855
16.	Total (Line 13 plus Line 14 minus Line 15)	0

SCHEDULE E - PART 2 - VERIFICATION

(Cash Equivalents)

	1	2
	Year To Date	Prior Year Ended December 31
1. Book/adjusted carrying value, December 31 of prior year	1,535,691,774	279,044,687
2. Cost of cash equivalents acquired	57,330,337,107	99,903,606,155
3. Accrual of discount	29,057,866	14,187,427
4. Unrealized valuation increase (decrease)	0	0
5. Total gain (loss) on disposals	7,067	(1,203)
6. Deduct consideration received on disposals	57,099,466,170	98,661,145,292
7. Deduct amortization of premium	0	0
8. Total foreign exchange change in book/adjusted carrying value	0	0
9. Deduct current year's other than temporary impairment recognized	0	0
10. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9)	1,795,627,643	1,535,691,774
11. Deduct total nonadmitted amounts	0	0
12. Statement value at end of current period (Line 10 minus Line 11)	1,795,627,643	1,535,691,774

Schedule A - Part 2 - Real Estate Acquired and Additions Made

N O N E

Schedule A - Part 3 - Real Estate Disposed

N O N E

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE B - PART 2

Showing All Mortgage Loans ACQUIRED AND ADDITIONS MADE During the Current Quarter

1 Loan Number	Location		4 Loan Type	5 Date Acquired	6 Rate of Interest	7 Actual Cost at Time of Acquisition	8 Additional Investment Made After Acquisition	9 Value of Land and Buildings
	2 City	3 State						
121836H14	Various	..HI .....	.....	01/19/2023	8.470	319	0	2,155,481
121836N00	Various	..NY .....	.....	04/20/2023	8.721	3,919,753	0	4,098,208
121836P07	Various	..FL .....	.....	05/18/2023	8.490	4,532,187	0	4,674,592
121836RS1	Various	..NJ .....	.....	06/15/2023	8.290	3,482,394	0	3,480,603
146738BC2	Various	..FL .....	.....	12/09/2022	10.672	0	3,000	4,232,694
146738JK6	Various	..FL .....	.....	04/11/2023	9.590	15,101,036	0	15,101,036
146738KL2	Various	..CA .....	.....	04/27/2023	9.310	6,045,549	0	6,045,549
146738LM9	Various	..CA .....	.....	05/11/2023	9.490	5,916,664	0	5,916,664
146738MN6	Various	..MA .....	.....	05/26/2023	9.690	14,901,579	0	14,901,579
146738NO3	Various	..CA .....	.....	05/11/2023	9.489	3,078,049	0	3,078,049
146738OP9	Various	..CA .....	.....	06/06/2023	9.550	15,081,061	0	15,081,061
146738P06	Various	..MA .....	.....	06/23/2023	9.430	17,761,637	0	17,761,637
161225MNO	Various	..FL .....	.....	03/16/2023	8.410	(16,642,575)	0	17,038,799
161225OP7	Various	..FL .....	.....	04/13/2023	8.480	14,517,979	0	14,743,553
161225QR1	Various	..NY .....	.....	05/18/2023	8.530	22,128,814	0	22,969,715
161225ST5	Various	..TX .....	.....	06/15/2023	8.500	18,148,704	0	18,176,690
243820ZL4	Various	..CA .....	.....	04/13/2023	8.800	6,857,586	0	6,614,720
243820ZN0	Various	..FL .....	.....	05/18/2023	8.962	11,505,584	0	11,434,365
243820Z03	Various	..FL .....	.....	06/15/2023	8.650	8,320,987	0	8,332,514
489123BC2	Various	..CA .....	.....	04/20/2023	7.470	2,687,654	0	2,619,761
489123DE6	Various	..NY .....	.....	05/18/2023	7.570	1,810,547	0	1,778,724
489123FG9	Various	..CA .....	.....	06/02/2023	7.530	4,473,945	0	4,485,125
489123HI3	Various	..CA .....	.....	06/15/2023	8.000	2,599,255	0	2,590,336
62388XFG9	Various	..FL .....	.....	06/08/2023	8.440	24,829,490	0	24,654,132
62938XBC7	Various	..CA .....	.....	05/05/2023	8.595	27,305,343	0	27,122,634
62938XDE1	Various	..CA .....	.....	05/18/2023	8.293	21,663,920	0	21,545,612
62938XVV3	Various	..FL .....	.....	03/16/2023	8.560	(33,264,364)	0	33,089,404
62938XYV4	Various	..FL .....	.....	04/13/2023	8.437	39,127,719	0	38,346,176
685422ZZ3	Various	..GA .....	.....	12/23/2021	7.290	220,266	220,266	33,542,000
86106#YY8	Various	..TX .....	.....	10/14/2021	6.840	1,859,550	1,859,550	24,073,462
89#625ZZ1	Various	..FL .....	.....	03/30/2022	7.910	1,625,021	1,625,021	24,871,045
909055ZZ1	Various	..AZ .....	.....	03/30/2022	6.000	570,332	570,332	78,728,727
0399999. Mortgages in good standing - Residential mortgages-all other						245,890,816	4,278,169	513,284,647
N226021	Arlington	..VA .....	.....	05/05/2022	4.490 .....	.....	3,172,190	108,131,878
N226162	Flower Mound	..TX .....	.....	12/08/2022	6.150 .....	.....	84,598	18,990,054
N229021	New York	..NY .....	.....	05/01/2023	4.730	39,959,999 .....	.....	71,373,492
N234011	Chicago	..IL .....	.....	05/05/2023	6.170	12,987,001 .....	.....	29,412,501
N236011	Philadelphia	..PA .....	.....	06/23/2023	10.082	74 .....	.....	13,632,180
NAC0051	Las Vegas	..NV .....	.....	05/03/2023	10.643	50,000,000	1,600,000	31,746,032
0599999. Mortgages in good standing - Commercial mortgages-all other						102,947,074	4,856,788	273,286,137
0899999. Total Mortgages in good standing						348,837,890	9,134,957	786,570,784
1699999. Total - Restructured Mortgages						0	0	0
2499999. Total - Mortgages with overdue interest over 90 days						0	0	0
3299999. Total - Mortgages in the process of foreclosure						0	0	0
3399999 - Totals						348,837,890	9,134,957	786,570,784

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE B - PART 3

Showing All Mortgage Loans DISPOSED, Transferred or Repaid During the Current Quarter

1 Loan Number	Location		4 Loan Type	5 Date Acquired	6 Disposal Date	7 Book Value/ Recorded Investment Excluding Accrued Interest Prior Year	Change in Book Value/Recorded Investment						14 Book Value/ Recorded Investment Excluding Accrued Interest on Disposal	15 Consid- eration	16 Foreign Exchange Gain (Loss) on Disposal	17 Realized Gain (Loss) on Disposal	18 Total Gain (Loss) on Disposal
	2 City	3 State					8 Unrealized Valuation Increase (Decrease)	9 Current Year's (Amortization) /Accretion	10 Current Year's Other- Than- Temporary Impairment Recognized	11 Capitalized Deferred Interest and Other	12 Total Change in Book Value (8+9-10+11)	13 Total Foreign Exchange Change in Book Value					
Residential											0	.....	.....78,838,032	78,838,881	.....	.....849	849
Commercial											0	.....	.....3,529,436	3,529,436	.....	.....	.....0
0299999. Mortgages with partial repayments						0	0	0	0	0	0	0	82,367,468	82,368,317	0	849	849
N226162	Flower Mound	TX.....		12/08/2022						1,039	1,039		260,367	260,367			0
0499999. Mortgages transferred						0	0	0	0	1,039	1,039	0	260,367	260,367	0	0	0
.....																	
.....																	
.....																	
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.....																	
0599999 - Totals						0	0	0	0	1,039	1,039	0	82,627,835	82,628,684	0	849	849

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE BA - PART 2

Showing Other Long-Term Invested Assets ACQUIRED AND ADDITIONS MADE During the Current Quarter

1	2	Location		5	6	7	8	9	10	11	12	13
		3	4									
CUSIP Identification	Name or Description	City	State	Name of Vendor or General Partner	NAIC Designation, NAIC Designation Modifier and SVO Administrative Symbol	Date Originally Acquired	Type and Strategy	Actual Cost at Time of Acquisition	Additional Investment Made After Acquisition	Amount of Encumbrances	Commitment for Additional Investment	Percentage of Ownership
000000-00-0	6116 Sierra Senior Loan Strategy JV I LLC	New York	NY	Medley Capital LLC		07/16/2015	3	0	0			11.250
000000-00-0	6117 Monarch Capital Partners III LP	New York	NY	Monarch Alternative Capital GP III LLC		01/12/2015	3	0	0		1,474,472	2.930
000000-00-0	6118 Yukon Capital Partners II LP	Minneapolis	MN	Yukon Partners II LLC		07/17/2014	2	0	0		573,966	0.953
000000-00-0	6119 Northcreek Mezzanine Fund II LP	Cincinnati	OH	Yukon Partners II LLC		01/31/2014	2	0	0			
000000-00-0	6120 Northcreek Mezzanine Fund III LP	Cincinnati	OH	NMF GP III LLC		09/10/2019	2	0	0			
000000-00-0	6121 ExWorks Capital Fund I LP	Chicago	IL	ExWorks Capital Fund I GP LP		04/17/2017	3	0	0			11.007
000000-00-0	6122 ExWorks Capital Fund II Parallel Vehicle LP	Chicago	IL	ExWorks Capital Fund I GP LP		06/22/2017	3	0	0			51.065
000000-00-0	6123 NB Private Equity Credit Opportunities Fund LP	New York	NY	NB Private Equity Credit Opp Assocs LP		06/07/2017	3	0	0		1,399,902	0.851
000000-00-0	6124 Yukon Capital Partners III LP	Minneapolis	MN	Yukon Partners III LLC		07/18/2017	2	0	60,024		982,263	0.029
000000-00-0	6125 Monarch Capital Partners IV LP	New York	NY	Yukon Partners II LLC		10/30/2017	3	0	0		1,955,966	2.746
000000-00-0	6126 Gryphon Mezzanine Partners LP	San Francisco	CA	Gryphon Mezzanine Partners GP LP		11/30/2017	3	0	0		448,741	6.340
000000-00-0	6127 TTGA C-1 MMF LP	San Francisco	CA	TTGA C-1 MMF GP LLC		12/18/2017	3	0	0			65.740
000000-00-0	6128 World Trade Finance LLC	Oak Brook	IL	ExWorks Capital LLC		04/20/2020	3	0	0			
000000-00-0	6129 SAAS Capital Fund III	Cincinnati	OH	Gryphon Mezzanine Partners GP LP		08/09/2018	3	0	0			6.716
000000-00-0	6130 SAAS Capital Fund III (B) LP	Cincinnati	OH	SC GP III LLC		08/26/2020	3	0	0			7.583
000000-00-0	6131 Great American Capital Partners Fund II LP	Los Angeles	CA	Great American Capital Partners LLC		01/12/2018	3	0	0			2.120
000000-00-0	6132 Sagard Credit Partners LP	Toronto	CA	Sagard Credit Partners Cayman GP Inc		10/09/2018	3	0	0		3,783,916	7.515
000000-00-0	6133 PineBridge Private Credit Feeder LP	New York	NY	PineBridge Private Credit Gen Part LP		11/28/2018	3	0	542,193		812,117	10.211
000000-00-0	6134 Gryphon Mezzanine Partners II Feeder Fund LP	San Francisco	CA	Gryphon Mezzanine Partners II LP		12/20/2019	3	0	0		2,317,215	18.420
000000-00-0	6135 NB Direct Access Insurance SPV LLC	Wilmington	DE	NB Direct Access Associates LP		08/21/2020	3	0	0			21.429
000000-00-0	6137 Cyprium Parallel Investors V LP	Cleveland	OH	Cyprium V Management LLC		08/15/2019	3	0	403,499		1,938,167	3.382
000000-00-0	6148 TTGA SBIC Pioneer Feeder Fund LP	Purchase	NY	TTGA SBIC Feeder GP LLC		05/25/2021	3	0	623,562		1,054,274	3.618
1799999	Joint Venture Interests - Fixed Income - NAIC Designation Not Assigned by the SVO - Unaffiliated							0	1,629,277	0	16,740,999	XXX
000000-00-0	2182 River Cities Capital Fund VI LP	Cincinnati	OH	River Cities Management VI LLC		02/15/2018	3	0	700,000		560,000	
000000-00-0	2416 Gryphon Partners VI LP	San Francisco	CA	Gryphon GenPar VI LP		11/26/2021	3	0	863,639		1,004,320	0.482
000000-00-0	2518 MidOcean Partners VI LP	New York	NY	MidOcean Associates V LP		11/09/2021	3	0	170		4,229,202	
000000-00-0	2558 JFL-NG Continuation Fund	New York	NY	J F Lehman & Company		10/27/2021	3	0	25,821		2,074,495	2.018
000000-00-0	2569 IVP XII DK Co-Invest LP	New York	NY	Insight Venture Associates IX LP		09/30/2021	2	0	0			
000000-00-0	2581 Energy Impact Fund II LP	New York	NY	Energy Impact Fund II GP LLC		11/12/2021	1	0	1,974,456		1,729,462	
000000-00-0	2584 One Equity Partners VIII LP	New York	NY	One Equity Partners		01/26/2022	3	0	1,094,297		745,215	0.250
000000-00-0	2589 Hidden Harbor Capital Partners II L P	Boca Raton	FL	Hidden Harbor Capital Partners GP I LP		09/07/2022	3	0	144,250		4,056,589	1.253
000000-00-0	2622 OceanSound Partners Fund LP	New York	NY	OceanSound Partners		12/27/2021	3	0	30,651		1,138,330	0.234
000000-00-0	2624 KLCP Domestic Fund III LP	New York	NY	Kennedy Lewis GP III LLC		12/27/2021	3	0	313,061		2,993,897	0.920
000000-00-0	2635 Karakoram Fund I LP	Manhattan Beach	CA	K5 Capital Advisors LP		01/28/2022	3	0	163,315		1,110,827	0.087
000000-00-0	2644 SDC Digital Infrastructure Opportunity Fund III LP	New York	NY	SDC DIOF III GP LP		04/25/2022	1	0	1,005,133		3,830,886	0.330
000000-00-0	2665 AEA Growth Equity Fund LP	San Francisco	CA	AEA Growth		04/29/2022	3	0	694,905		2,314,601	2.117
000000-00-0	2672 River Cities Capital Fund VII LP	Cincinnati	OH	River Cities Management VI LLC		07/15/2022	3	0	750,000		3,500,000	1.667
000000-00-0	2693 Sunstone Partners III Main LP	San Mateo	CA	Sunstone Partners		04/12/2023	3	204,356	0		3,795,644	0.471
000000-00-0	2710 Asper DHUK LP	London SE1 9SG	GBR	Asper Investment Management		10/21/2022	3	0	46,972		3,216,042	1.604
000000-00-0	2733 Capital Z Partners (MGA) L.P.	New York	NY	Capital Z Partners		12/14/2022	3	0	0			0.311
000000-00-0	2741 Matador Film Partners LP	Delaware	DE	Matador Film Management LLC		03/14/2023	1	0	1,300,000			2.000
000000-00-0	2755 Bertram Capital V LP	Foster City	CA	Bertram Growth Capital IV GP LP		06/09/2023	3	16,200	0		11,400,000	0.288
000000-00-0	2756 IPCC Fund LP	Wilmington	DE	IPCC GP LLC		05/25/2023	1	363,145	0		2,637,538	0.400
000000-00-0	2757 MassMutual Ventures US IV GP	Springfield	MA	Massachusetts Mutual Life Ins Co		05/11/2023	3	12,500	0			1.000
000000-00-0	2759 MMV Climate Technology Fund GP	Springfield	MA	Massachusetts Mutual Life Ins Co		05/15/2023	3	10,000	0			1.000
000000-00-0	2762 IPCC Advisor LP	Wilmington	DE	IPCC GP LLC		05/25/2023	1	27,000	0			0.400
000000-00-0	6001 A&M Capital Partners LP	GREENWICH	CT	A&M Capital-GP LP		12/06/2013	3	0	0			2.107
000000-00-0	6002 A&M Capital Partners II LP	Greenwich	CT	A&M Capital-GP II LP		05/25/2018	3	0	0			0.882
000000-00-0	6003 Allos III-Q LP	Rowayton	CT	Allos Ventures III LLC		12/19/2018	3	0	0			4.448
000000-00-0	6004 AltEnergy Storage LLC	Rowayton	CT	AltEnergy Storage LLC		09/28/2015	3	0	0			13.710
000000-00-0	6005 ArcLight Energy Partners Fund VI LP	Boston	MA	ArcLight PEF GP VI LLC		08/04/2015	3	0	0		1,961,335	9.845
000000-00-0	6006 Cincy Tech Fund IV LLC	Cincinnati	OH	CincyTech LLC		03/18/2016	1	0	0			5.860
000000-00-0	6007 Electric Gaurd Dog LLC	New York	NY	Snow Phipps III AIV LP		06/08/2016	3	0	0			2.350
000000-00-0	6008 Harvest Intrexon Enterprise Fund I LP	San Francisco	CA	Harvest Enterprise GP I LLC		09/04/2015	3	0	0			1.290
000000-00-0	6009 LLR Equity Partners IV LP	Philadelphia	PA	LLR Capital IV LP		03/14/2014	3	0	0		560,000	0.813
000000-00-0	6010 NB Secondary Opportunities Fund III LP	New York	NY	NB Secondary Opportunities Assoc III LP		05/23/2013	3	0	90,000		3,791,072	0.794

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE BA - PART 2

Showing Other Long-Term Invested Assets ACQUIRED AND ADDITIONS MADE During the Current Quarter

1	2	Location		5	6	7	8	9	10	11	12	13
		3	4									
CUSIP Identification	Name or Description	City	State	Name of Vendor or General Partner	NAIC Designation, NAIC Designation Modifier and SVO Administrative Symbol	Date Originally Acquired	Type and Strategy	Actual Cost at Time of Acquisition	Additional Investment Made After Acquisition	Amount of Encumbrances	Commitment for Additional Investment	Percentage of Ownership
000000-00-0	6011 NB Strategic Co-Investment Partners II LP	New York	NY	NB Strat Co-Investment Assoc II GP LLC		10/01/2012	3	0	0		631,133	0.871
000000-00-0	6012 NB Strategic Co-Investment Partners III LP	New York	NY	NB Strat Co-Investment Assoc III GP LLC		01/28/2016	3	0	0		879,985	0.875
000000-00-0	6013 NB Secondary Opportunities Fund IV LP	New York	NY	NB Secondary Opportunities Assoc IV LP		04/19/2017	3	0	0		2,732,731	0.442
000000-00-0	6014 OLG Investment Partners LP	Cincinnati	OH	OLG Investment Partners LP Lucas Group		09/27/2013	3	0	0			66.396
000000-00-0	6015 Bridge Growth Partners LP	New York	NY	Bridge Growth Partners LP		07/15/2014	3	0	52,661		83,747	6.549
000000-00-0	6016 Channel 51 LLC	Miami	FL	Channel 51 LLC		04/29/2016	3	0	0		374,309	0.362
000000-00-0	6017 Financial Edge Fund LP	Naples	FL	PL Capital LLC		11/29/2007	3	0	0			7.019
000000-00-0	6018 Greenspring Opportunities IV LP	Owing Mills	MD	Greenspring Opportunities Gen Part IV LP		04/25/2016	3	0	0			1.003
000000-00-0	6019 Narya Capital Fund I LP	Cincinnati	OH	Narya Capital Fund I LP		03/20/2020	3	0	0		557,606	2.086
000000-00-0	6020 OBC Investment Partners LP	Chicago	IL	Orchard Investment Management LLC		07/31/2014	3	0	0			63.400
000000-00-0	6021 Orchard Tosca Investment Partners LP	Cincinnati	OH	Orchard Investment Management LLC		08/19/2011	3	0	0			47.702
000000-00-0	6022 Patriot Financial Partners II LP	Radnor	PA	Patriot Financial Partners GP II LP		04/30/2014	3	0	0		362,070	3.844
000000-00-0	6023 Patriot Financial Partners III, L.P.	Radnor	PA	Patriot Financial Partners GP III LP		07/21/2017	3	0	0		929,455	2.584
000000-00-0	6024 Project Senator Holdings LP	New York	NY	Bridge Growth Partners LP		05/11/2016	3	0	0			3.001
000000-00-0	6025 ROCF IFBYPHONE LLC	Cincinnati	OH	ROCF Ifbyphone LLC		09/09/2014	3	0	0			23.123
000000-00-0	6026 River Cities Capital Fund IV LP	Davenport	IA	River Cities Management IV LLC		09/30/2012	3	0	0		314,160	3.501
000000-00-0	6027 River Cities Capital Fund V LP	Davenport	IA	River Cities Management V LLC		12/31/2012	3	0	0			1.708
000000-00-0	6029 River Cities Capital Fund III LP	Davenport	IA	River Cities Management III LP		05/15/2018	3	0	0			
000000-00-0	6030 Snow Phipps II LP	New York	NY	Snow Phipps GP II LP		01/08/2010	3	0	10,660		161,644	1.063
000000-00-0	6031 Snow Phipps III LP	New York	NY	Snow Phipps GP III LLC		06/08/2016	3	0	0		1,277,905	1.142
000000-00-0	6032 Snow Phipps LP	New York	NY	SPG GP LLC		02/06/2007	3	0	0		113,864	1.594
000000-00-0	6033 Solamere Capital Fund II LP	Boston	MA	Solamere Capital Fund II GP LP		08/19/2013	3	0	21,223		1,638,832	1.886
000000-00-0	6034 Solamere Capital Fund II-A LP	Boston	MA	Snow Phipps GP III LLC		08/19/2013	3	0	0		584,939	1.760
000000-00-0	6035 Solamere Portfolio Company Investments II LLC Vivint	Boston	MA	Solamere Capital LLC		01/18/2019	3	0	6,499			8.293
000000-00-0	6036 Solamere Portfolio Company Investments II LLC	Boston	MA	Solamere Capital LLC		04/18/2016	3	0	0	2,840		2.840
000000-00-0	6038 Three Ocean Partners LLC	New York	NY	Three Ocean Partners LLC		06/01/2011	3	0	0	0		1.000
000000-00-0	6039 Tritium Partners LLC	Austin	TX	Tritium I GP LLC		06/26/2015	3	0	0	0	734,898	2.094
000000-00-0	6040 Vida Longevity Fund LP	Austin	TX	Vida Management I LLC		04/01/2015	10	0	0	0		1.102
000000-00-0	6041 L-A Saturn Acquisition LP	Philadelphia	PA	L-A Group Saturn LLC		01/16/2015	3	0	0	0	83,599	2.481
000000-00-0	6042 Cincinnati Cornerstone Investors EI III LLC	Cincinnati	OH	CincyTech LLC		09/13/2016	3	0	0	0		16.851
000000-00-0	6043 BGP FS Holdco LLC	New York	NY	Bridge Growth Partners LP		11/08/2016	3	0	0	0		4.261
000000-00-0	6044 MCOF GP LLC	New York	NY	Medley GP Holdings LLC		07/15/2016	3	0	0	0		1.380
000000-00-0	6045 MCOF Management LLC	New York	NY	MCOF GP LLC		07/15/2016	3	0	0	0		1.400
000000-00-0	6046 Medley Credit Opportunity Delaware Fund LP	New York	NY	MCOF GP LLC		10/01/2021	7	0	0	0		45.898
000000-00-0	6047 Gryphon Partners IV LP	San Francisco	CA	Gryphon GenPar IV LP		12/06/2016	3	0	0	0		0.460
000000-00-0	6048 Gryphon Partners V LP	San Francisco	CA	Gryphon GenPar V LP		08/29/2018	3	0	511,182	0		0.570
000000-00-0	6049 A&M Capital Opportunities Fund LP	Greenwich	CT	A&M Capital Opportunities-GP LP		10/01/2021	3	0	0	0		1.496
000000-00-0	6050 ManchesterStory Venture Fund LP	West Des Moines	IA	ManchesterStory GP1 LLC		03/23/2017	3	0	0	0	638,191	2.132
000000-00-0	6051 Medley Real D Annuity LLC	New York	NY	Medley Capital LLC		03/21/2016	3	0	0	0		69.340
000000-00-0	6052 Bridge Growth Partners LP Accedian Holdings	New York	NY	Bridge Growth Partners LP		05/19/2017	3	0	0	0		6.667
000000-00-0	6053 Energy Impact Fund LP	New York	NY	Energy Impact Partners LLC		05/11/2017	3	0	0	0	1,266,782	1.621
000000-00-0	6054 Greenspring Global Partners VIII LP	Owing Mills	MD	Greenspring Opportunities VIII LP		07/14/2017	1	0	0	0		10.872
000000-00-0	6055 Greenspring Opportunities V LP	Owing Mills	MD	Greenspring Opportunities Gen Part V LP		01/22/2018	1	0	70,000	0		0.707
000000-00-0	6056 OVIP LP	CINCINNATI	OH	Orchard Investment Management III LLC		07/27/2017	3	0	0	0		54.225
000000-00-0	6057 LLR Equity Partners V LP	Philadelphia	PA	LLR Capital V LP		03/31/2017	3	0	0	0	1,121,473	0.733
000000-00-0	6058 Cintrifuse Syndicate Fund II, LLC	Cincinnati	OH	Cintrifuse Fund Management II LLC		09/18/2017	1	0	65,940	0	396,548	4.483
000000-00-0	6059 Cintrifuse Syndicate Fund I LLC	Cincinnati	OH	Cintrifuse Fund Management LLC		04/29/2013	1	0	0	0	239,153	2.441
000000-00-0	6060 Bridge Growth Partners Aggregator LLC	New York	NY	Bridge Growth Partners LP		09/29/2017	3	0	0	0		5.894
000000-00-0	6061 Refinery Venture Fund I LP	Fort Worth	TX	Refinery Management LLC		11/20/2017	3	0	0	0		
000000-00-0	6062 Foresite Capital Fund IV LP	San Francisco	CA	Foresite Capital Management IV		04/16/2018	3	0	0	0	150,000	0.634
000000-00-0	6063 Rivercrest Capital Partners LP	Fort Worth	TX	Rivercrest Capital GP LLC		04/02/2018	3	0	0	0	3,378	4.561
000000-00-0	6064 Corsair Assist Investors LP	New York	NY	Rivercrest Capital GP LLC		05/25/2018	3	0	0	0		13.405
000000-00-0	6065 Corsair Boomer Investors LP	New York	NY	Corsair Boomer Management LP		06/25/2018	3	0	0	0		9.845
000000-00-0	6066 Corsair V Financial Services Capital Partners LP	New York	NY	Rivercrest Capital GP LLC		06/25/2018	3	0	873,659	0	2,713,950	1.517
000000-00-0	6067 NB Dyal IV US Investors LP	New York	NY	NB Dyal Associates IV LP		06/11/2018	3	0	0	0	4,951,798	0.273
000000-00-0	6068 Triatlantic Capital Partners VI LP	New York	NY	Triatlantic Capital Partners Assoc VI LP		07/25/2018	3	0	502,850	0	864,059	0.490
000000-00-0	6069 Cincinnati Cornerstone Investors EI IV LLC	Cincinnati	OH	CincyTech LLC		09/28/2018	3	0	0	0		15.499

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE BA - PART 2

Showing Other Long-Term Invested Assets ACQUIRED AND ADDITIONS MADE During the Current Quarter

1	2	3 Location		5	6 NAIC Designation, NAIC Designation Modifier and SVO Admini- strative Symbol	7 Date Originally Acquired	8 Type and Strategy	9 Actual Cost at Time of Acquisition	10 Additional Investment Made After Acquisition	11 Amount of Encumbrances	12 Commitment for Additional Investment	13 Percentage of Ownership	
		City	State										
CUSIP Identification	Name or Description			Name of Vendor or General Partner									
000000-00-0	6070 Medley Aspect Management LLC	Wilmington	DE	MCOF GP LLC		07/15/2016	3	0	0			1.400	
000000-00-0	6071 Cowboy Parent LLC	New York	NY	Snow Phipps III LP		10/29/2018	3	0	0			2.680	
000000-00-0	6072 Solamere Capital Fund III LP	Boston	MA	Solamere Capital Fund III GP LP		11/20/2018	3	0	0			1.571	
000000-00-0	6073 Roark Capital Partners Fund V LP	New York	NY	Roark Capital GenPar V LP		11/01/2018	3	0	11,521		959,526	0.143	
000000-00-0	6074 OTAIP LP	Chicago	IL	Orchard Investment Management III LLC		02/01/2019	3	0	0			45.920	
000000-00-0	6075 Greenspring Global Partners IX-B LP	Owing Mills	MD	Greenspring General Partner IX LP		02/08/2019	3	0	99,032			0.278	
000000-00-0	6076 Blackstone Tactical Opportunities Fund III LP	New York	NY	Blackstone Tac Opportunities Assoc 3 LLC		02/08/2019	3	0	195			0.243	
000000-00-0	6077 Bridge Growth Partners LP Accedian Holdings II	New York	NY	Bridge Growth Partners LP		03/08/2019	3	0	0			10.071	
000000-00-0	6078 TriArtisan PFC Partners LLC	Wilmington	DE	Get Me Mears Group Holdings LLC		02/27/2019	3	0	0			10.294	
000000-00-0	6079 Goldner Hawn Fund VII LP	Minneapolis	MN	Goldner Hawn GP LLC		04/29/2019	3	0	0			1.732	
000000-00-0	6080 Cincinnati Cornerstone Investors BIW I LLC	Cincinnati	OH	CincyTech LLC		06/28/2019	3	0	0			10.780	
000000-00-0	6081 OBIP LP	Cincinnati	OH	Orchard Investment Management III LLC		06/27/2019	3	0	0			49.968	
000000-00-0	6082 Nutraceutical Investco LP	River Side	CT	M&S GP LLC		10/18/2019	3	0	7,171			2.273	
000000-00-0	6083 Tritium Partners II LLC	Austin	TX	Tritium II GP LLC		11/13/2019	3	0	0		1,016,165	2.050	
000000-00-0	6084 Cincy Tech Fund V LLC	Cincinnati	OH	CincyTech LLC		11/20/2019	1	0	0			8.450	
000000-00-0	6085 Corsair Blade Investors LP	New York	NY	Corsair Blade Management LP		12/16/2019	3	0	155,763			15.576	
000000-00-0	6086 Gallant Capital Partners I LP	Los Angeles	CA	CincyTech LLC		05/29/2020	3	0	230,747		1,072,258	3.145	
000000-00-0	6087 Refinery Venture Fund II LP	Cincinnati	OH	Refinery Management LLC		11/19/2019	3	0	0				
000000-00-0	6088 Cross Creek Capital III LP	Salt Lake City	UT	Cross Creek Capital III GP LP		03/09/2021	3	0	150,000		1,612,500	1.696	
000000-00-0	6089 Bridge Growth Partners II LP	New York	NY	Bridge Growth Partners LP		10/01/2021	3	0	1,493,218		1,887,569	6.828	
000000-00-0	6090 Blue Chip VI Extension Fund II LLC	Cincinnati	OH	Blue Chip VI Partners LLC		09/15/2015	1	0	0			46.280	
000000-00-0	6091 CCA Life Settlements Fund II LP	Dublin	OH	CCA Life Settlements Fund II ICAV		12/16/2019	3	0	0			15.580	
000000-00-0	6092 Corsair Indigo Investors LP	New York	NY	Corsair Indigo Management LP		12/07/2020	3	0	17,978		610,790	5.993	
000000-00-0	6093 Foresite Capital Fund V LP	San Francisco	CA	Foresite Capital Management V LLC		06/08/2020	3	0	0		140,000	0.499	
000000-00-0	6094 Foresite Capital Opportunity Fund V LP	San Francisco	CA	Foresite Capital Opportunity Mgmt V LLC		06/29/2020	3	0	0		130,000	0.504	
000000-00-0	6095 Greenspring Opportunities VI LP	Owing Mills	MD	Greenspring Opportunities VI LP		01/21/2020	3	0	0			0.390	
000000-00-0	6096 LLR Equity Partners VI LP	Philadelphia	PA	LLR Capital VI LP		05/13/2021	3	0	300,000			0.390	
000000-00-0	6097 Medley Aspect GP LLC	Wilmington	DE	Medley Capital LLC		07/15/2016	3	0	0			1.400	
000000-00-0	6098 Dyal V US Investors LP	New York	NY	NB Dyal Associates V LP		10/01/2021	3	0	(1,411,956)		5,780,973	0.415	
000000-00-0	6099 NB Strategic Capital LP	New York	NY	NB Strategic Capital Associates LP		03/05/2020	3	500,000	500,000		2,461,301	1.013	
000000-00-0	6100 NB Strategic Co-Investment Partners IV LP	New York	NY	NB Alternatives Advisors LLC		01/29/2020	3	0	816,031		1,994,906	0.494	
000000-00-0	6101 Revelstoke EPIC Fund I LP	Denver	CA	RCP Single Asset Fund I GP LLC		10/01/2021	3	0	4,247		168,960	0.412	
000000-00-0	6102 Riverwood Capital Partners III LP	Menlo Park	CA	Riverwood Capital III LP		03/27/2020	3	0	75,985		727,369	0.693	
000000-00-0	6103 Cranemere Group Limited	Palo Alto	CA	The Cranemere Group Limited		05/21/2014	3	0	0		3,514,004	7.360	
000000-00-0	6104 Vivo Capital Fund IX LP	Palo Alto	CA	Vivo Capital IX LLC		09/09/2019	3	0	177,202		347,814	0.350	
000000-00-0	6138 A&M Capital Europe SCSp	Greenwich	CT	A&M Capital Europe-GP LP		06/30/2019	3	0	705,473		3,692,224	1.437	
000000-00-0	6139 GreyLion Capital LP	New York	NY	GreyLion Capital GP LP		08/20/2014	3	0	0		1,570,817	2.057	
000000-00-0	6140 GreyLion Capital II LP	New York	NY	GreyLion Capital II GP LP		02/28/2018	3	0	0		1,225,278	1.201	
000000-00-0	6141 Vida Insurance Credit Opportunity Fund II LP	Austin	TX	Vida Management I LLC		10/01/2021	3	0	0			3.618	
000000-00-0	6142 TriArtisan Orlando Partners LLC	New York	NY	TriArtisan Orlando MM LLC		03/12/2018	3	0	0			15.002	
000000-00-0	6143 Private Equity Solutions SCSP	Luxembourg	GBR	DWS Investment SA		12/16/2019	3	0	0		1,557,288	1.585	
000000-00-0	6144 Blackstone Diversified Alternatives Issuer LLC	New York	NY	Blackstone Diversified Alt Issuer LLC		05/21/2019	3	0	0			1.921	
000000-00-0	6145 AltEnergy Storage Bridge LLC	Rowayton	CT	AltEnergy Storage Bridge LLC		03/20/2019	3	0	0			6.640	
000000-00-0	6149 Greylion Capital Fund III LP	New York	NY	Greylion Capital Fund III GP		12/14/2021	3	0	0		1,667,234	0.688	
000000-00-0	6150 DataLink Holdings LLC	West Palm Beach	FL	Massachusetts Mutual Life Ins Co		11/23/2020	3	0	0				
000000-00-0	6037 Thorley Industries LLC	Pittsburgh	PA	Massachusetts Mutual Life Ins Co		09/23/2015	3	0	4,764,111				
000000-00-0	6136 Caltius Partners III LP	Los Angeles	CA	Massachusetts Mutual Life Ins Co		06/25/2004	3	0	151,838				
1999999. Joint Venture Interests - Common Stock - Unaffiliated									633,201	19,559,300	0	112,592,640	XXX
000000-00-0	2458 Barings Innovations & Growth Real Estate Fund	Springfield	MA	Massachusetts Mutual Life Ins Co		10/06/2021	3	0	4,568,532		11,304,385	13,000	
000000-00-0	2525 MM BIG Peninsula Co-Invest Member LLC	Hartford	CT	Massachusetts Mutual Life Ins Co		06/30/2021	3	0	0		1,888,120	5.710	
000000-00-0	2530 MM Horizon Savannah Member LLC	Springfield	MA	Massachusetts Mutual Life Ins Co		10/25/2021	3	0	7		4,216,099	7.600	
000000-00-0	2676 Trailside MM Member II LLC	Hartford	CT	Massachusetts Mutual Life Ins Co		07/26/2022	3	0	240,844			19.880	
000000-00-0	2731 MM Kannapolis Industrial Member LLC	Boston	MA	Massachusetts Mutual Life Ins Co		02/08/2023	3	0	336,355			12.280	
000000-00-0	2737 Applan Natural Resources Fund III LP	London	GBR	Applan Natural Resources Fund GP II Limi		01/13/2023	3	0	219,402		4,728,872	0.333	
000000-00-0	6105 L-A Laramar Urban Neighborhood Fund LP	Philadelphia	PA	L-A Battery Group LLC		10/15/2015	3	0	0		313,988	3.381	
000000-00-0	6106 Lubert-Adler Real Estate Fund VII LP	Philadelphia	PA	Lubert-Adler Group VII LP		10/15/2013	3	0	0		1,250,000	10.051	

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE BA - PART 2

Showing Other Long-Term Invested Assets ACQUIRED AND ADDITIONS MADE During the Current Quarter

1	2	Location		5	6	7	8	9	10	11	12	13
		3	4		NAIC Designation, NAIC Designation Modifier and SVO Administrative Symbol							
CUSIP Identification	Name or Description	City	State	Name of Vendor or General Partner		Date Originally Acquired	Type and Strategy	Actual Cost at Time of Acquisition	Additional Investment Made After Acquisition	Amount of Encumbrances	Commitment for Additional Investment	Percentage of Ownership
000000-00-0	6107 Lubert-Adler Real Estate Fund VII-B LP	Philadelphia	PA.....	Lubert-Adler Group VII-B LLC		04/07/2017	3.....	0	0		1,666,667	3.070
000000-00-0	6108 NB Real Estate Secondary Opportunities Fund LP	Philadelphia	PA.....	NB Real Estate Secondary Opp Assoc LP		12/05/2018	3.....	0	0		3,578,891	1.688
000000-00-0	6109 LCN NA Fund III-D LP	Philadelphia	PA.....	LCN North American GP III LP		08/23/2019	3.....	0	0			4.324
000000-00-0	6110 Lubert-Adler Workforce Housing Fund LP	Philadelphia	PA.....	Lubert-Adler Group WH LP		10/01/2021	3.....	0	0		4,125,000	3.548
000000-00-0	6111 Hillpointe Workforce Housing Partnership I LP	Winter Park	FL.....	Hillpointe Fund I GP LLC		03/17/2020	3.....	0	0			2.167
000000-00-0	6112 Hillpointe Workforce Housing Partnership II LP	Winter Park	FL.....	Hillpointe Fund II GP LLC		11/03/2020	3.....	0	0			2.727
2199999. Joint Venture Interests - Real Estate - Unaffiliated								0	5,365,140	17,408,604	28,907,782	XXX
000000-00-0	2461 Barings Real Estate Debt Income Fund LP	Hartford	CT.....	BREDIF GP LLC		03/24/2021	3.....	0	16,259,165		5,563,321	0.100
000000-00-0	6113 Ellington GA RPL 1 LLC	Old Greenwich	CT.....	EPO II GP LLC		05/04/2020	3.....	0	0			
000000-00-0	6114 Pretium Mortgage Credit Partners I LP	New York	NY.....	Pretium Mtge Credit Partners I GP LLC		12/04/2014	3.....	0	0		10,000,000	1.283
000000-00-0	6115 SHARB Investors LP	New York	NY.....	Waterfall Sentinel GP LLC		11/24/2020	3.....	0	0			23.330
2399999. Joint Venture Interests - Mortgage Loans - Unaffiliated								0	16,259,165	0	15,563,321	XXX
000000-00-0	2601 BSP TS Co-Invest I LLC	New York	NY.....	Broad Sky Partners LLC		12/10/2021	3.....	0	18,174			
000000-00-0	2616 Stork SPV LP	Greenwich	CT.....	Amulet Capital Fund II GP LP		12/20/2021	3.....	0	2,949,421			4.526
000000-00-0	2729 TSYL TA Aggregator LP	Boston	MA.....	Pacific Equity Partners Fund V GP Ltd		12/19/2022	2.....	0	0			0.003
000000-00-0	2765 Energy Acquisition Vehicle II LP	Wilmington	DE.....	Energy Acquisition Vehicle II GP LLC		06/01/2023	1.....	15,145,034	0			1.620
2599999. Joint Venture Interests - Other - Unaffiliated								15,145,034	2,967,595	0	0	XXX
638671-AK-3	8012 Nationwide Mutual Ins Co	Ireland	IRL.....	Nationwide Mutual Ins Co	1.G FE	08/31/2017	3.....	0	7,097,031			
91020E-AA-2	8033 United Educators Insurance	Springfield	MA.....	Massachusetts Mutual Life Ins Co	1.G FE	04/30/2023	3.....	20,000,000	0			
694475-AA-2	8507 PACIFIC LIFE INSURANCE 9.25 06/15/2039	Newport Beach	CA.....	Stifel	1.F FE	10/01/2021	3.....	0	2,872,446			
2799999. Surplus Debentures, etc - Unaffiliated								20,000,000	9,969,477	0	0	XXX
000000-00-0	6147 Monza Energy LLC	Houston	TX.....	Monza Energy LLC		04/17/2018	3.....	0	0		1,729,171	2.049
00834H-10-4	7171 Affirm Asset Securitizat-2022-X1 CERT	Springfield	MA.....	Massachusetts Mutual Life Ins Co		03/31/0202	3.....	0	0			
45112A-AA-5	7172 ICONX BRAND HOLDINGS LLC-SERIES 2012-1A CLASS A	Springfield	MA.....	Massachusetts Mutual Life Ins Co		03/31/0202	3.....	0	0			
	7174 Loan Asset Issuer LLC - Series 2021 NG-1 Class A Asset Backe											
53948W-10-3		Springfield	MA.....	Massachusetts Mutual Life Ins Co		03/31/0202	3.....	0	0			
92917T-AA-5	7177 Voya QLO 2018-2 Ltd-VOYA 2018-2A SUB	Springfield	MA.....	Massachusetts Mutual Life Ins Co		03/31/0202	3.....	0	0			
44931B-AC-1	7182 ICG 2015-1A SUB VARIABLE COUPON 0.000000 MATURITY 20281019	Springfield	MA.....	Massachusetts Mutual Life Ins Co		06/30/2023	3.....	6,515,086	0			
50188R-AA-7	7183 LCM 19A INC VARIABLE COUPON 0.000000 MATURITY 20270715	Springfield	MA.....	Massachusetts Mutual Life Ins Co		06/30/2023	3.....	1,325,900	0			
75923A-J5-1	7184 LCM 19A INC VARIABLE COUPON 0.000000 MATURITY 20270715	Springfield	MA.....	Massachusetts Mutual Life Ins Co		06/30/2023	3.....	4,023,651	0			
4699999. Residual Tranches or Interests with Underlying Assets Having Characteristics of Fixed Income Instruments - Unaffiliated								11,864,637	0	0	1,729,171	XXX
6099999. Total - Unaffiliated								47,642,872	55,749,954	17,408,604	175,533,913	XXX
6199999. Total - Affiliated								0	0	0	0	XXX
6299999 - Totals								47,642,872	55,749,954	17,408,604	175,533,913	XXX

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE BA - PART 3

Showing Other Long-Term Invested Assets DISPOSED, Transferred or Repaid During the Current Quarter

1	2	Location		5	6	7	8	Change in Book/Adjusted Carrying Value						15	16	17	18	19	20
		3	4					9	10	11	12	13	14						
CUSIP Identification	Name or Description	City	State	Name of Purchaser or Nature of Disposal	Date Originally Acquired	Disposal Date	Book/ Adjusted Carrying Value Less Encumbrances, Prior Year	Unrealized Valuation Increase (Decrease)	Current Year's (Depreciation) or (Amortization)/ Accretion	Current Year's Other Than Impairment Recognized	Capitalized Deferred Interest and Other	Total Change in Book/ Adjusted Carrying Value (9+10-11+12)	Total Foreign Exchange Change in Book/ Adjusted Carrying Value	Book/ Adjusted Carrying Value Less Encumbrances on Disposal	Consideration	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Investment Income
000000-00-0	6116 Sierra Senior Loan Strategy JV I LLC ..	New York	NY.....	Distribution	07/16/2015	06/30/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	4,972,055 .....	.....	.....	.....0 .....	.....
000000-00-0	6127 TTGA C-1 MMF LP	San Francisco	CA.....	Post Sale Income/(Expense)	12/18/2017	12/01/2022 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	.....	.....	.....0 .....	.....
000000-00-0	6133 PineBridge Private Credit Feeder LP	New York	NY.....	Distribution	11/28/2018	06/05/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	.....	.....	.....0 .....	.....
000000-00-0	6136 Calitus Partners III LP	Los Angeles	CA.....	Liquidation of Investment	06/25/2004	04/01/2023	67,637 .....	.....	.....	.....	.....	0 .....	.....	67,637 .....	.....	.....	(19,128)	(19,128)	27,146
000000-00-0	6137 Cyprium Parallel Investors V LP	Cleveland	OH.....	Distribution	08/15/2019	04/30/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	.....	.....	.....0 .....	.....
000000-00-0	6148 TTGA SBIC Pioneer Feeder Fund LP	Purchase	NY.....	Distribution	05/25/2021	06/30/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	214,944 .....	.....	.....	.....0 .....	.....
1799999. Joint Venture Interests - Fixed Income - NAIC Designation Not Assigned by the SVO - Unaffiliated							67,637	0	0	0	0	0	0	67,637	5,487,921	0	(19,128)	(19,128)	27,146
000000-00-0	2518 MidOcean Partners VI LP	New York	NY.....	Distribution	11/09/2021	05/04/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	7,320 .....	.....	.....0 .....	.....
000000-00-0	2584 One Equity Partners VIII LP	New York	NY.....	Distribution	01/26/2022	04/11/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	3,004 .....	.....	.....0 .....	.....
000000-00-0	2622 OceanSound Partners Fund LP	New York	NY.....	Distribution	12/27/2021	05/31/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	16,981 .....	.....	.....0 .....	.....
000000-00-0	2624 KLCP Domestic Fund III LP	New York	NY.....	Distribution	12/27/2021	06/22/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	12,542 .....	.....	.....0 .....	.....
000000-00-0	2633 Weatherby Parent Holdings LLC	Boston	MA.....	Distribution	02/07/2022	06/16/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	43 .....	.....	.....0 .....	.....
000000-00-0	2705 Energy Acquisition Vehicle LP	New York	NY.....	Distribution	09/22/2022	06/27/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	911,520 .....	.....	.....0 .....	.....
000000-00-0	6005 Arclight Energy Partners Fund VI LP ...	Boston	MA.....	Distribution	08/04/2015	05/31/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	2,257,053 .....	.....	.....0 .....	.....
000000-00-0	6009 LLR Equity Partners IV LP	Philadelphia	PA.....	Distribution	03/14/2014	06/20/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	72,775 .....	.....	.....0 .....	.....
000000-00-0	6010 NB Secondary Opportunities Fund III LP ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	.....	.....	.....0 .....	.....
000000-00-0	6013 NB Secondary Opportunities Fund IV LP ..	New York	NY.....	Distribution	05/23/2013	06/30/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	246,483 .....	.....	.....0 .....	.....
000000-00-0	6020 OBC Investment Partners LP	New York	NY.....	Distribution	04/19/2017	04/01/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	101,272 .....	.....	.....0 .....	.....
000000-00-0	6022 Patriot Financial Partners II LP	Chicago	IL.....	Post Sale Income/(Expense)	07/31/2014	12/01/2022 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	.....	.....	.....0 .....	.....
000000-00-0	6029 River Cities Capital Fund III LP	Radnor	PA.....	Distribution	04/30/2014	05/01/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	40,315 .....	.....	.....0 .....	.....
000000-00-0	6031 Snow Phipps III LP	Davenport	IA.....	Post Sale Income/(Expense)	05/15/2018	12/01/2022 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	.....	.....	.....0 .....	.....
000000-00-0	6033 Solamere Capital Fund II LP	New York	NY.....	Distribution	06/08/2016	06/01/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	122,512 .....	.....	.....0 .....	.....
000000-00-0	6034 Solamere Capital Fund II-A LP	Boston	MA.....	Distribution	08/19/2013	05/31/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	139,282 .....	.....	.....0 .....	.....
000000-00-0	6035 Solamere Portfolio Company Investments II LLC Vivint	Boston	MA.....	Distribution	08/19/2013	05/01/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	18,864 .....	.....	.....0 .....	.....
000000-00-0	6036 Solamere Portfolio Company Investments II LLC .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	.....	.....	.....0 .....	.....
000000-00-0	6037 Thorley Industries LLC	Boston	MA.....	Distribution	01/18/2019	06/30/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	991,959 .....	.....	.....0 .....	.....
000000-00-0	6040 Vida Longevity Fund LP	Pittsburgh	PA.....	Distribution	04/18/2016	06/30/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	275,929 .....	.....	.....0 .....	.....
000000-00-0	6048 Gryphon Partners V LP	Pittsburgh	PA.....	Liquidation of Investment	09/23/2015	04/30/2023	910,997 .....	.....	.....	.....	.....	0 .....	.....	910,997 .....	.....	562,601	(348,396)	(348,396)	70,997
000000-00-0	6048 Gryphon Partners V LP	Austin	TX.....	Distribution	04/01/2015	05/12/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	116,273 .....	.....	.....0 .....	.....
000000-00-0	6063 Rivercrest Capital Partners LP	San Francisco	CA.....	Distribution	08/29/2018	05/19/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	6,838 .....	.....	.....0 .....	.....
000000-00-0	6066 Corsair V Financial Services Capital Partners LP	Fort Worth	TX.....	Distribution	04/02/2018	06/30/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	519,640 .....	.....	.....0 .....	.....
000000-00-0	6067 NB Dyal IV US Investors LP .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	.....	.....	.....0 .....	.....
000000-00-0	6068 Trilantic Capital Partners VI LP	New York	NY.....	Distribution	06/25/2018	06/07/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	699,724 .....	.....	.....0 .....	.....
000000-00-0	6073 Roark Capital Partners Fund V LP	New York	NY.....	Distribution	06/11/2018	05/31/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	542,879 .....	.....	.....0 .....	.....
000000-00-0	6076 Blackstone Tactical Opportunities Fund III LP	New York	NY.....	Distribution	07/25/2018	06/06/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	21,606 .....	.....	.....0 .....	.....
000000-00-0	6085 Corsair Blade Investors LP	New York	NY.....	Distribution	11/01/2018	04/27/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	1,351 .....	.....	.....0 .....	.....
000000-00-0	6086 Gallant Capital Partners I LP	New York	NY.....	Distribution	02/08/2019	06/30/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	387,236 .....	.....	.....0 .....	.....
000000-00-0	6089 Bridge Growth Partners II LP	New York	NY.....	Distribution	12/16/2019	06/05/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	3,685,214 .....	.....	.....0 .....	.....
000000-00-0	6091 CCA Life Settlements Fund II LP	Los Angeles	CA.....	Distribution	05/29/2020	06/28/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	359,792 .....	.....	.....0 .....	.....
000000-00-0	6094 Foresite Capital Opportunity Fund V LP ..	New York	NY.....	Distribution	10/01/2021	05/25/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	203,646 .....	.....	.....0 .....	.....
000000-00-0	6097 Medley Aspect GP LLC	Dublin	US.....	Distribution	12/16/2019	05/01/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	98,619 .....	.....	.....0 .....	.....
000000-00-0	6098 Dyal V US Investors LP .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	.....	.....	.....0 .....	.....
000000-00-0	6099 NB Strategic Capital LP	San Francisco	CA.....	Distribution	06/29/2020	04/30/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	5,986 .....	.....	.....0 .....	.....
000000-00-0	6100 NB Strategic Co-Investment Partners IV LP	Wilmington	DE.....	Post Sale Income/(Expense)	07/15/2016	12/01/2022 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	.....	.....	.....0 .....	.....
000000-00-0	6108 Harvest Intrexon Enterprise Fund I LP ..	New York	NY.....	Distribution	10/01/2021	05/31/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	85,162 .....	.....	.....0 .....	.....
000000-00-0	6128 World Trade Finance LLC	New York	NY.....	Distribution	03/05/2020	05/05/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	219,018 .....	.....	.....0 .....	.....
000000-00-0	6146 Desri VI LLC	New York	NY.....	Distribution	01/29/2020	05/31/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	74,356 .....	.....	.....0 .....	.....
000000-00-0	6003 Allos III-Q LP	New York	NY.....	Liquidation of Investment	12/17/2014	04/01/2023	3,739,074 .....	.....	.....	.....	.....	0 .....	.....	.....	.....	2,600,265	(1,138,810)	(1,138,810)	1,913,436
000000-00-0	6008 Harvest Intrexon Enterprise Fund I LP ..	Connecticut	CT.....	Liquidation of Investment	12/19/2018	03/01/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	.....	.....	.....0 .....	.....
000000-00-0	6128 World Trade Finance LLC	California	CA.....	Post Sale Income/(Expense)	09/04/2015	05/01/2023 .....	.....	.....	.....	.....	.....	0 .....	.....	.....	.....	.....	(15,557,360)	(15,557,360)	(71,408)
000000-00-0	1999999. Joint Venture Interests - Common Stock - Unaffiliated	Illinois	IL.....	Liquidation of Investment	04/20/2020	06/30/2023	20 .....	.....	.....	.....	.....	0 .....	.....	.....	.....	.....	.....	.....0 .....	.....
1999999. Joint Venture Interests - Common Stock - Unaffiliated							4,650,092	0	0	0	0	0	0	910,997	15,408,058	0	(17,044,566)	(17,044,566)	1,913,026

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE BA - PART 3

Showing Other Long-Term Invested Assets DISPOSED, Transferred or Repaid During the Current Quarter

1	2	Location		5	6	7	8	Change in Book/Adjusted Carrying Value						15	16	17	18	19	20
		3	4					9	10	11	12	13	14						
CUSIP Identification	Name or Description	City	State	Name of Purchaser or Nature of Disposal	Date Originally Acquired	Disposal Date	Book/ Adjusted Carrying Value Less Encumbrances, Prior Year	Unrealized Valuation Increase (Decrease)	Current Year's (Depreciation) or (Amortization)/ Accretion	Current Year's Other Than Temporary Impairment Recognized	Capitalized Deferred Interest and Other	Total Change in Book/ Adjusted Carrying Value (9+10-11+12)	Total Foreign Exchange Change in Book/ Adjusted Carrying Value	Book/ Adjusted Carrying Value Less Encumbrances on Disposal	Consideration	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Investment Income
000000-00-0	2458 Barings Innovations & Growth Real Estate Fund	Springfield	MA.....	Distribution	10/06/2021 ...	05/01/2023 ...	.....	.....	.....	.....	.....	.....0	.....	.....	677,958	.....	.....	.....0	.....
000000-00-0	2530 MM Horizon Savannah Member LLC	Springfield	MA.....	Distribution	10/25/2021 ...	06/30/2023 ...	.....	.....	.....	.....	.....	.....0	.....	.....	.....7	.....	.....	.....0	.....
000000-00-0	2737 Applan Natural Resources Fund III LP ..	London	US.....	Distribution	01/13/2023 ...	04/26/2023 ...	.....	.....	.....	.....	.....	.....0	.....	.....	10,043	.....	.....	.....0	.....
000000-00-0	6111 Hillpointe Workforce Housing Partnership I LP	Winter Park	FL.....	Distribution	03/17/2020 ...	04/10/2023 ...	.....	.....	.....	.....	.....	.....0	.....	.....	731,970	.....	.....	.....0	.....
2199999. Joint Venture Interests - Real Estate - Unaffiliated								0	0	0	0	0	0	0	1,419,978	0	0	0	0
000000-00-0	2461 Barings Real Estate Debt Income Fund LP	Hartford	CT.....	Distribution	03/24/2021 ...	06/30/2023 ...	.....	.....	.....	.....	.....	.....0	.....	.....	3,977,326	.....	.....	.....0	.....
2399999. Joint Venture Interests - Mortgage Loans - Unaffiliated								0	0	0	0	0	0	0	3,977,326	0	0	0	0
000000-00-0	2616 Stork SPV LP	Greenwich	CT.....	Distribution	12/20/2021 ...	05/08/2023 ...	.....	.....	.....	.....	.....	.....0	.....	.....	150,557	.....	.....	.....0	.....
2599999. Joint Venture Interests - Other - Unaffiliated								0	0	0	0	0	0	0	150,557	0	0	0	0
638671-AK-3	8012 Nationwide Mutual Ins Co	Ireland	US.....	Distribution	08/31/2017 ...	06/01/2023 ...	.....	.....	.....	.....	.....	.....0	.....	.....	7,097,031	.....	.....	.....0	.....
743917-AH-9	8015 Prudential Ins Co America	Ireland	US.....	Distribution	08/03/2016 ...	06/01/2023 ...	.....	.....	.....	.....	.....	.....0	.....	.....	4,347,515	.....	.....0	0	38,638
694475-AA-2	8507 PACIFIC LIFE INSURANCE 9.25 06/15/2039	Newport Beach	CA.....	Distribution	10/01/2021 ...	06/01/2023 ...	.....	.....	.....	.....	.....	.....0	.....	.....	2,872,446	.....	.....	.....0	.....
2799999. Surplus Debentures, etc - Unaffiliated								0	0	0	0	0	0	0	14,316,992	0	0	0	38,638
000000-00-0	7170 2023 RT activity	Springfield	MA.....	Distribution	01/01/2023 ...	06/30/2023 ...	.....	.....	.....	.....	.....	.....0	.....	.....	(9,771,082)	.....	.....	.....0	.....
4699999. Residual Tranches or Interests with Underlying Assets Having Characteristics of Fixed Income Instruments - Unaffiliated								0	0	0	0	0	0	0	(9,771,082)	0	0	0	0
6099999. Total - Unaffiliated								4,717,729	0	0	0	0	0	978,634	30,989,751	0	(17,063,694)	(17,063,694)	1,978,811
6199999. Total - Affiliated								0	0	0	0	0	0	0	0	0	0	0	0
6299999 - Totals								4,717,729	0	0	0	0	0	978,634	30,989,751	0	(17,063,694)	(17,063,694)	1,978,811

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 3

Show All Long-Term Bonds and Stock Acquired During the Current Quarter

1	2	3	4	5	6	7	8	9	10
CUSIP Identification	Description	Foreign	Date Acquired	Name of Vendor	Number of Shares of Stock	Actual Cost	Par Value	Paid for Accrued Interest and Dividends	NAIC Designation, NAIC Designation Modifier and SVO Administrative Symbol
91282C-GZ-8	United States Treasury N-UNSECURED		05/25/2023	CITIGROUP GLOBAL MAR		79,233,020	81,005,000	200,311	1.A
91282C-HB-0	United States Treasury N-UNSECURED		05/25/2023	VARIOUS		62,888,133	63,875,000	69,212	1.A
91282C-HC-8	United States Treasury N-UNSECURED		06/27/2023	VARIOUS		60,324,623	62,410,000	190,679	1.A
91282C-HD-6	United States Treasury N-UNSECURED		05/25/2023	NOMURA SECURITIES IN		22,468,312	22,575,000	0	1.A
91282C-HE-4	United States Treasury N-UNSECURED		05/25/2023	VARIOUS		97,405,600	98,584,000	0	1.A
91282C-HH-7	United States Treasury N-UNSECURED		06/27/2023	BOFAMLSEC		51,924,094	52,300,000	76,628	1.A
91282C-HJ-3	United States Treasury N-UNSECURED		06/27/2023	WELLS FARGO		74,849,028	75,500,000	0	1.A
91282C-HK-0	United States Treasury N-UNSECURED		06/27/2023	WELLS FARGO		82,450,282	82,600,000	0	1.A
91282C-HL-8	United States Treasury N-UNSECURED		06/27/2023	DEUTSCHE BANK SECURI		9,076,895	9,100,000	0	1.A
91282B-WJ-5	United States Treasury Note/Bond	A	05/25/2023	Treasurys		8,919,105	0	0	1.A
0109999999. Subtotal - Bonds - U.S. Governments						549,539,092	547,949,000	536,830	XXX
13057P-AA-7	CALIFORNIA PUB FIN AUTH SOLID WASTE DISP		06/30/2023	DIRECT		7,000,000	7,000,000	0	3.A PL
31320Q-AG-1	Freddie Mac Pool-FR SD2707		06/08/2023	MORGAN		26,975,219	27,416,453	45,694	1.A
31320Q-B9-6	Freddie Mac Pool-FR SD2764		06/07/2023	CITIGROUP GLOBAL MAR		19,512,170	19,853,400	33,089	1.A
3133KQ-VY-9	Freddie Mac Pool-FR RA8731		06/07/2023	BOFAMLSEC		29,219,477	29,789,148	73,222	1.A
3133KR-BN-3	Freddie Mac Pool-FR RA9045		06/08/2023	CITIGROUP GLOBAL MAR		27,025,642	27,454,620	45,758	1.A
31400M-4N-1	Fannie Mae Pool-POOL #CB2628		05/25/2023	BOFAMLSEC		10,179,213	12,019,735	24,206	1.A
0909999999. Subtotal - Bonds - U.S. Special Revenues						119,911,721	123,533,356	221,969	XXX
00287Y-BX-6	AbbVie Inc-SENIOR UNSECURED		04/05/2023	CITIGROUP GLOBAL MAR		3,769,240	4,000,000	49,422	2.A FE
02665W-CZ-2	American Honda Finance C-SENIOR UNSECURE		04/26/2023	KEY CAPITAL MARKETS		4,866,550	5,000,000	40,333	1.G FE
02665W-EF-4	American Honda Finance C-SENIOR UNSECURE		05/17/2023	RBC CAPITAL MARKETS		6,994,120	7,000,000	28,622	1.G FE
03073E-AL-9	AMERISOURCEBERGEN CORP-SR UNSECURED		04/26/2023	MORGAN		9,429,943	9,594,000	147,694	2.A FE
03236Y-AC-9	Amur Equipment Finance R-AXIS 2023-1A B		06/22/2023	BMO CAPITAL MARKETS		6,998,773	7,000,000	0	1.C FE
04016*-AA-2	Arglass Yamamura SE Senior Secured Notes		05/26/2023	JEFFFGROUPLLC		14,285,500	14,285,500	0	2.B Z
045054-AJ-2	Ashtead Capital Inc-SENIOR UNSECURED		05/16/2023	AMHERST SECURITIES		4,676,600	5,000,000	9,444	2.C FE
05358R-AA-5	Avant Loans Funding Trus-AVNT 2023-REV1		06/22/2023	DIRECT		6,999,394	7,000,000	0	1.D Z
05358R-AB-3	Avant Loans Funding Trus-AVNT 2023-REV1		06/22/2023	DIRECT		999,895	1,000,000	0	1.G Z
05377R-HD-9	Avis Budget Rental Car F-AESOP 2023-5A B		05/24/2023	JP MORGAN SECURITIES		4,998,985	5,000,000	0	1.F FE
05565E-BE-4	BMW US Capital LLC-SENIOR UNSECURED		05/16/2023	BOFAMLSEC		4,226,035	4,323,000	44,587	1.F FE
05609K-AC-3	BX Commercial Mortgage T-BX 2021-XL2 B		04/26/2023	WELLS FARGO		4,450,404	4,633,575	9,949	1.B FE
088555-ZE-0	BIDTELLECT INC - Convertible Bond		06/30/2023	PIK NOTE BUY UP		34,896	34,896	0	5.B Z
08888*-AA-4	Bidtellect, Inc. Promissory Note		06/30/2023	PIK NOTE BUY UP		259,576	259,576	0	5.B GI
097093-AC-2	BOF VII AL Funding Trust-BVABS 2023-CAR3		06/14/2023	MORGAN		9,999,911	10,000,000	0	1.D FE
101137-AV-9	Boston Scientific Corp-SENIOR UNSECURED		04/26/2023	GOLDMAN		11,265,172	11,438,000	62,480	2.A FE
10240*-AA-3	FERADYNE BOIHUNTER 14.00 07/17/2024		06/17/2023	PIK NOTE BUY UP		1,935,728	1,935,728	0	5.B GI
110122-DE-5	Bristol-Myers Squibb Co-SENIOR UNSECURED		04/20/2023	BOFAMLSEC		9,863,800	10,000,000	69,333	1.F FE
115637-AU-4	Brown-Forman Corp-SENIOR UNSECURED		05/23/2023	VARIOUS		7,472,427	7,521,000	61,526	1.G FE
120568-AX-8	BUNGE LTD FINANCE CORP-SENIOR UNSECURED		06/02/2023	KEY CAPITAL MARKETS		5,800,985	6,134,000	61,468	2.B FE
125523-AH-3	Cigna Corp-SENIOR UNSECURED		04/20/2023	MORGAN		9,879,400	10,000,000	10,938	2.A FE
126650-CX-6	CVS Health Corp-SENIOR UNSECURED		05/16/2023	MORGAN		9,847,000	10,000,000	63,306	2.B FE
126650-DU-1	CVS Health Corp-SENIOR UNSECURED		04/05/2023	BARCLAYS CAPITAL INC		8,254,480	8,000,000	57,167	2.B FE
12665W-AD-2	CSMC 2022-ATH2-CSMC 2022-ATH2 A2		04/06/2023	BMO CAPITAL MARKETS		9,082,316	9,351,162	12,936	1.C FE
126694-2H-0	CHL Mortgage Pass-Through-CIHL 2006-10 1A		06/01/2023	PAYUP		0	145	0	3.C FM
149123-CK-5	Caterpillar Inc-SENIOR UNSECURED		04/05/2023	BOFAMLSEC		3,403,200	4,000,000	5,911	1.F FE
14913R-3C-9	Caterpillar Financial Se-SENIOR UNSECURE		05/17/2023	TORONTO DOMINION SEC		5,064,809	4,997,000	51,719	1.F FE
15189Y-AG-1	CenterPoint Energy Resou-SENIOR UNSECURE		05/23/2023	WELLS FARGO		10,153,400	10,000,000	134,167	1.G FE
15674V-AA-2	Cerberus Onshore CLO LLC-CERB 2023-2A A1		05/11/2023	GREENSLEDGE CAPITAL		21,000,000	21,000,000	0	1.A Z
15674V-AD-6	Cerberus Onshore CLO LLC-CERB 2023-2A B		05/11/2023	GREENSLEDGE CAPITAL		5,000,000	5,000,000	0	2.A Z

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 3

Show All Long-Term Bonds and Stock Acquired During the Current Quarter

1	2	3	4	5	6	7	8	9	10
CUSIP Identification	Description	Foreign	Date Acquired	Name of Vendor	Number of Shares of Stock	Actual Cost	Par Value	Paid for Accrued Interest and Dividends	NAIC Designation, NAIC Designation Modifier and SVO Administrative Symbol
170257-AE-9	CHL Mortgage Pass-Through-CIHL 2006-16 3A		..06/01/2023	PAYUP		0	16	0	1.A FM
17025A-AH-5	CHL Mortgage Pass-Through-CIHL 2006-17 A8		...05/25/2023	PAYUP		0	85	0	1.A FM
17136M-AA-0	Church & Dwight Co Inc-SENIOR UNSECURED		...06/08/2023	JP MORGAN SECURITIES		3,622,897	4,374,000	49,483	2.A FE
193938-AB-3	College Ave Student Loan-CASL 2023-A A2		...05/09/2023	BARCLAYS CAPITAL INC		2,499,508	2,500,000	0	1.A FE
193938-AC-1	College Ave Student Loan-CASL 2023-A B		...05/09/2023	BARCLAYS CAPITAL INC		2,499,500	2,500,000	0	1.C FE
20268B-AB-6	Commonbond Student Loan -CBSLT 2020-1 B		...04/25/2023	GOLDMAN		1,876,825	2,208,029	346	1.D FE
216378-AB-5	Cooks Venture Inc-SECURED		...06/01/2023	DTCY ID		8,150,000	8,150,000	0	1.E PL
21871X-AB-5	Corebridge Financial Inc-SENIOR UNSECURE		...05/30/2023	EXCHANGE OFFER		9,956,308	10,000,000	54,444	2.A FE
21871X-AD-1	Corebridge Financial Inc-SENIOR UNSECURE		...05/31/2023	EXCHANGE OFFER		7,987,880	8,736,000	49,601	2.A FE
21871X-AF-6	Corebridge Financial Inc-SENIOR UNSECURE		...05/31/2023	EXCHANGE OFFER		9,483,190	10,000,000	59,889	2.A FE
21871X-AH-2	Corebridge Financial Inc-SENIOR UNSECURE		...05/31/2023	EXCHANGE OFFER		11,959,589	12,500,000	75,833	2.A FE
23284B-AA-2	CyrusOne Data Centers Is-CYRUS 2023-1A A		...04/19/2023	BARCLAYS CAPITAL INC		7,210,402	8,000,000	0	1.G FE
233853-AN-0	Daimler Truck Finance No-SENIOR UNSECURE		...05/16/2023	RBC CAPITAL MARKETS		4,339,872	4,330,000	74,428	2.A FE
24422E-WN-5	John Deere Capital Corp-SENIOR UNSECURED		...05/23/2023	RBC CAPITAL MARKETS		3,969,927	3,900,000	23,118	1.F FE
24422E-WR-6	John Deere Capital Corp-SENIOR UNSECURED		...04/19/2023	VARIOUS		12,535,201	12,331,000	165,955	1.F FE
24422E-WZ-8	John Deere Capital Corp-SENIOR UNSECURED		...06/08/2023	BOFAMLSEC		5,001,900	5,000,000	2,611	1.F FE
24703D-BJ-9	Dell International LLC /-SENIOR UNSECURE		...05/23/2023	JP MORGAN SECURITIES		5,018,700	5,000,000	88,229	2.B FE
24703G-AD-6	Dell Equipment Finance T-DEFT 2023-2 B		...06/12/2023	RBC CAPITAL MARKETS		3,299,746	3,300,000	0	1.C FE
24703G-AE-4	Dell Equipment Finance T-DEFT 2023-2 C		...06/12/2023	RBC CAPITAL MARKETS		4,499,356	4,500,000	0	1.F FE
24703T-AC-0	Dell International LLC /-FIRST LIEN		...05/16/2023	WELLS FARGO		3,799,736	3,736,000	74,673	2.B FE
24703T-AE-6	Dell International LLC /-SENIOR UNSECURE		...06/02/2023	GOLDMAN		5,402,320	5,434,000	48,076	2.B FE
25179M-AV-5	DEVON ENERGY CORPORATION-SENIOR UNSECURE		...05/17/2023	TORONTO DOMINION SEC		925,239	911,000	22,798	2.B FE
256746-AJ-7	Dollar Tree Inc-SENIOR UNSECURED		...05/22/2023	MORGAN		1,816,056	2,200,000	28,016	2.B FE
26441C-AS-4	Duke Energy Corp-SENIOR UNSECURED		...06/02/2023	GOLDMAN		3,239,209	3,490,000	24,406	2.B FE
26884T-AV-4	ERAC USA Finance LLC-SENIOR UNSECURED		...04/26/2023	RBC CAPITAL MARKETS		9,962,500	10,000,000	0	2.A FE
278062-AH-7	Eaton Corp-SENIOR UNSECURED		...04/05/2023	SUNTRUST CAPITAL MAR		4,881,700	5,000,000	14,410	2.A FE
29273V-AP-5	Energy Transfer LP-SENIOR UNSECURED		...04/26/2023	OPPENHEIMER AND CO		1,730,946	1,687,000	34,851	2.C FE
29375N-AC-9	Enterprise Fleet Financi-EFF 2023-2 A3		...05/23/2023	JP MORGAN SECURITIES		7,998,223	8,000,000	0	1.A FE
31740J-AA-6	FINANCE OF AMERICA STRUC-FASTS 2023-RMF1		...04/25/2023	VARIOUS		489,209	489,209	0	1.A PL
344928-AD-8	Ford Credit Auto Owner T-FORDO 2023-A A3		...05/25/2023	TORONTO DOMINION SEC		9,921,094	10,000,000	19,375	1.A FE
344930-AG-7	Ford Credit Auto Owner T-FORDO 2023-B C		...06/21/2023	CITIGROUP GLOBAL MAR		8,698,731	8,700,000	0	1.E FE
34528Q-HY-3	Ford Credit Floorplan Ma-FORDF 2023-1 C		...05/09/2023	BOFAMLSEC		6,999,688	7,000,000	0	1.F FE
34535A-AD-2	Ford Credit Auto Owner T-FORDO 2022-C A3		...06/07/2023	BOFAMLSEC		46,297,536	46,891,000	140,048	1.A FE
361886-CX-0	GMF Floorplan Owner Revo-gFORT 2023-2 B		...06/21/2023	BARCLAYS CAPITAL INC		9,544,529	9,548,000	0	1.C FE
362585-AC-5	GM Financial Consumer Au-GMCAR 2022-2 A3		...05/24/2023	MIZUHO SECURITIES		9,689,844	10,000,000	8,611	1.A FE
37045V-AV-2	General Motors Co-SENIOR UNSECURED		...05/17/2023	BARCLAYS CAPITAL INC		4,057,720	4,000,000	32,667	2.B FE
37331N-AJ-0	Georgia-Pacific LLC-SENIOR UNSECURED		...05/17/2023	FIRST TENNESSEE		1,863,220	2,000,000	4,764	1.G FE
38012R-AB-2	GM Financial Revolving R-GMREV 2023-1 B		...05/23/2023	CITIGROUP GLOBAL MAR		4,999,088	5,000,000	0	1.C FE
38012R-AC-0	GM Financial Revolving R-GMREV 2023-1 C		...05/23/2023	CITIGROUP GLOBAL MAR		4,998,717	5,000,000	0	1.F FE
381938-AB-5	GOLUB CAPITAL PARTNERS A-GCPAF 2023-1A A		...06/20/2023	DIRECT		11,500,000	11,500,000	0	1.F Z
40485#-AA-4	HC2 STATION GRP 10.50 11/30/202		...06/30/2023	PIK NOTE BUY UP		10,952,569	10,952,569	0	4.C Z
437076-CH-3	Home Depot Inc/The-SENIOR UNSECURED		...04/19/2023	U. S. BANCORP		13,048,050	15,000,000	22,500	1.F FE
437076-CS-9	Home Depot Inc/The-SENIOR UNSECURED		...04/05/2023	WELLS FARGO		3,059,550	3,000,000	9,375	1.F FE
442851-AK-7	Howard University-UNSECURED		...05/03/2023	BOFAMLSEC		4,014,743	4,450,000	11,787	2.B FE
46630W-AL-4	JP Morgan Mortgage Trust-JPMIT 2007-S2 1		...04/01/2023	PAYUP		0	396	0	5.B FM
472321-AH-1	Jefferies Resecuritizati-JMAC 2008-R2 2A		...06/01/2023	PAYUP		0	135	0	1.A FM
472321-AK-4	Jefferies Resecuritizati-JMAC 2008-R2 3A		...05/01/2023	PAYUP		0	24,382	0	1.A FM
48206K-AE-6	Juniper Valley Park CLO -JNPPK 2023-1A B		...05/05/2023	BNP PARIBAS		10,000,000	10,000,000	0	1.C FE

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 3

Show All Long-Term Bonds and Stock Acquired During the Current Quarter

1	2	3	4	5	6	7	8	9	10
CUSIP Identification	Description	Foreign	Date Acquired	Name of Vendor	Number of Shares of Stock	Actual Cost	Par Value	Paid for Accrued Interest and Dividends	NAIC Designation, NAIC Designation Modifier and SVO Administrative Symbol
49177J-AE-2	Kenvue Inc-SENIOR UNSECURED		..04/20/2023	CITIGROUP GLOBAL MAR		16,470,960	16,000,000	67,614	1.F FE
49271V-AF-7	Keurig Dr Pepper Inc-SENIOR UNSECURED		..05/22/2023	MORGAN		19,933,300	20,000,000	395,853	2.B FE
501044-DJ-7	Kroger Co/The-SENIOR UNSECURED		..04/20/2023	BOFAMILSEC		9,671,500	10,000,000	85,306	2.A FE
50196@-AA-5	LCN North American Fund Term Loan		..06/12/2023	DIRECT		553,086	553,086	0	1.F PL
53950U-AA-0	Loan Asset Issuer LLC - Series 2023 NG-1		..05/31/2023	DIRECT		72,502,500	72,502,500	0	1.F Z
53950U-AB-8	Loan Asset Issuer LLC - Series 2023 NG-1		..05/31/2023	DIRECT		17,292,250	17,292,250	0	2.C Z
55903V-BA-0	Warnermedia Holdings Inc-SENIOR UNSECURE		..05/01/2023	EXCHANGE OFFER		28,386,761	30,000,000	143,942	2.C FE
55903V-BB-8	Warnermedia Holdings Inc-SENIOR UNSECURE		..05/01/2023	EXCHANGE OFFER		9,912,407	11,500,000	59,571	2.C FE
55903V-BC-6	Warnermedia Holdings Inc-SENIOR UNSECURE		..05/01/2023	EXCHANGE OFFER		5,033,520	5,000,000	27,338	2.C FE
571676-AT-2	Mars Inc-SENIOR UNSECURED		..05/16/2023	VARIOUS		23,296,293	23,100,000	51,327	1.E FE
571676-AU-9	Mars Inc-SENIOR UNSECURED		..06/08/2023	MORGAN		4,952,450	5,000,000	33,583	1.E FE
571676-AV-7	Mars Inc-SENIOR UNSECURED		..05/22/2023	U. S. BANCORP		5,932,200	6,000,000	26,917	1.E FE
57630Z-MM-9	MassMutual PACE 2023-2 706 Mission Stree		..06/20/2023	DIRECT		22,000,000	22,000,000	0	1.F Z
57630Z-MN-7	MassMutual PACE 2023-2 706 Mission Stree		..06/20/2023	DIRECT		3,000,000	3,000,000	0	2.B Z
57630Z-MO-5	MassMutual PACE 2023-2 706 Mission Stree		..06/20/2023	DIRECT		590,000	590,000	0	2.B Z
57708#-AA-9	Matterhorn Express Pipel Senior Secured		..06/15/2023	DIRECT		10,812,500	10,812,500	0	2.C PL
57708#-AB-7	Matterhorn Express Pipel Senior Secured		..06/15/2023	DIRECT		7,187,500	7,187,500	0	2.C PL
579780-AT-4	McCormick & Co Inc/MD-SENIOR UNSECURED		..04/05/2023	VARIOUS		9,096,950	9,000,000	4,950	2.B FE
58013M-FF-6	McDonald's Corp-SENIOR UNSECURED		..04/20/2023	VARIOUS		14,721,650	15,000,000	36,417	2.A FE
58768P-AC-8	Mercedes-Benz Auto Recei-MBART 2022-1 A3		..06/07/2023	SMBC NIKKO SECURITIE		28,271,115	28,225,000	95,430	1.A FE
58769J-AF-4	Mercedes-Benz Finance No-SENIOR UNSECURE		..04/26/2023	BNP PARIBAS		3,589,938	3,550,000	13,253	1.G FE
60510M-AN-8	Mission Lane Credit Card-MLANE 2023-A A		..05/16/2023	BARCLAYS BANK PLC		29,997,105	30,000,000	0	1.D Z
60871R-AG-5	MOLSON COORS BREWING CO-SENIOR UNSECURED		..04/05/2023	BOFAMILSEC		3,814,480	4,000,000	28,333	2.C FE
618933-AA-3	Mosaic Solar Loan Trust -MSAIC 2023-3A A		..05/25/2023	BNP PARIBAS		10,763,475	11,000,000	0	1.D FE
637071-AM-3	National Oilwell Varco I-SENIOR UNSECURE		..06/08/2023	JP MORGAN SECURITIES		6,785,783	7,567,000	8,324	2.B FE
638961-AA-0	Navient Private Educatio-NAVSL 2023-A A		..04/18/2023	BARCLAYS CAPITAL INC		5,991,316	6,000,000	0	1.A FE
63940V-AC-6	Navient Private Educatio-NAVSL 2018-CA B		..04/11/2023	CANTOR		3,175,331	3,360,000	11,028	1.B FE
674135-EM-6	Oakwood Mortgage Investo-OAK 1999-A M2		..06/01/2023	PAYUP		0	3,395	0	6. FE
678858-BT-7	Oklahoma Gas and Electri-SENIOR UNSECURE		..05/23/2023	AMHERST SECURITIES		12,949,760	13,500,000	138,383	1.G FE
68902V-AK-3	Otis Worldwide Corp-SENIOR UNSECURED		..06/08/2023	VARIOUS		8,751,750	10,000,000	61,275	2.B FE
69047Q-AA-0	Ovintiv Inc-SENIOR UNSECURED		..05/17/2023	GOLDMAN		10,010,800	10,000,000	0	2.C FE
69047Q-AB-8	Ovintiv Inc-SENIOR UNSECURED		..06/08/2023	VARIOUS		14,880,330	15,000,000	18,833	2.C FE
69335P-EW-1	PFS Financing Corp-PFSPFC 2023-B B		..05/24/2023	JP MORGAN SECURITIES		4,598,828	4,600,000	0	1.F FE
693696-AA-4	Pvone 2023-1 LLC-PVONE 2023-1A A		..06/26/2023	CAPONE		16,990,346	17,000,000	0	1.A FE
709599-BT-0	Penske Truck Leasing Co -SENIOR UNSECURE		..05/16/2023	BARCLAYS CAPITAL INC		5,019,800	5,000,000	37,771	2.B FE
718546-AR-5	Phillips 66-SENIOR UNSECURED		..04/20/2023	BOFAMILSEC		9,641,700	10,000,000	42,250	2.A FE
718547-AT-9	Phillips 66-SENIOR UNSECURED		..04/05/2023	MORGAN		4,862,112	4,800,000	7,260	2.A FE
72303#-AA-7	Pinebridge Private Credi Term Loan FAC		..06/28/2023	DIRECT		2,544,498	2,544,498	0	1.E PL
75458*-AB-5	Rayburn Country Electric Senior Secured		..06/16/2023	DIRECT		22,500,000	22,500,000	0	2.B Z
760759-AV-2	Republic Services Inc-SENIOR UNSECURED		..06/02/2023	VARIOUS		6,225,708	7,243,000	43,961	2.A FE
78355H-KR-9	Ryder System Inc-SENIOR UNSECURED		..05/17/2023	TORONTO DOMINION SEC		5,571,828	5,800,000	42,098	2.A FE
78355H-KW-8	Ryder System Inc-SENIOR UNSECURED		..06/08/2023	U. S. BANCORP		4,931,600	5,000,000	16,771	2.A FE
78398A-AG-8	SFS Auto Receivables Sec-SFAST 2023-1A C		..06/22/2023	JP MORGAN SECURITIES		6,749,706	6,750,000	0	1.F FE
78448R-AE-6	SMB Private Education Lo-SMB 2015-C B		..05/17/2023	CANTOR		4,329,313	4,520,000	1,758	1.B FE
78449H-AC-1	SMB Private Education Lo-SMB 2023-B B		..05/12/2023	BOFAMILSEC		4,998,242	5,000,000	0	1.C FE
78449L-AC-2	SMB 2018-B A2B		..04/04/2023	GOLDMAN		985,655	1,003,690	3,315	1.A FE
805564-EM-9	Saxon Asset Securities T-SAST 1999-3 BF1		..06/01/2023	PAYUP		0	1,100	0	1.A FM
806851-AH-4	Schlumberger Holdings Co-SENIOR UNSECURE		..06/02/2023	VARIOUS		27,846,263	28,997,000	88,058	2.A FE

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 3

Show All Long-Term Bonds and Stock Acquired During the Current Quarter

1	2	3	4	5	6	7	8	9	10
CUSIP Identification	Description	Foreign	Date Acquired	Name of Vendor	Number of Shares of Stock	Actual Cost	Par Value	Paid for Accrued Interest and Dividends	NAIC Designation, NAIC Designation Modifier and SVO Administrative Symbol
83189D-AD-2	SMB PRIVATE EDUCATION LO-SMB 2017-B B		05/16/2023	CANTOR		2,296,875	2,450,000	715	1.B FE
855244-AR-0	Starbucks Corp-SENIOR UNSECURED		04/19/2023	WELLS FARGO		5,904,550	5,000,000	86,667	2.A FE
86745X-AA-4	Sunnova Sol V Issuer LLC-SNVA 2023-1A A		04/21/2023	SMBC NIKKO SECURITIE		9,499,134	10,000,000	0	1.G FE
87251F-AF-6	TCW DIRECT LENDING STRUCTURED SOLUTIONS		06/26/2023	DIRECT		1,432,947	1,432,947	0	1.D Z
87264A-BB-0	T-Mobile USA Inc-FIRST LIEN		05/17/2023	RBC CAPITAL MARKETS		2,137,784	2,200,000	7,272	2.B FE
87264A-BD-6	T-Mobile USA Inc-FIRST LIEN		04/19/2023	CITIGROUP GLOBAL MAR		9,604,000	10,000,000	6,250	2.B FE
87264A-BR-5	T-Mobile USA Inc-SENIOR UNSECURED		04/26/2023	JP MORGAN SECURITIES		9,382,900	10,000,000	45,625	2.B FE
87264A-DA-0	T-Mobile USA Inc-SENIOR UNSECURED		05/23/2023	CITIGROUP GLOBAL MAR		4,934,500	5,000,000	9,333	2.B FE
87267C-AA-6	TRP 2021 LLC-TRP 2021-1 A		06/06/2023	CANTOR		5,039,220	5,840,193	7,052	1.F FE
874054-AF-6	Take-Two Interactive Sof-SENIOR UNSECURE		05/17/2023	TORONTO DOMINION SEC		4,856,450	5,000,000	17,257	2.B FE
88033G-DQ-0	Tenet Healthcare Corp-FIRST LIEN		06/15/2023	EXCHANGE OFFER		0	2,403,000	0	3.C FE
88238C-AA-0	Texas Debt Capital CLO 2-TCIFC 2023-1A A		04/27/2023	RBC CAPITAL MARKETS		14,970,000	15,000,000	55,181	1.A FE
88338Q-AA-8	Theorem Funding Trust 20-THRM 2023-1A A		04/17/2023	GSCO		29,999,730	30,000,000	0	1.G FE
887389-AK-0	Timken Co/The-SENIOR UNSECURED		04/26/2023	SUMRIDGE PARTNERS LL		1,972,060	2,000,000	33,250	2.B FE
88749*-AA-9	Ting Issuer LLC Notes Class A-2		05/04/2023	DIRECT		20,358,326	21,361,500	0	1.G PL
88749*-AB-7	Ting Issuer LLC Notes Class B		05/04/2023	DIRECT		8,728,593	9,144,500	0	2.B PL
891941-AB-2	Toyota Auto Receivables -TAOT 2023-B A2A		05/24/2023	MIZUHO SECURITIES		3,991,719	4,000,000	1,760	1.A FE
892356-AB-2	Tractor Supply Co-SENIOR UNSECURED		06/08/2023	VARIOUS		16,040,183	16,148,000	70,993	2.B FE
907818-EY-0	Union Pacific Corp-SENIOR UNSECURED		04/20/2023	VARIOUS		14,794,381	15,000,000	70,837	1.G FE
92539G-AB-7	Verus Securitization Tru-VERUS 2023-3 A2		04/14/2023	JP MORGAN SECURITIES		4,499,941	4,500,000	20,924	1.C FE
92867W-AD-0	Volkswagen Auto Loan Enh-VALET 2023-1 A3		06/06/2023	BOFAMILSEC		5,998,520	6,000,000	0	1.A FE
92867W-AE-8	Volkswagen Auto Loan Enh-VALET 2023-1 A4		06/06/2023	BOFAMILSEC		3,299,337	3,300,000	0	1.A FE
92868K-AC-7	Volkswagen Auto Loan Enh-VALET 2021-1 A3		05/24/2023	BOFAMILSEC		9,591,406	10,000,000	1,700	1.A FE
969457-BW-9	Williams Cos Inc/The-SENIOR UNSECURED		04/26/2023	VARIOUS		3,202,506	3,225,000	50,543	2.B FE
98138H-AG-6	Workday Inc-SENIOR UNSECURED		06/02/2023	WELLS FARGO		9,551,100	10,000,000	63,194	2.B FE
98163T-AD-5	World Omni Auto Receivab-WOART 2022-C A3		05/25/2023	TORONTO DOMINION SEC		19,494,141	20,000,000	26,433	1.A FE
000000-00-0	Divert Dev Co I LLC Solid Waste Disposal		06/30/2023	DIRECT		(7,000,000)	0	0	3.A Z
000000-00-0	Giconia Investments Limi Senior Secured		05/16/2023	DIRECT		25,692,650	25,692,636	0	2.B Z
000000-00-0	Washington Economic Deve Senior Secured		06/13/2023	DIRECT		8,000,000	8,000,000	0	2.B Z
13645R-BE-3	Canadian Pacific Railway-SENIOR UNSECURE	A	04/20/2023	VARIOUS		9,076,052	10,000,000	68,520	2.B FE
53278L-BF-3	Linamar Corp Senior Notes		06/22/2023	BOFAMILSEC		15,192,950	15,192,950	0	2.B Z
67077M-BA-5	Nutrien Ltd-SENIOR UNSECURED	A	05/22/2023	U. S. BANCORP		4,932,250	5,000,000	38,792	2.B FE
94106B-AE-1	Waste Connections Inc-SENIOR UNSECURED	A	06/08/2023	VARIOUS		13,937,876	16,000,000	159,644	2.A FE
90120N-AC-8	AGL CLO Ltd-AGL 2023-25A B	D	05/09/2023	CITIGROUP GLOBAL MAR		4,200,000	4,200,000	0	1.D Z
01750W-AE-9	Allegro CLO XIII Ltd-ALLEG 2021-1A B	D	04/04/2023	BOFAMILSEC		4,806,500	5,000,000	68,693	1.C FE
01751A-AE-6	Allegro CLO XIV Ltd-ALLEG 2021-2A B	D	04/04/2023	BOFAMILSEC		4,784,150	5,000,000	71,236	1.C FE
03328J-AA-5	Anchorage Capital CLO 19-ANHC 2021-19A	D	06/15/2023	MITSUBISHI UFJ SEC I		4,887,500	5,000,000	57,514	1.A FE
055451-AZ-1	BHP Billiton Finance USA-SENIOR UNSECURE	D	04/26/2023	CANTOR		10,201,800	10,000,000	79,167	1.F FE
05682C-AE-7	BCC 2023-3A C-BCC 2023-3A C	D	06/27/2023	CITIGROUP GLOBAL MAR		7,000,000	7,000,000	0	1.F Z
05684G-AE-6	BCC 2023-2A B1-BCC 2023-2A B1	D	05/09/2023	MIZUHO SECURITIES		10,000,000	10,000,000	0	1.D Z
05876K-AC-9	Ballyrock CLO 16 Ltd-BALLY 2021-16A A2	D	05/04/2023	VARIOUS		4,407,160	4,555,000	9,584	1.C FE
067316-AF-6	Bacardi Ltd-SENIOR UNSECURED	D	05/23/2023	SEAPORT GROUP		9,828,900	10,000,000	13,056	2.C FE
08186K-AA-2	Benefit Street Partners -BSP 2023-30A A	D	06/14/2023	RBC CAPITAL MARKETS		18,036,000	18,000,000	384,502	1.A FE
09630Q-AN-1	BlueMountain CLO XXX Ltd-BLUEM 2020-30A	D	04/13/2023	MITSUBISHI UFJ SEC I		2,155,500	2,250,000	0	1.B FE
12555Q-AN-6	CIFC Funding 2020-I Ltd-CIFC 2020-1A A1R	D	04/17/2023	MIZUHO SECURITIES		10,459,578	10,650,000	3,793	1.A FE
134999-ZD-6	CRANEMERE UK HLDGS I 12.50 PIK 6/30/24	D	06/30/2023	PIK NOTE BUY UP		331,739	331,739	0	5.B G1
14115D-AA-2	Carbon Revolution Ltd-SECURED	D	05/19/2023	DTCYID		4,680,000	4,680,000	0	1.E PL
143133-AE-6	CGMS 2021-6A B-CGMS 2021-6A B	D	04/26/2023	WELLS FARGO		5,144,180	5,300,000	11,272	1.C FE
14316M-AC-5	CARLYLE US CLO 2021-1 LT-CGMS 2021-1A A2	D	04/25/2023	MITSUBISHI UFJ SEC I		2,400,000	2,500,000	4,660	1.C FE
14318L-AE-1	Carlyle US CLO 2022-5 LT-CGMS 2022-5A C	D	06/09/2023	CITIGROUP GLOBAL MAR		3,799,238	3,750,000	53,653	1.F FE
14318R-AE-8	CARLYLE US CLO 2023-1 LT-CGMS 2023-1A B	D	04/21/2023	GOLDMAN		7,500,000	7,500,000	0	1.D Z

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CUSIP Identification	Description	Foreign	Date Acquired	Name of Vendor	Number of Shares of Stock	Actual Cost	Par Value	Paid for Accrued Interest and Dividends	NAIC Designation, NAIC Designation Modifier and SVO Administrative Symbol
17182X-AL-5	CIFC Funding 2019-IV Ltd-CIFC 2019-4A A1	D	06/15/2023	MIZUHO SECURITIES		6,383,000	6,500,000	74,190	1.A FE
38179Q-AC-1	GGBSL 2023-68A B-GGBSL 2023-68A B	D	06/16/2023	BARCLAYS CAPITAL INC		10,000,000	10,000,000	0	1.D Z
38179Q-AE-7	GGBSL 2023-68A C-GGBSL 2023-68A C	D	06/16/2023	BARCLAYS CAPITAL INC		7,000,000	7,000,000	0	1.F Z
38218J-AC-0	Goodgreen 2022-1-GOODG 2022-1A C	D	05/15/2023	PAYUP		126,751	126,751	0	2.B FE
40638L-AA-7	Halseypoint CLO 7 LTD-HLSY 2023-7A A	D	05/31/2023	BARCLAYS CAPITAL INC		15,000,000	15,000,000	0	1.A Z
40638L-AE-9	Halseypoint CLO 7 LTD-HLSY 2023-7A B	D	05/31/2023	BARCLAYS CAPITAL INC		5,000,000	5,000,000	0	1.D Z
442911-AG-8	HPS Loan Management 2023-HLM 2023-18A C	D	05/23/2023	RBC CAPITAL MARKETS		5,375,000	5,375,000	0	1.F Z
44931A-AL-3	ICG US CLO 2015-1 Ltd-ICG 2015-1A A2R	D	06/30/2023	EXCHANGE OFFER		5,356,648	6,469,001	0	1.A FE
44931A-AN-9	ICG US CLO 2015-1 Ltd-ICG 2015-1A BR	D	06/30/2023	EXCHANGE OFFER		10,278,553	12,413,001	0	1.C FE
44931B-AC-1	ICG US CLO 2015-1 Ltd-ICG 2015-1A SUB	D	06/30/2023	EXCHANGE OFFER		6,515,086	7,868,000	0	4.C Z
46146J-AC-0	Invesco CLO 2021-3 Ltd-INVCO 2021-3A B	D	04/05/2023	BOFAMLSEC		4,826,500	5,000,000	69,143	1.C FE
46656T-AD-8	JCP Direct Lending CLO 2-JCPDL 2023-11 A	D	06/05/2023	JEFFERIESLLC		1,589,286	1,714,286	0	1.A Z
46656T-AK-2	JCP Direct Lending CLO 2-JCPDL 2023-11 B	D	06/05/2023	JEFFERIESLLC		4,147,126	4,147,126	0	1.B Z
46656T-AM-8	JCP Direct Lending CLO 2-JCPDL 2023-11 C	D	06/05/2023	JEFFERIESLLC		2,671,429	2,671,429	0	1.F Z
478375-AR-9	Johnson Controls Interna-SENIOR UNSECURE	D	04/26/2023	JP MORGAN SECURITIES		14,726,700	15,000,000	120,250	2.B FE
47837R-AD-2	Johnson Controls Interna-SENIOR UNSECURE	D	04/05/2023	JEFFERIESLLC		4,142,800	5,000,000	6,667	2.B FE
48255A-AA-6	KKR CLO 36 Ltd-KKR 36A A	D	05/05/2023	CITIGROUP GLOBAL MAR		4,305,263	4,410,000	17,357	1.A FE
48255X-AJ-7	KKR FINANCIAL CLO LTD-KKR 2023-52A C	D	05/24/2023	MORGAN		6,150,000	6,150,000	0	1.F Z
552081-AK-7	LyondellBasell Industrie-SENIOR UNSECURE	D	04/26/2023	TORONTO DOMINION SEC		8,763,873	8,749,000	18,166	2.B FE
55301G-GM-0	West Cromwell Road - Note	B	06/06/2023	DIRECT		333,034	333,034	0	1.F Z
55791Q-AG-1	Madison Park Funding LX -MDPK 2022-60A C	D	06/09/2023	NOMURA SECURITIES IN		2,273,175	2,250,000	86,824	1.F FE
55817E-AQ-9	Madison Park Funding XXX-MDPK 2019-37A B	D	04/20/2023	WELLS FARGO		9,778,000	10,000,000	13,437	1.C FE
55819M-AN-6	Madison Park Funding XXX-MDPK 2019-35A A	D	04/04/2023	MIZUHO SECURITIES		3,448,900	3,500,000	42,839	1.A FE
55819M-AU-0	Madison Park Funding XXX-MDPK 2019-35A B	D	04/19/2023	GOLDMAN		2,416,875	2,500,000	462	1.C FE
55822E-AA-7	Madison Park Funding LIX-MDPK 2021-59A A	D	04/13/2023	MORGAN		4,932,250	5,000,000	73,360	1.A FE
58801A-AA-2	MidOcean Credit CLO XI L-MIDO 2022-11A A	D	05/24/2023	VARIOUS		5,000,000	5,000,000	38,696	1.A FE
652935-AA-5	Next.e.GO Mobile SE-SECURED	D	06/29/2023	GUGGENHEIM		19,850,000	20,000,000	0	1.F Z
670891-AC-4	OCP CLO 2023-28 Ltd-OCP 2023-28A B	D	06/29/2023	BOFAMLSEC		6,850,000	6,850,000	0	1.D Z
670891-AE-0	OCP CLO 2023-28 Ltd-OCP 2023-28A C	D	06/29/2023	BOFAMLSEC		6,562,500	6,562,500	0	1.F Z
67401Q-AC-0	Oaktree CLO 2023-2 Ltd-OAKCL 2023-2A B	D	05/26/2023	MORGAN		11,000,000	11,000,000	0	1.D Z
67401Q-AE-6	Oaktree CLO 2023-2 Ltd-OAKCL 2023-2A C	D	05/26/2023	MORGAN		5,000,000	5,000,000	0	1.F Z
675922-AL-2	Octagon Investment Partn-OCT34 2017-1A C	D	06/30/2023	DIRECT		1	1	0	1.F FE
67592X-AC-4	Octagon 57 Ltd-OCT57 2021-1A A	D	06/15/2023	MORGAN		9,805,100	10,000,000	113,961	1.A FE
716973-AD-4	Pfizer Investment Enterp-SENIOR UNSECURE	D	05/23/2023	SUNTRUST CAPITAL MAR		9,931,050	10,000,000	7,104	1.E FE
75009R-AA-1	Rad CLO 14 Ltd-RAD 2021-14A A	D	04/17/2023	BARCLAYS CAPITAL INC		9,765,000	10,000,000	3,572	1.A FE
750103-AA-1	Rad CLO 15 Ltd-RAD 2021-15A A	D	05/08/2023	DEUTSCHE BANK SECURI		1,963,500	2,000,000	7,045	1.A FE
75625Q-AD-1	Reckitt Benckiser Treasu-SENIOR UNSECURE	D	04/26/2023	MORGAN		19,500,000	20,000,000	186,389	1.G FE
76761R-AY-5	Riserva Clo Ltd-RSRVA 2016-3A ARR	D	04/25/2023	VARIOUS		6,321,562	6,470,000	10,225	1.A FE
82620K-AL-7	Siemens Financieringsmaa-SENIOR UNSECURE	D	04/26/2023	JP MORGAN SECURITIES		9,811,984	10,400,000	8,826	1.E FE
82808E-AA-9	Silver Point CLO 2 Ltd-SPCLO 2023-2A A1	D	04/14/2023	BARCLAYS CAPITAL INC		9,950,000	10,000,000	0	2.A Z
87168V-AA-4	SYMPHONY CLO LTD-SYMP 2022-36A E	D	04/24/2023	PAYUP		103,417	103,417	0	3.C FE
87246M-AS-1	TICP CLO VI 2016-2 Ltd-TICP 2016-6A AR2	D	05/05/2023	DEUTSCHE BANK SECURI		10,556,500	10,750,000	41,915	1.A FE
877409-AF-9	Taylor Wimpey PLC Senior Unsecured Notes	B	06/27/2023	SANTANDER INVESTMENT		19,090,750	19,090,756	0	2.B Z
E5000*-AA-2	Espai Barca FT - Senior Unsecured Note S	B	05/31/2023	DIRECT		26,802,500	26,802,495	0	2.B Z
F507A6-MK-6	iliad SA-SENIOR UNSECURED	B	06/13/2023	HSBC SECURITIES INC		638,168	644,940	11,927	3.B FE
G0566*-AE-9	Arqiva PP Financing plc Senior Secured N	D	06/22/2023	DIRECT		18,000,000	18,000,000	0	2.A FE
G3301*-AK-9	FIL Ltd/Bermuda Senior Note Series A	B	06/29/2023	BOFAMLSEC		25,296,000	25,295,995	0	2.A
G5264*-AX-7	Kingspan Securities Limi Senior Unsecure	B	06/07/2023	BNP PARIBAS		21,375,994	21,375,994	0	2.A Z
G7682*-AC-5	Royal Bank of Scotland I Senior Notes Se	D	04/05/2023	RBS SECURITIES INC		20,000,000	20,000,000	0	1.F FE
K3752*-AG-5	Copenhagen Airports A/S Senior Secured P	B	06/28/2023	DIRECT		25,021,710	25,021,710	0	2.B Z
L3009*-AA-6	Ergea Group S.A r.L. Guaranteed Secured	D	05/10/2023	DIRECT		18,917,992	18,917,992	0	2.B PL
L3551*-AN-0	Ferrero International SA Gtd Senior Note	B	06/20/2023	BOFAMLSEC		18,041,100	18,041,107	0	2.A Z
N4281*-CM-5	Koninklijke Vopak NV Senior Notes Series	B	06/15/2023	DIRECT		23,896,400	23,896,394	0	2.B Z
805564-EM-9	Saxon Asset Securities Tr 1999-3 Mt Ln Ast Bk Cer Ser 1999-3	A	06/26/2023	Non-Agency RMBS		(90)	0	0	1.A FM
37045X-BW-5	General Motors Financial Co Inc	B	04/27/2023	Public Corporates		2,560,090	0	0	2.B FM
44961*-AB-1	Implus Footcare LLC	C	06/30/2023	Leveraged Loans		3,332	0	0	3.C PL
45321*-AA-5	Implus Footcare LLC	C	06/30/2023	Leveraged Loans		519	0	0	3.C PL

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 3

Show All Long-Term Bonds and Stock Acquired During the Current Quarter

1	2	3	4	5	6	7	8	9	10
CUSIP Identification	Description	Foreign	Date Acquired	Name of Vendor	Number of Shares of Stock	Actual Cost	Par Value	Paid for Accrued Interest and Dividends	NAIC Designation, NAIC Designation Modifier and SVO Administrative Symbol
581557-BE-4	McKesson Corp	A	04/26/2023	Public Corporates		15,292,607	0	0	2.A FE
1109999999	Subtotal - Bonds - Industrial and Miscellaneous (Unaffiliated)					1,982,821,441	2,010,360,316	6,203,622	XXX
05567S-AA-0	BNSF Funding Trust I-BNSF 6.613 12/15/55		05/02/2023	BARCLAYS CAPITAL INC		4,800,000	5,000,000	100,113	2.B FE
21871X-AP-4	Corebridge Financial Inc-CRBG 6 7/8 12/1		05/31/2023	EXCHANGE OFFER		34,927,466	35,047,000	1,111,039	2.C FE
29379V-BR-3	EPD 5 3/8 02/15/2078		05/04/2023	BARCLAYS CAPITAL INC		10,701,250	13,000,000	150,351	2.B FE
816851-BK-4	Sempra Energy-SRE 4 7/8 PERP		06/07/2023	VARIOUS		14,828,855	15,639,000	81,860	2.C FE
842587-DF-1	Southern Co/The-SO 4 01/15/51		05/11/2023	BARCLAYS CAPITAL INC		14,046,250	15,000,000	182,778	2.C FE
92556H-AE-7	Paramount Global-PARA 6 3/8 03/30/62		05/25/2023	SUMRIDGE PARTNERS LL		4,345,308	5,435,000	53,746	3.A FE
1309999999	Subtotal - Bonds - Hybrid Securities					83,649,129	89,121,000	1,679,887	XXX
06763F-AB-6	Barings CLO Ltd 2023-II-BABSN 2023-2A A2	D	05/31/2023	BOFAMLSEC		6,000,000	6,000,000	0	1.A Z
06763F-AC-4	Barings CLO Ltd 2023-II-BABSN 2023-2A B1	D	05/31/2023	BOFAMLSEC		10,000,000	10,000,000	0	1.D Z
06763F-AD-2	Barings CLO Ltd 2023-II-BABSN 2023-2A C	D	05/31/2023	BOFAMLSEC		5,000,000	5,000,000	0	1.F Z
1509999999	Subtotal - Bonds - Parent, Subsidiaries and Affiliates					21,000,000	21,000,000	0	XXX
00177#-AA-1	AMF Levered II, LLC - Revolver		06/28/2023	BANK LOANS BABSON CA		3,670,000	3,670,000	0	1.C PL
00452#-AA-7	Accommodations Plus Technologies LLC/Ter		06/30/2023	PIK NOTE BUY UP		12,621	6,700	0	4.B PL
000000-00-0	Amtech Software - Delayed Draw Term Loan		05/12/2023	BANK LOANS BABSON CA		909,091	909,091	0	4.C Z
05351K-AA-6	Avant Credit Card Master Avant Master Tr		06/27/2023	BANK LOANS BABSON CA		1,406,575	1,406,575	0	3.B Z
05351K-AA-0	Avant Cr Card Master Tr 2021-VFN1 CI A		06/27/2023	BANK LOANS BABSON CA		18,922,400	18,922,400	0	1.G Z
05351K-AA-8	Avant Credit Card Master Avant Master Tr		06/27/2023	BANK LOANS BABSON CA		1,908,360	1,908,360	0	2.B Z
05464Z-MM-9	AXONIC CAPITAL LLC - Senior Secured Term		05/18/2023	BANK LOANS BABSON CA		15,000,000	15,000,000	0	1.F Z
05564Z-MM-6	BREDIF MM LSA LLC - Term Loan Series 202		06/26/2023	BANK LOANS BABSON CA		10,368	10,368	0	1.D Z
05631*-AB-2	BREDIF MM LSA LLC - Term Loan Series 202		06/26/2023	BANK LOANS BABSON CA		7,850	7,850	0	1.D Z
06683@-AB-5	BANYAN SOFTWARE HOLDINGS LLC - DELAYED		06/30/2023	BANK LOANS BABSON CA		(7,199)	(7,199)	0	3.B PL
000000-00-0	Fortis Payment Systems LLC - 2022 Delaye		06/27/2023	BANK LOANS BABSON CA		278,168	278,168	0	4.C Z
10970#-AA-9	Brinley PD SPV I LLC/Revolving Facility		05/15/2023	BANK LOANS BABSON CA		8,537,375	8,750,000	0	1.F Z
12759#-AA-2	CELF SPV LLC - Revolving Senior Secured		06/20/2023	BANK LOANS BABSON CA		3,142,857	3,142,857	0	1.F PL
14318*-AA-6	CARLYLE SECURED LENDING III SPV, - Senio		06/30/2023	BANK LOANS BABSON CA		1,560,000	1,560,000	0	1.F Z
14979*-AA-6	CAZ GP OWNERSHIP EF AGGREGATOR, L.P. - S		06/30/2023	BANK LOANS BABSON CA		1,300,000	1,300,000	0	1.G PL
15644@-AA-1	CENTRIC BRANDS 1LEXIT TL L+1000 10/09/20		05/22/2023	PIK NOTE BUY UP		78,541	78,541	0	4.A PL
18539@-AA-8	Cleaver-Brooks Inc - 2022 Fixed PIK Term		06/30/2023	PIK NOTE BUY UP		23,745	23,745	0	4.C Z
19076*-AB-5	COBALT BUYER SUB INC. - DELAYED DRAW TE		04/04/2023	BANK LOANS BABSON CA		4,219	4,219	0	3.A PL
23345U-AB-5	Disa Holdings Corp. - Delayed Draw Term		06/30/2023	BANK LOANS BABSON CA		6,668	6,668	0	3.A PL
29251@-AB-9	Encina Business Credit SPV LLC Revolving		06/29/2023	BANK LOANS BABSON CA		16,800,000	16,800,000	0	2.B PL
30034@-AA-3	EVERLAKE PRIVATE FUND BORROWER, LLC - Se		06/15/2023	BANK LOANS BABSON CA		3,166,667	3,166,667	0	2.A PL
30301*-AA-1	FS CREIT FINANCE MM-1 LLC - Secured Term		06/30/2023	BANK LOANS BABSON CA		5,223,000	5,223,000	0	1.F PL
32013#-AA-2	FIRST EAGLE DIRECT LENDING V-B, LLC - Se		06/02/2023	BANK LOANS BABSON CA		2,362,319	2,362,319	0	1.D PL
40489@-AA-2	HPS Mezzanine Partners 2019, L.P., MP 20		06/14/2023	BANK LOANS BABSON CA		4,839,024	4,839,024	0	1.F PL
000000-00-0	ITI Intermodal Inc. - 2023 Incremental T		06/30/2023	BANK LOANS BABSON CA		366,518	377,853	0	4.C Z
000000-00-0	ITI Intermodal Inc. - 2023 Columbia Dela		05/03/2023	BANK LOANS BABSON CA		199,559	199,559	0	4.C Z
46139Z-MM-8	Invesco Private Credit Opportunities Hol		06/27/2023	BANK LOANS BABSON CA		7,200,000	7,200,000	0	1.F Z
47231#-MR-6	JEFFERIES DIRECT LENDING OFFSHORE FUND I		06/16/2023	BANK LOANS BABSON CA		316,908	316,908	0	2.B Z
47231#-MS-4	JEFFERIES DIRECT LENDING OFFSHORE FUND I		06/16/2023	BANK LOANS BABSON CA		1,366,293	1,366,293	0	2.B Z
47235#-AA-2	JEFFERIES DIRECT LENDING FUND II SPE LLC		05/22/2023	BANK LOANS BABSON CA		2,439,761	2,439,761	0	2.C Z
47236@-AA-3	JEFFERIES DIRECT LENDING FD II C SPE LLC		05/22/2023	BANK LOANS BABSON CA		473,634	473,634	0	2.B Z
48773#-AC-4	KELLERMAYER BERGENSONS SERVICES LLC - 2		06/30/2023	BANK LOANS BABSON CA		523,125	523,125	0	4.A PL
60510M-AA-5	Mission Lane Credit Card Master Trust -		06/29/2023	BANK LOANS BABSON CA		7,466,667	7,466,667	0	2.B PL
60510M-AA-7	Mission Lane Credit Card Master Trust -		06/29/2023	BANK LOANS BABSON CA		35,466,667	35,466,667	0	1.F PL
60510M-B*-8	Mission Lane Credit Card Master Trust -		06/29/2023	BANK LOANS BABSON CA		3,733,333	3,733,333	0	3.A PL

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 3

Show All Long-Term Bonds and Stock Acquired During the Current Quarter

1	2	3	4	5	6	7	8	9	10
CUSIP Identification	Description	Foreign	Date Acquired	Name of Vendor	Number of Shares of Stock	Actual Cost	Par Value	Paid for Accrued Interest and Dividends	NAIC Designation, NAIC Designation Modifier and SVO Administrative Symbol
62879W-MQ-7	NB SOF V ISPV 2022 LLC - Class A Term Lo		..06/23/2023	BANK LOANS BABSON CA		..3,213,773	..3,213,773	0	1.F Z
62879X-AB-1	NB Select Opportunities ISPV 2022 LLC -		..06/12/2023	BANK LOANS BABSON CA		..2,488,922	..2,488,922	0	1.G PL
62879X-AC-9	NB Select Opportunities ISPV 2022 LLC -		..06/12/2023	BANK LOANS BABSON CA		..576,833	..576,833	0	2.C PL
65405Z-MM-5	NICOLA SP WAREHOUSE LENDER 1, LP - Senio		..04/06/2023	BANK LOANS BABSON CA		..1,582,000	..1,582,000	0	1.F Z
65658#-AA-2	NORTH HAVEN FALCON BUYER LLC - TERM LOA		..05/22/2023	PIK NOTE BUY UP		..2,639	..2,639	0	3.B PL
65658#-AB-0	NORTH HAVEN FALCON BUYER LLC - DELAYED		..06/30/2023	PIK NOTE BUY UP		..494	..494	0	3.B PL
67117#-AA-5	OR Opportunistic DL (C) Funding LLC - Te		..06/26/2023	BANK LOANS BABSON CA		..1,653,333	..1,653,333	0	1.E PL
68144#-AB-6	Olympia Acquisition, Inc-2022 2nd Amendn		..05/31/2023	PIK NOTE BUY UP		..720	..720	0	4.B PL
68144#-AD-2	Olympia Acquisition, Inc-2022 Rolled Ter		..05/31/2023	PIK NOTE BUY UP		..5,995	..5,995	0	4.B Z
70216*-AA-1	PARTNERS GROUP PRIVATE EQUITY II, LLC -		..04/11/2023	BANK LOANS BABSON CA		..5,250,000	..5,250,000	0	1.F Z
71571E-AD-1	PES Holdings LLC-PHIENE PIK-TERM C-EXIT		..04/28/2023	PIK NOTE BUY UP		..9,557	..9,557	0	6.*
72303#-MM-8	PINEBRIDGE PRIVATE CREDIT III HOLDINGS L		..06/09/2023	BANK LOANS BABSON CA		..4,937,500	..4,937,500	0	1.F Z
73112#-AB-6	Policy Services Company, 1L PIK Toggle T		..04/24/2023	PIK NOTE BUY UP		..28,411	..28,411	0	5.B GI
73112#-AC-4	Policy Services Company, 1L PIK Toggle D		..04/24/2023	PIK NOTE BUY UP		..10,065	..10,065	0	5.B GI
74309#-AB-5	PRG 9/20 Last Out		..06/26/2023	PIK NOTE BUY UP		..29,070	..29,070	0	4.C PL
75645#-AA-9	Red Cedar Holdings BLP CI A Ln		..04/03/2023	BANK LOANS BABSON CA		..1,120,140	..1,120,140	0	1.D Z
78472Z-MM-6	SPV FACILITY I LLC - Senior Secured Revo		..05/17/2023	BANK LOANS BABSON CA		..2,500,000	..2,500,000	0	1.F Z
80586#-AA-8	Scaled Agile Inc. - 2021 Delayed Draw Te		..04/14/2023	BANK LOANS BABSON CA		..169,805	..169,805	0	2.B PL
816307-AB-1	SelectQuote Inc./Term Loan 10/19		..06/30/2023	PIK NOTE BUY UP		..4,267	..4,267	0	3.B PL
000000-00-0	Smartling Inc. - Delayed Draw Term Loan		..04/28/2023	BANK LOANS BABSON CA		..433,489	..433,489	0	4.C Z
88676Z-MM-9	TIKEHAU GREEN DIAMOND OFO LLC - Class A		..06/20/2023	BANK LOANS BABSON CA		..774,833	..774,833	0	1.F Z
88676Z-MN-7	TIKEHAU GREEN DIAMOND OFO LLC - Class B		..06/20/2023	BANK LOANS BABSON CA		..193,708	..193,708	0	2.B Z
90139#-AA-1	Twin Brook Capital Funding XIII WSPV, LL		..06/30/2023	BANK LOANS BABSON CA		..1	..1	0	1.E Z
90140*-AA-0	Twin Brook Capital Funding XIV WSPV, LLC		..06/30/2023	BANK LOANS BABSON CA		..23,671	..23,671	0	1.E PL
91839*-AE-6	VPROP OPERATING LLC - TRANCHE A		..06/30/2023	PIK NOTE BUY UP		..(1,592)	..(1,592)	0	5.A PL
91839*-AF-3	VPROP OPERATING LLC - TRANCHE B LOAN		..06/30/2023	PIK NOTE BUY UP		..(1,238)	..(1,238)	0	5.A PL
91839*-AG-1	VPROP OPERATING LLC - TRANCHE C LOAN		..06/30/2023	PIK NOTE BUY UP		..(5,627)	..(5,627)	0	5.A PL
92843Z-A*-4	Visual Edge Technology Inc./Term Loan 0		..05/31/2023	PIK NOTE BUY UP		..8,572	..8,572	0	4.B Z
92843Z-AA@-2	Visual Edge Technology Inc./Delayed Dra		..05/31/2023	PIK NOTE BUY UP		..9,546	..9,546	0	4.B Z
92974*-AB-5	WSHP FC ACQUISITION LLC - SECOND AMENDME		..05/01/2023	BANK LOANS BABSON CA		..141,473	..141,473	0	3.B PL
000000-00-0	Kings III - Delayed Draw Term Loan		..05/30/2023	BANK LOANS BABSON CA		..65,525	..65,525	0	4.C Z
000000-00-0	SBP Holding LP - Delayed Draw Term Loan		..06/30/2023	BANK LOANS BABSON CA		..45,406	..45,406	0	4.C Z
000000-00-0	ASPF II 2022-I, LP Class A-1 Loan		..04/14/2023	BANK LOANS BABSON CA		..747,500	..747,500	0	1.F Z
000000-00-0	Trystar Inc. - 2023 Refi Term Loan		..05/05/2023	BANK LOANS BABSON CA		..663,655	..680,672	0	4.C Z
000000-00-0	ASPF II 2022-I, LP Class A-2 Loan		..05/12/2023	BANK LOANS BABSON CA		..487,500	..487,500	0	6.Z
000000-00-0	NP Inc. - NP Line of Credit First Lien R		..05/19/2023	BANK LOANS BABSON CA		..2,000,000	..2,000,000	0	4.C Z
000000-00-0	Trystar Inc. - 2023 Term Loan		..06/07/2023	BANK LOANS BABSON CA		..693,024	..710,794	0	4.C Z
000000-00-0	Conrex ML Portfolio 2019-01 - Term Loan		..06/30/2023	BANK LOANS BABSON CA		..44,500,000	..44,500,000	0	2.A Z
000000-00-0	Conrex ML SMA 2019-01 - Term Loan A2		..06/30/2023	BANK LOANS BABSON CA		..80,000,000	..80,000,000	0	2.A Z
000000-00-0	Conrex ML SMA 2019-01 - Term Loan C8		..06/30/2023	BANK LOANS BABSON CA		..39,959,924	..39,959,924	0	2.A Z
000000-00-0	Adviser Investments - 2022 Delayed Draw		..06/30/2023	BANK LOANS BABSON CA		..26,785	..26,785	0	4.C Z
64217#-AA-8	HIL Private Assets Holdings LP - Term Loa		..06/05/2023	BANK LOANS BABSON CA		..18,000,000	..18,000,000	0	1.F Z
68656#-AA-9	TPG TIGER HOLDCO, LLC, - Class A Term Lo		..06/22/2023	BANK LOANS BABSON CA		..7,669,053	..7,669,053	0	1.F Z
68656#-AB-7	TPG TIGER HOLDCO, LLC, - Class B Term Lo		..06/22/2023	BANK LOANS BABSON CA		..2,556,351	..2,556,351	0	2.B Z
70621Z-MM-3	PEMBERTON PD SMA HOLDINGS (LEVERED) S.A.	B.	..04/24/2023	BANK LOANS BABSON CA		..2,391,620	..2,391,619	0	1.F Z
000000-00-0	NF Holdco LLC - Term Loan	C.	..06/30/2023	BANK LOANS BABSON CA		..586,527	..586,110	0	4.C Z
000000-00-0	Tech 8 SASU New Money A1 Fa	B.	..04/04/2023	BANK LOANS BABSON CA		..121,728	..140,256	0	6.Z
000000-00-0	Tech 8 SASU Reinstated EUR	B.	..06/08/2023	BANK LOANS BABSON CA		..523,084	..731,074	0	5.B Z
000000-00-0	Tech 8 SASU New Money DD A2	B.	..06/07/2023	BANK LOANS BABSON CA		..125,166	..125,166	0	5.B Z

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 3

Show All Long-Term Bonds and Stock Acquired During the Current Quarter

1	2	3	4	5	6	7	8	9	10
CUSIP Identification	Description	Foreign	Date Acquired	Name of Vendor	Number of Shares of Stock	Actual Cost	Par Value	Paid for Accrued Interest and Dividends	NAIC Designation, NAIC Designation Modifier and SVO Administrative Symbol
000000-00-0	VIDA Finance PLC EUR Pass-Through Loan S	B.....	04/24/2023	BANK LOANS BABSON CA .....	.....	..... 18,287,113	 18,287,113	0	2.B Z
000000-00-0	Technicolor Creative Stu EUR ORAs (Jun'2	B.....	06/08/2023	BANK LOANS BABSON CA .....	.....	..... 25	 253,887	0	5.B Z
G4701#-AA-1	IFM USIDF (INTERMEDIATE) B, L.P. - Secur	D.....	04/28/2023	BANK LOANS BABSON CA .....	.....	..... 31,250,000	 31,250,000	0	2.A PL
G6684#-AA-9	OHA Credit Solutions Master Fund I SPV, ...	C.....	06/06/2023	BANK LOANS BABSON CA .....	.....	..... 2,500,000	 2,500,000	0	1.F PL
000000-00-0	UPC Broadband Holding BV EUR TLAY (Apr'2	B.....	06/30/2023	BANK LOANS BABSON CA .....	.....	..... 1,018,969	 1,086,900	0	3.C Z
1909999999. Subtotal - Bonds - Unaffiliated Bank Loans						428,076,409	428,895,128	0	XXX
2509999997. Total - Bonds - Part 3						3,184,997,793	3,220,858,800	8,642,308	XXX
2509999998. Total - Bonds - Part 5						XXX	XXX	XXX	XXX
2509999999. Total - Bonds						3,184,997,793	3,220,858,800	8,642,308	XXX
09069Z-ZG-9	BITOWISH TECHNOLOGIES SERIES F PERP PFD	C.....	06/30/2023	EXCHANGE OFFER	 3,052,461.000	442,451	XXX	0	6. Z
4019999999. Subtotal - Preferred Stocks - Industrial and Miscellaneous (Unaffiliated) Perpetual Preferred						442,451	XXX	0	XXX
4509999997. Total - Preferred Stocks - Part 3						442,451	XXX	0	XXX
4509999998. Total - Preferred Stocks - Part 5						XXX	XXX	XXX	XXX
4509999999. Total - Preferred Stocks						442,451	XXX	0	XXX
03743Q-10-8	APA Corp-COMMON STOCK .....	.....	....04/03/2023	BLOOMBERG TRADEBOOK	 6,000,000	231,194	.....	0	.....
16411R-20-8	CHENIERE ENERGY INC-COMMON STOCK .....	.....	....05/03/2023	BLOOMBERG TRADEBOOK	 6,500,000	967,039	.....	0	.....
226344-20-8	Crestwood Equity Partner-COMMON STOCK LT .....	.....	....06/08/2023	BLOOMBERG TRADEBOOK	 9,424,000	240,733	.....	0	.....
29273V-10-0	ENERGY TRANSFER EQUITY L P LTD PARTNERSH .....	.....	....06/21/2023	VARI OUS	 103,006,000	1,318,048	.....	0	.....
293792-10-7	ENTERPRISE PRODS PARTNERS L P COMMON UNI .....	.....	....06/23/2023	VARI OUS	 55,149,000	1,437,959	.....	0	.....
30231G-10-2	Exxon Mobil Corp-COMMON STOCK .....	.....	....04/03/2023	BLOOMBERG TRADEBOOK	 2,000,000	231,735	.....	0	.....
371927-10-4	GENESIS ENERGY L P LTD PARTNERSHIP UNIT .....	.....	....06/08/2023	BLOOMBERG TRADEBOOK	 19,326,000	190,827	.....	0	.....
37946R-10-9	Global Partners LP/MA-COMMON STOCK LTD P .....	.....	....06/12/2023	BLOOMBERG TRADEBOOK	 3,772,000	115,177	.....	0	.....
55336V-10-0	MPLX LP COMMON UNIT .....	.....	....06/22/2023	BLOOMBERG TRADEBOOK	 14,032,000	469,872	.....	0	.....
62913M-10-7	NGL ENERGY PARTNERS LP-COMMON STOCK LTD .....	.....	....06/08/2023	BLOOMBERG TRADEBOOK	 5,232,000	18,132	.....	0	.....
67058H-10-2	MUSTAR ENERGY LP-COMMON STOCK LTD PART .....	.....	....06/27/2023	VARI OUS	 36,687,000	620,210	.....	0	.....
726503-10-5	PLAINS ALL AMERICAN PIPELINE L.P. LTD PA .....	.....	....06/21/2023	BLOOMBERG TRADEBOOK	 4,050,000	55,011	.....	0	.....
864482-10-4	SUBURBAN PROPANE PARTNER-COMMON STOCK .....	.....	....05/08/2023	BLOOMBERG TRADEBOOK	 3,088,000	46,815	.....	0	.....
87484T-10-8	Talos Energy Inc-COMMON STOCK .....	.....	....06/30/2023	VARI OUS	 933,878,000	(3,241,745)	.....	0	.....
29250N-10-5	ENBRIDGE INC-COMMON STOCK .....	.....	....05/15/2023	BLOOMBERG TRADEBOOK	 7,868,000	309,180	.....	0	.....
F9062M-10-1	Technicolor Creative Stu-COMMON STOCK	B.....	06/08/2023	BARINGSLLC	 3,228,626,000	348	.....	0	.....
F9062M-12-7	Technicolor Animation Pr-TECHNICOLOR ANI	B.....	06/08/2023	BARINGSLLC	 1,025,805,000	111	.....	0	.....
5019999999. Subtotal - Common Stocks - Industrial and Miscellaneous (Unaffiliated) Publicly Traded						3,010,646	XXX	0	XXX
78463V-10-7	SPDR Gold Shares-ETF .....	.....	....04/24/2023	BLOOMBERG TRADEBOOK	 1,300,000	239,092	.....	0	.....
5819999999. Subtotal - Common Stocks - Exchange Traded Funds						239,092	XXX	0	XXX
5989999997. Total - Common Stocks - Part 3						3,249,738	XXX	0	XXX
5989999998. Total - Common Stocks - Part 5						XXX	XXX	XXX	XXX
5989999999. Total - Common Stocks						3,249,738	XXX	0	XXX
5999999999. Total - Preferred and Common Stocks						3,692,189	XXX	0	XXX
6009999999 - Totals						3,188,689,982	XXX	8,642,308	XXX

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Identification	Description	For- eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid- eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor- tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn- ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con- tractual Maturity Date	NAIC Desig- nation, NAIC Desig- nation Modifier and SVO Admini- strative Symbol
..3133T2-JH-4	FHLMC-GNMA-FHG 24 SY .....	.....	06/25/2023	PAYDOWN .....	.....	.....0	0	22,271	0	0	0	0	0	0	0	0	0	0	15	11/25/2023	1.A
..36179X-NF-9	Ginnie Mae II Pool-POOL #MA8490 .....	.....	06/01/2023	PAYDOWN .....	.....	.....264,575	264,575	264,947	264,946	0	(372)	0	(372)	0	264,575	0	0	0	5,375	12/01/2052	1.A
..36179X-QW-9	Ginnie Mae II Pool-POOL #MA8569 .....	.....	06/01/2023	PAYDOWN .....	.....	.....212,547	212,547	214,074	0	0	(1,528)	0	(1,528)	0	212,547	0	0	0	3,439	01/01/2053	1.A
..38375B-4Z-2	Government National Mort-GNR 2013-H16 FI .....	.....	06/01/2023	PAYDOWN .....	.....	.....0	0	140,550	55,466	0	3,088	0	3,088	0	0	0	0	0	6,876	07/01/2063	1.A
..38375U-BQ-2	Government National Mort-GNR 2013-H24 BI .....	.....	06/01/2023	PAYDOWN .....	.....	.....0	0	136,059	88,957	0	(8,899)	0	(8,899)	0	0	0	0	0	23,798	09/01/2063	1.A
..38375U-CS-3	Government National Mort-GNR 2014-H02 AI .....	.....	06/01/2023	PAYDOWN .....	.....	.....0	0	157,506	64,498	0	2,150	0	2,150	0	0	0	0	0	7,544	12/01/2063	1.A
..38375U-DC-1	Government National Mort-GNR 2014-H01 AI .....	.....	06/01/2023	PAYDOWN .....	.....	.....0	0	198,064	109,447	0	(2,741)	0	(2,741)	0	0	0	0	0	10,866	01/01/2064	1.A
..38375U-EF-3	Government National Mort-GNR 2014-H03 IS .....	.....	05/01/2023	PAYDOWN .....	.....	.....0	0	82,607	56,283	0	(225)	0	(225)	0	0	0	0	0	2,461	02/01/2064	1.A
..38375U-MV-9	Government National Mort-GNR 2014-H16 BI .....	.....	05/01/2023	PAYDOWN .....	.....	.....0	0	36,564	19,018	0	44	0	44	0	0	0	0	0	1,149	07/01/2064	1.A
..38375U-NQ-9	Government National Mort-GNR 2014-H17 DI .....	.....	06/01/2023	PAYDOWN .....	.....	.....0	0	188,809	90,127	0	(1,689)	0	(1,689)	0	0	0	0	0	7,393	08/01/2064	1.A
..38375U-PT-1	Government National Mort-GNR 2014-H19 EI .....	.....	06/01/2023	PAYDOWN .....	.....	.....0	0	239,137	124,130	0	(980)	0	(980)	0	0	0	0	0	10,168	09/01/2064	1.A
..38375U-RD-4	Government National Mort-GNR 2014-H23 AI .....	.....	06/01/2023	PAYDOWN .....	.....	.....0	0	177,203	100,124	0	6,195	0	6,195	0	0	0	0	0	498	11/01/2064	1.A
..38375U-UY-4	Government National Mort-GNR 2015-H08 BI .....	.....	06/01/2023	PAYDOWN .....	.....	.....0	0	110,717	60,651	0	3,666	0	3,666	0	0	0	0	0	421	03/01/2065	1.A
..38382A-3P-8	Government National Mort-GNR 2019-140 SE .....	.....	06/20/2023	PAYDOWN .....	.....	.....0	0	40,995	59,100	0	(2,207)	0	(2,207)	0	0	0	0	0	1,518	11/20/2049	1.A
..38382C-K5-9	Government National Mort-GNR 2020-17 PS .....	.....	06/20/2023	PAYDOWN .....	.....	.....0	0	77,822	101,600	0	(4,147)	0	(4,147)	0	0	0	0	0	2,929	01/20/2050	1.A
..38382C-M3-2	Government National Mort-GNR 2020-17 QS .....	.....	06/20/2023	PAYDOWN .....	.....	.....0	0	45,760	56,435	0	(1,947)	0	(1,947)	0	0	0	0	0	1,596	01/20/2050	1.A
..38382C-YR-6	Government National Mort-GNR 2020-18 SW .....	.....	06/20/2023	PAYDOWN .....	.....	.....0	0	115,844	164,884	0	(6,543)	0	(6,543)	0	0	0	0	0	3,676	02/20/2050	1.A
..38382D-UT-4	Government National Mort-GNR 2020-31 ST .....	.....	06/20/2023	PAYDOWN .....	.....	.....0	0	50,490	68,278	0	(2,754)	0	(2,754)	0	0	0	0	0	1,585	03/20/2050	1.A
..38382D-VF-3	Government National Mort-GNR 2020-31 HS .....	.....	06/20/2023	PAYDOWN .....	.....	.....0	0	32,340	23,760	0	(3,967)	0	(3,967)	0	0	0	0	0	1,372	05/20/2046	1.A
..38382F-BU-7	Government National Mort-GNR 2020-77 SU .....	.....	06/20/2023	PAYDOWN .....	.....	.....0	0	53,501	48,551	0	(1,687)	0	(1,687)	0	0	0	0	0	1,418	09/20/2047	1.A
..38382F-BW-3	Government National Mort-GNR 2020-77 SQ .....	.....	06/20/2023	PAYDOWN .....	.....	.....0	0	44,847	78,891	0	(4,115)	0	(4,115)	0	0	0	0	0	1,599	08/20/2049	1.A
..38382F-NZ-3	Government National Mort-GNR 2020-62 JS .....	.....	06/20/2023	PAYDOWN .....	.....	.....0	0	81,922	74,971	0	(3,200)	0	(3,200)	0	0	0	0	0	1,977	05/20/2050	1.A
..38382G-BE-1	Government National Mort-GNR 2020-86 US .....	.....	06/20/2023	PAYDOWN .....	.....	.....0	0	64,053	117,434	0	(5,003)	0	(5,003)	0	0	0	0	0	2,411	01/20/2050	1.A
..38382G-BH-4	Government National Mort-GNR 2020-86 KS .....	.....	05/20/2023	PAYDOWN .....	.....	.....0	0	49,933	46,823	0	(1,694)	0	(1,694)	0	0	0	0	0	358	06/20/2050	1.A
..38382G-CT-7	Government National Mort-GNR 2020-86 SK .....	.....	06/20/2023	PAYDOWN .....	.....	.....0	0	149,570	154,801	0	(5,493)	0	(5,493)	0	0	0	0	0	3,523	06/20/2050	1.A
..38382H-YB-0	Government National Mort-GNR 2020-116 EI .....	.....	06/01/2023	PAYDOWN .....	.....	.....0	0	41,639	37,753	0	(1,791)	0	(1,791)	0	0	0	0	0	3,377	08/01/2050	1.A
..38382K-WV-1	Government National Mort-GNR 2020-146 LI .....	.....	06/01/2023	PAYDOWN .....	.....	.....0	0	114,582	104,377	0	(4,481)	0	(4,481)	0	0	0	0	0	8,529	10/01/2050	1.A
..38382L-JB-8	Government National Mort-GNR 2020-176 SQ .....	.....	06/20/2023	PAYDOWN .....	.....	.....0	0	34,239	31,690	0	(1,063)	0	(1,063)	0	0	0	0	0	855	11/20/2050	1.A
..38382L-R7-8	Government National Mort-GNR 2020-185 YI .....	.....	06/01/2023	PAYDOWN .....	.....	.....0	0	121,062	109,208	0	(5,017)	0	(5,017)	0	0	0	0	0	8,483	12/01/2050	1.A
..38382M-CJ-6	Government National Mort-GNR 2020-189 SN .....	.....	05/20/2023	PAYDOWN .....	.....	.....0	0	18,645	15,951	0	(594)	0	(594)	0	0	0	0	0	124	12/20/2050	1.A
..38382M-E8-8	Government National Mort-GNR 2021-9 DI .....	.....	06/01/2023	PAYDOWN .....	.....	.....0	0	62,060	54,886	0	(2,448)	0	(2,448)	0	0	0	0	0	4,429	01/01/2051	1.A
..38382M-Z6-9	Government National Mort-GNR 2021-15 SQ .....	.....	05/20/2023	PAYDOWN .....	.....	.....0	0	49,705	42,654	0	(1,530)	0	(1,530)	0	0	0	0	0	325	10/20/2050	1.A
..91282C-GZ-8	United States Treasury N-UNSECURED .....	.....	06/23/2023	VARIOUS .....	.....	.....79,395,976	81,005,000	79,233,020	0	0	14,809	0	14,809	0	79,247,829	0	148,147	148,147	400,625	04/30/2030	1.A
..91282C-HB-0	United States Treasury N-UNSECURED .....	.....	06/23/2023	VARIOUS .....	.....	.....62,704,808	63,875,000	62,888,133	0	0	21,009	0	21,009	0	62,909,142	(204,334)	(204,334)	232,768	232,768	05/15/2026	1.A
..91282C-HC-8	United States Treasury N-UNSECURED .....	.....	06/23/2023	VARIOUS .....	.....	.....19,653,017	20,210,000	19,491,178	0	0	3,885	0	3,885	0	19,495,063	0	157,954	157,954	68,566	05/15/2033	1.A
..91282C-HD-6	United States Treasury N-UNSECURED .....	.....	06/23/2023	VARIOUS .....	.....	.....22,397,762	22,575,000	22,468,312	0	0	2,473	0	2,473	0	22,470,785	(73,023)	(73,023)	55,035	55,035	05/31/2025	1.A
..91282C-HE-4	United States Treasury N-UNSECURED .....	.....	06/23/2023	VARIOUS .....	.....	.....97,234,249	97,405,600	97,584,000	0	0	10,742	0	10,742	0	97,416,341	0	(182,092)	(182,092)	205,039	05/31/2028	1.A
..91282J-WJ-5	United States Treasury Note/Bond .....	.....	05/25/2023	Treasurys .....	.....	.....8,929,827	0	0	0	0	0	0	0	0	8,929,827	0	0	0	0	0	1.A
0109999999 Subtotal - Bonds - U.S. Governments						290,792,761	286,726,122	284,703,760	2,425,694	0	(8,054)	0	(8,054)	0	290,946,109	0	(153,348)	(153,348)	1,092,120	XXX	XXX
..68583R-BR-2	Oregon Community College-GENERAL OBLIGAT .....	.....	06/30/2023	MATURITY .....	.....	.....2,643,023	2,643,023	3,170,095	2,671,452	0	(28,429)	0	(28,429)	0	2,643,023	0	0	0	71,890	06/30/2023	1.C FE
..686053-GG-8	Oregon School Boards Ass-GENERAL OBLIGAT .....	.....	06/30/2023	SINKING PAYMENT .....	.....	.....1,401,848	1,401,848	1,551,061	1,471,554	0	(69,706)	0	(69,706)	0	1,401,848	0	0	0	33,357	06/30/2028	1.C FE
0509999999 Subtotal - Bonds - U.S. States, Territories and Possessions						4,044,871	4,044,871	4,721,156	4,143,006	0	(98,135)	0	(98,135)	0	4,044,871	0	0	0	105,247	XXX	XXX
..057507-HJ-2	Bakersfield City School -GENERAL OBLIGAT .....	.....	05/01/2023	CALL 100 .....	.....	.....220,000	220,000	220,000	220,000	0	0	0	0	0	220,000	0	0	0	4,829	05/01/2026	1.E FE
..442331-QM-9	HOUSTON TX-GENERAL OBLIGATION LTD .....	.....	06/30/2023	CALL 100 .....	.....	.....1,035,000	1,035,000	1,285,460	1,193,226	0	(2,290)	0	(2,290)	0	1,190,936	0	(155,936)	(155,936)	32,551	03/01/2032	1.D FE
..806347-LX-6	Village of Schaumburg IL-GENERAL OBLIGAT .....	.....	06/01/2023	CALL 100 .....	.....	.....6,585,000	6,585,000	6,417,346	6,492,795	0	4,314	0	4,314	0	6,497,109	0	87,891	87,891	131,700	12/01/2030	1.B FE
0709999999 Subtotal - Bonds - U.S. Political Subdivisions of States, Territories and Possessions						7,840,000	7,840,000	7,922,806	7,906,021	0	2,024	0	2,024	0	7,908,045	0	(68,045)	(68,045)	169,080	XXX	XXX

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Ident-ification	Description	For-eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid-eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor-tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn-ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con-tractual Maturity Date	NAIC Design-ation, NAIC Design-ation Modifier and SVO Admini-strative Symbol
..041083-VB-9	Arkansas Development Fin-REVENUE BONDS		06/01/2023	CALL 100		109,091	109,091	109,091	109,091	0	0	0	0	0	109,091	0	0	0	1,694	07/01/2043	1.B FE
..126775-TJ-4	County of Cabarrus NC-REVENUE BONDS		04/01/2023	MATURITY		2,000,000	2,000,000	2,000,000	2,000,000	0	0	0	0	0	2,000,000	0	0	0	51,000	04/01/2023	1.C FE
..130795-Z6-7	California Statewide Com-REVENUE BONDS		05/15/2023	CALL 100		290,000	290,000	401,288	379,596	0	(1,212)	0	(1,212)	0	378,384	0	(88,384)	(88,384)	10,948	05/15/2040	1.C FE
..196479-V4-8	Colorado Housing and Fin-REVENUE BONDS		05/01/2023	CALL 100		302,171	302,171	311,040	307,378	0	(263)	0	(263)	0	307,115	0	(4,944)	(4,944)	5,631	11/01/2048	1.A FE
..196480-EX-1	Colorado Housing and Fin-REVENUE BONDS		05/01/2023	CALL 100		65,536	65,536	65,536	65,536	0	0	0	0	0	65,536	0	0	0	1,021	01/01/2050	1.A FE
..20281P-BQ-4	Commonwealth Financing A-REVENUE BONDS		06/01/2023	CALL 100		560,000	560,000	652,775	594,219	0	(2,945)	0	(2,945)	0	591,274	0	(31,274)	(31,274)	16,072	06/01/2027	1.E FE
..25477P-NF-8	District of Columbia Hou-REVENUE BONDS		05/15/2023	CALL 100		56,238	56,238	56,238	56,238	0	0	0	0	0	56,238	0	0	0	1,296	06/15/2045	1.B FE
..29270C-L4-5	Energy Northwest-REVENUE BONDS		05/31/2023	CALL 101.760002		7,906,752	7,770,000	7,770,000	7,769,787	0	(194)	0	(194)	0	7,769,593	0	137,159	137,159	273,718	07/01/2038	1.C FE
..296122-UT-9	Escambia County Housing -REVENUE BONDS		05/15/2023	CALL 100		35,026	35,026	35,026	35,026	0	0	0	0	0	35,026	0	0	0	567	11/01/2038	1.A FE
..312915-QG-9	Freddie Mac REMICS-FHR 1491 I		04/01/2023	MATURITY		20	20	21	20	0	0	0	0	0	20	0	0	0	0	04/01/2023	1.A
..312931-A6-5	Freddie Mac Gold Pool-FG AB4529		06/01/2023	PAYDOWN		909	909	921	915	0	(6)	0	(6)	0	909	0	0	0	14	02/01/2039	1.A
..313398-P7-8	Freddie Mac REMICS-FHR 2334 TD		06/01/2023	PAYDOWN		1,474	1,474	1,542	1,487	0	(13)	0	(13)	0	1,474	0	0	0	40	07/01/2031	1.A
..313399-B9-7	Freddie Mac REMICS-FHR 2344 SN		06/15/2023	PAYDOWN		0	0	10,864	0	0	0	0	0	0	0	0	0	0	3	08/15/2031	1.A
..31339G-HQ-7	Freddie Mac REMICS-FHR 2367 SA		06/15/2023	PAYDOWN		0	0	35,796	0	0	0	0	0	0	0	0	0	0	22	06/15/2031	1.A
..3133JL-UE-7	Freddie Mac Pool-FREDDIE MAC POOL-FR QJ7		06/01/2023	PAYDOWN		620,462	620,462	625,309	624,749	0	(4,287)	0	(4,287)	0	620,462	0	0	0	4,473	03/01/2051	1.A
..3133KP-Q2-7	Freddie Mac Pool-FR RA7673		06/01/2023	PAYDOWN		240,900	240,900	236,345	236,358	0	4,543	0	4,543	0	240,900	0	0	0	4,506	07/01/2052	1.A
..3133KQ-VY-9	Freddie Mac Pool-FR RA8731		06/01/2023	PAYDOWN		81,438	81,438	79,618	0	0	1,820	0	1,820	0	81,438	0	0	0	339	04/01/2053	1.A
..3133N3-U9-3	Freddie Mac Pool-FREDDIE MAC POOL-FR RE6		06/01/2023	PAYDOWN		182,988	182,988	186,035	185,692	0	(2,704)	0	(2,704)	0	182,988	0	0	0	2,405	11/01/2049	1.A
..3133N3-VG-6	Freddie Mac Pool-FREDDIE MAC POOL-FR RE6		06/01/2023	PAYDOWN		70,138	70,138	71,157	71,135	0	(997)	0	(997)	0	70,138	0	0	0	860	09/01/2049	1.A
..3133N3-X3-3	Freddie Mac Pool-FREDDIE MAC POOL-FR RE6		06/01/2023	PAYDOWN		261,624	261,624	267,919	267,896	0	(6,273)	0	(6,273)	0	261,624	0	0	0	2,747	05/01/2051	1.A
..3133T3-BU-1	Freddie Mac REMICS-FHR 1644 K		06/01/2023	PAYDOWN		738	738	807	740	0	(11)	0	(11)	0	738	0	0	0	20	12/01/2023	1.A
..3133TB-4G-2	Freddie Mac REMICS-FHR 1991 PG		06/01/2023	PAYDOWN		2,767	2,767	2,870	2,778	0	(10)	0	(10)	0	2,767	0	0	0	69	09/01/2027	1.A
..3133TC-HE-1	Freddie Mac REMICS-FHR 2018 PG		06/01/2023	PAYDOWN		1,408	1,408	1,486	1,425	0	(17)	0	(17)	0	1,408	0	0	0	35	01/01/2028	1.A
..3133TD-3A-2	Freddie Mac REMICS-FHR 2037 HB		06/01/2023	PAYDOWN		2,392	2,392	2,616	2,446	0	(53)	0	(53)	0	2,392	0	0	0	91	03/01/2028	1.A
..3133TH-S8-1	Freddie Mac REMICS-FHR 2118 PE		06/01/2023	PAYDOWN		4,824	4,824	5,064	4,884	0	(60)	0	(60)	0	4,824	0	0	0	131	01/01/2029	1.A
..3133TK-EB-2	Freddie Mac REMICS-FHR 2145 S		06/15/2023	PAYDOWN		0	0	46,046	0	0	0	0	0	0	0	0	0	0	37	04/15/2029	1.A
..3133TR-YA-7	Freddie Mac REMICS-FHR 2292 SI		06/15/2023	PAYDOWN		0	0	21,256	0	0	0	0	0	0	0	0	0	0	7	11/15/2030	1.A
..3133TS-F2-4	Freddie Mac REMICS-FHR 2303 OK		06/01/2023	PAYDOWN		2,102	2,102	2,171	2,124	0	(22)	0	(22)	0	2,102	0	0	0	53	04/01/2031	1.A
..3133TU-HJ-0	Freddie Mac REMICS-FHR 2322 SC		06/15/2023	PAYDOWN		0	0	21,796	0	0	0	0	0	0	0	0	0	0	45	05/15/2031	1.A
..3133TU-S7-4	Freddie Mac REMICS-FHR 2357 QH		06/01/2023	PAYDOWN		899	899	943	917	0	(17)	0	(17)	0	899	0	0	0	25	09/01/2031	1.A
..31359D-H5-5	Fannie Mae REMICS-FNR 1993-155 PJ		06/01/2023	PAYDOWN		3,330	3,330	3,686	3,334	0	(4)	0	(4)	0	3,330	0	0	0	95	09/01/2023	1.A
..31359H-NM-0	Fannie Mae REMICS-FNR 1994-63 PK		06/01/2023	PAYDOWN		1,271	1,271	1,404	1,274	0	(4)	0	(4)	0	1,271	0	0	0	36	04/01/2024	1.A
..31359H-QP-2	Fannie Mae REMICS-FNR 1994-76 KA		06/01/2023	PAYDOWN		70	70	70	68	0	1	0	1	0	70	0	0	0	2	04/01/2024	1.A
..31359N-ZW-0	Fannie Mae REMICS-FNR 1997-19 PG		06/01/2023	PAYDOWN		2,294	2,294	2,471	2,304	0	(10)	0	(10)	0	2,294	0	0	0	67	04/01/2027	1.A
..31359V-GF-4	Fannie Mae REMICS-FNR 1999-1 PJ		06/01/2023	PAYDOWN		8,526	8,526	9,067	8,661	0	(135)	0	(135)	0	8,526	0	0	0	236	02/01/2029	1.A
..3136AC-FK-2	Fannie Mae REMIC-FNR 2013-4 GI		06/01/2023	PAYDOWN		0	0	21,734	5,234	0	(634)	0	(634)	0	0	0	0	0	810	02/01/2043	1.A
..31371K-LU-3	Fannie Mae Pool-POOL #254239		06/01/2023	PAYDOWN		135	135	156	146	0	(11)	0	(11)	0	135	0	0	0	4	03/01/2032	1.A
..3137FW-WC-0	Freddie Mac REMICS-FHR 5020 AI		06/01/2023	PAYDOWN		0	0	23,144	20,558	0	(693)	0	(693)	0	0	0	0	0	2,282	09/01/2050	1.A
..3138BT-QZ-9	Fannie Mae Pool-POOL #614372		06/01/2023	PAYDOWN		427	427	488	456	0	(30)	0	(30)	0	427	0	0	0	12	01/01/2032	1.A
..313921-JK-5	Fannie Mae REMICS-FNR 2001-57 PD		06/01/2023	PAYDOWN		2,291	2,291	2,416	2,336	0	(44)	0	(44)	0	2,291	0	0	0	63	10/01/2031	1.A
..31392B-SC-1	Fannie Mae REMICS-FNR 2002-6 L		06/01/2023	PAYDOWN		1,344	1,344	1,397	1,362	0	(18)	0	(18)	0	1,344	0	0	0	34	02/01/2032	1.A
..31392C-EM-2	Fannie Mae REMIC Trust 2-FWJ 2002-W2 AFS		06/01/2023	PAYDOWN		2,261	2,261	2,172	2,172	0	89	0	89	0	2,261	0	0	0	43	06/01/2032	1.A
..31392E-PC-8	Fannie Mae REMICS-FNR 2002-58 PG		06/01/2023	PAYDOWN		21,302	21,302	22,452	21,703	0	(400)	0	(400)	0	21,302	0	0	0	486	09/01/2032	1.A
..31392H-FC-2	Fannie Mae REMICS-FNR 2002-97 SR		06/25/2023	PAYDOWN		0	0	41,354	0	0	0	0	0	0	0	0	0	0	42	01/25/2033	1.A
..31392K-SC-6	Freddie Mac REMICS-FHR 2455 GK		06/01/2023	PAYDOWN		20,439	20,439	21,735	20,927	0	(488)	0	(488)	0	20,439	0	0	0	520	05/01/2032	1.A
..31392M-SR-9	Freddie Mac REMICS-FHR 2448 TX		06/01/2023	PAYDOWN		8,882	8,882	9,330	9,042	0	(160)	0	(160)	0	8,882	0	0	0	222	05/01/2032	1.A

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Ident-ification	Description	For- eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid- eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor- tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn- ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con- tractual Maturity Date	NAIC Desig- nation, NAIC Desig- nation Modifier and SVO Admini- strative Symbol
..31393Y-ED-3	Fannie Mae REMICS-FNR 2004-28 SB		06/25/2023	PAYDOWN		0		17,534	3,198	0	(278)	0	(278)	0	0	0	0	0	311	05/25/2034	1.A
..31394D-JU-5	Fannie Mae REMIC Trust 2-FNW 2005-W2 A6		06/25/2023	PAYDOWN		0		17,604	0	0	0	0	0	0	0	0	0	77	05/25/2035	1.A	
..31396W-BR-6	Fannie Mae REMICS-FNR 2007-56 SN		06/25/2023	PAYDOWN		0		14,633	0	0	0	0	0	0	0	0	0	26	06/25/2037	1.A	
..31397W-F3-4	Freddie Mac REMICS-FHR 3457 ES		06/15/2023	PAYDOWN		0		3,045	0	0	0	0	0	0	0	0	0	3	06/15/2038	1.A	
..31398M-EL-6	Fannie Mae REMICS-FNR 2010-14 SJ		06/25/2023	PAYDOWN		0		86,293	2,685	0	(486)	0	(486)	0	0	0	0	323	03/25/2040	1.A	
..3140HN-LY-6	Fannie Mae Pool-POOL #BK8442		06/01/2023	PAYDOWN		354,793	354,793	355,680	355,608	0	(815)	0	(815)	0	354,793	0	0	3,293	01/01/2051	1.A	
..3140JS-EP-0	Fannie Mae Pool-POOL #BN9141		06/01/2023	PAYDOWN		434,244	434,244	432,751	432,797	0	1,446	0	1,446	0	434,244	0	0	3,599	04/01/2051	1.A	
..3140JX-EE-4	Fannie Mae Pool-POOL #B02832		06/01/2023	PAYDOWN		5,390	5,390	5,505	5,478	0	(88)	0	(88)	0	5,390	0	0	81	09/01/2049	1.A	
..3140K0-EL-8	Fannie Mae Pool-POOL #B04638		06/01/2023	PAYDOWN		14,339	14,339	14,364	14,353	0	(14)	0	(14)	0	14,339	0	0	478	11/01/2049	1.A	
..3140K2-LK-8	Fannie Mae Pool-POOL #B06629		06/01/2023	PAYDOWN		544,900	544,900	547,539	547,291	0	(2,392)	0	(2,392)	0	544,900	0	0	4,526	04/01/2051	1.A	
..3140K2-PV-0	Fannie Mae Pool-POOL #B06735		06/01/2023	PAYDOWN		655,397	655,397	656,882	656,714	0	(1,317)	0	(1,317)	0	655,397	0	0	5,198	05/01/2051	1.A	
..3140OB-NS-3	Fannie Mae Pool-POOL #CA4011		06/01/2023	PAYDOWN		7,105	7,105	7,217	7,210	0	(104)	0	(104)	0	7,105	0	0	124	08/01/2049	1.A	
..3140OC-DT-0	Fannie Mae Pool-POOL #CA4613		06/01/2023	PAYDOWN		86,992	86,992	88,369	88,241	0	(1,250)	0	(1,250)	0	86,992	0	0	1,520	11/01/2049	1.A	
..3140OC-PN-0	Fannie Mae Pool-POOL #CA4928		06/01/2023	PAYDOWN		89,529	89,529	91,487	91,431	0	(1,903)	0	(1,903)	0	89,529	0	0	1,446	01/01/2050	1.A	
..3140OH-NJ-0	Fannie Mae Pool-POOL #CA9392		06/01/2023	PAYDOWN		1,009,611	1,009,611	1,019,391	1,018,383	0	(8,773)	0	(8,773)	0	1,009,611	0	0	8,828	03/01/2051	1.A	
..3140QM-4N-1	Fannie Mae Pool-POOL #CB2628		06/01/2023	PAYDOWN		35,537	35,537	30,096	0	0	5,442	0	5,442	0	35,537	0	0	74	01/01/2052	1.A	
..3140OR-EJ-8	Fannie Mae Pool-POOL #CB5536		06/01/2023	PAYDOWN		382,559	382,559	386,922	0	0	(4,364)	0	(4,364)	0	382,559	0	0	6,519	01/01/2053	1.A	
..31416K-WP-9	Fannie Mae Pool-POOL #AA2453		06/01/2023	PAYDOWN		119	119	121	120	0	(1)	0	(1)	0	119	0	0	2	02/01/2039	1.A	
..31418D-JW-3	Fannie Mae Pool-POOL #MA3876		06/01/2023	PAYDOWN		37,351	37,351	37,445	37,415	0	(63)	0	(63)	0	37,351	0	0	549	12/01/2049	1.A	
..31418D-YS-5	Fannie Mae Pool-POOL #MA4320		06/01/2023	PAYDOWN		279,644	279,644	285,062	284,782	0	(5,138)	0	(5,138)	0	279,644	0	0	2,887	04/01/2051	1.A	
..34074M-ND-9	Florida Housing Finance -REVENUE BONDS		05/01/2023	CALL 100		143,762	143,762	143,762	143,762	0	0	0	0	0	143,762	0	0	2,388	07/01/2037	1.A FE	
..34074M-PF-2	Florida Housing Finance -REVENUE BONDS		05/01/2023	CALL 100		68,980	68,980	68,980	68,980	0	0	0	0	0	68,982	0	(2)	(2)	858	01/01/2043	1.A FE
..45201Y-YL-5	ILLINOIS ST HSG DEV AUTH REV PROG SER B		05/01/2023	CALL 100		108,401	108,401	105,039	105,673	0	20	0	20	0	105,693	0	2,708	2,708	1,340	06/01/2043	1.A FE
..45203L-CT-8	Illinois Housing Develop-REVENUE BONDS		05/26/2023	CALL 100		66,387	66,387	66,387	66,330	0	1	0	1	0	66,332	0	55	55	1,382	09/01/2034	1.A FE
..491189-FX-9	Kentucky Asset Liability-REVENUE BONDS		04/01/2023	MATURITY		3,565,000	3,565,000	3,565,000	3,565,000	0	0	0	0	0	3,565,000	0	0	0	53,439	04/01/2023	1.E FE
..52518R-BE-5	Lehman Structured Securi-LSSC 2002-GE1 A		06/01/2023	PAYDOWN		575	575	549	88	109	377	0	486	0	575	0	0	0	0	07/01/2024	6. *
..575832-R2-8	Massachusetts State Coll-REVENUE BONDS		05/01/2023	CALL 100		490,000	490,000	490,000	490,000	0	0	0	0	0	490,000	0	0	0	14,181	05/01/2025	1.C FE
..57586N-MT-5	Massachusetts Housing Fi-REVENUE BONDS		06/01/2023	MATURITY		35,000	35,000	35,000	35,000	0	0	0	0	0	35,000	0	0	0	635	06/01/2023	1.C FE
..59334H-FU-4	Miami-Dade County Housin-REVENUE BONDS		05/01/2023	CALL 100		26,144	26,144	26,144	26,144	0	0	0	0	0	26,144	0	0	0	272	11/01/2038	1.A FE
..60416Q-FW-9	Minnesota Housing Financ-REVENUE BONDS		05/01/2023	CALL 100		30,774	30,774	30,005	30,155	0	6	0	6	0	30,160	0	614	614	396	09/01/2041	1.A FE
..60416Q-GK-4	Minnesota Housing Financ-REVENUE BONDS		05/01/2023	CALL 100		13,169	13,169	13,169	13,169	0	0	0	0	0	13,169	0	0	0	180	08/01/2046	1.A FE
..60416Q-GM-0	Minnesota Housing Financ-REVENUE BONDS		05/01/2023	CALL 100		4,632	4,632	4,039	4,086	0	4	0	4	0	4,089	0	543	543	38	10/01/2046	1.A FE
..60416Q-HA-5	Minnesota Housing Financ-REVENUE BONDS		05/01/2023	CALL 100		98,970	98,970	98,970	98,970	0	0	0	0	0	98,970	0	0	0	1,759	03/01/2048	1.A FE
..60416Q-HE-7	Minnesota Housing Financ-REVENUE BONDS		05/01/2023	CALL 100		73,828	73,828	73,828	73,828	0	0	0	0	0	73,828	0	0	0	1,242	09/01/2048	1.A FE
..60416Q-HG-2	Minnesota Housing Financ-REVENUE BONDS		05/01/2023	CALL 100		35,029	35,029	35,029	35,029	0	0	0	0	0	35,029	0	0	0	703	11/01/2048	1.A FE
..60416Q-HJ-6	Minnesota Housing Financ-REVENUE BONDS		05/01/2023	CALL 100		11,519	11,519	11,519	11,519	0	0	0	0	0	11,519	0	0	0	207	01/01/2049	1.A FE
..60416Q-HL-1	Minnesota Housing Financ-REVENUE BONDS		05/01/2023	CALL 100		36,642	36,642	36,642	36,642	0	0	0	0	0	36,642	0	0	0	633	03/01/2049	1.A FE
..60416Q-HN-7	Minnesota Housing Financ-REVENUE BONDS		05/01/2023	CALL 100		1,333	1,333	1,333	1,333	0	0	0	0	0	1,333	0	0	0	16	06/01/2049	1.A FE
..60416Q-HS-6	Minnesota Housing Financ-REVENUE BONDS		05/01/2023	CALL 100		37,962	37,962	37,962	37,962	0	0	0	0	0	37,962	0	0	0	588	12/01/2049	1.A FE
..60636Y-BM-6	Missouri Housing Develop-REVENUE BONDS		06/30/2023	CALL 100		(50,000)	(50,000)	(50,000)	(50,000)	0	0	0	0	0	(50,000)	0	0	0	(482)	07/01/2033	1.B FE
..60636Y-MJ-7	Missouri Housing Develop-REVENUE BONDS		05/01/2023	CALL 100		175,764	175,764	175,764	175,764	0	0	0	0	0	175,764	0	0	0	3,310	01/01/2040	1.B FE
..60637B-FA-3	MISSOURI ST HSG DEV COMM-TAXABLE-REF-SPL		05/01/2023	CALL 100		12,132	12,132	12,132	12,132	0	0	0	0	0	12,132	0	0	0	189	08/01/2036	1.B FE
..60637B-ML-1	Missouri Housing Develop-REVENUE BONDS		05/01/2023	CALL 100		111,988	111,988	108,348	109,036	0	26	0	26	0	109,062	0	2,926	2,926	1,343	06/01/2044	1.B FE
..613549-KM-5	County of Montgomery OH-REVENUE BONDS		05/01/2023	CALL 100		120,000	120,000	122,911	120,429	0	(157)	0	(157)	0	120,271	0	(271)	(271)	3,150	05/01/2029	1.A
..646108-MM-9	New Jersey Housing & Mor-REVENUE BONDS		06/16/2023	CALL 100		740,000	740,000	740,000	740,000	0	0	0	0	0	740,000	0	0	0	16,687	11/01/2024	1.C FE
..646108-MN-7	New Jersey Housing & Mor-REVENUE BONDS		06/16/2023	CALL 100		1,185,000	1,185,000	1,185,000	1,185,000	0	0	0	0	0	1,185,000	0	0	0	31,166	11/01/2028	1.C FE

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Identification	Description	For-eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid-eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor-tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn-ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con-tractual Maturity Date	NAIC Desig-nation, NAIC Desig-nation Modifier and SVO Admini-strative Symbol
..647200-2G-8	New Mexico Mortgage Fina-REVENUE BONDS .....	.....	05/01/2023	CALL 100 .....	.....	47,148	47,148	47,148	47,148	0	0	0	0	0	47,148	0	0	0	649	08/01/2035	1.B FE
..647200-4S-0	New Mexico Mortgage Fina-REVENUE BONDS .....	.....	05/01/2023	CALL 100 .....	.....	55,000	55,000	55,000	55,000	0	0	0	0	0	55,000	0	0	0	726	09/01/2040	1.B FE
..64972C-BD-4	New York City Housing De-REVENUE BONDS .....	.....	05/15/2023	CALL 100 .....	.....	10,429	10,429	10,429	10,429	0	0	0	0	0	10,429	0	0	0	186	06/15/2036	1.C FE
..64972C-M6-7	New York City Housing De-REVENUE BONDS .....	.....	05/01/2023	CALL 100 .....	.....	60,142	60,142	60,213	60,213	0	(1)	0	(1)	0	60,212	0	(70)	(70)	932	10/01/2046	1.B FE
..67178K-AA-8	Oak Ridge Industrial Dev-REVENUE BONDS .....	.....	06/15/2023	SINKING PAYMENT .....	.....	43,055	43,055	40,394	41,405	0	1,650	0	1,650	0	43,055	0	0	0	0	12/15/2032	1.D FE
..677377-2P-7	Ohio Housing Finance Age-REVENUE BONDS .....	.....	05/01/2023	CALL 100 .....	.....	200,000	200,000	200,000	200,000	0	0	0	0	0	200,000	0	0	0	2,637	11/01/2041	1.A FE
..708797-AN-5	Pennsylvania Housing Fin-REVENUE BONDS .....	.....	05/26/2023	CALL 100 .....	.....	29,406	29,406	29,406	29,390	0	0	0	0	0	29,390	0	16	16	689	08/01/2035	1.A FE
..783186-NJ-4	Rutgers The State Univer-REVENUE BONDS .....	.....	05/01/2023	SINKING PAYMENT .....	.....	343,031	343,031	413,898	375,350	0	(32,319)	0	(32,319)	0	343,031	0	0	0	9,213	05/01/2029	1.E FE
..882135-7J-9	Texas A&M University-REVENUE BONDS .....	.....	05/15/2023	CALL 100 .....	.....	4,000,000	4,000,000	4,000,000	4,000,000	0	0	0	0	0	4,000,000	0	0	0	95,440	05/15/2033	1.A FE
..88275F-NU-9	Texas Department of Hous-REVENUE BONDS .....	.....	05/01/2023	CALL 100 .....	.....	25,000	25,000	25,000	25,016	0	(2)	0	(2)	0	25,015	0	(15)	(15)	440	09/01/2039	1.B FE
..88275F-PA-1	Texas Department of Hous-REVENUE BONDS .....	.....	05/01/2023	CALL 100 .....	.....	23,154	23,154	21,837	21,984	0	8	0	8	0	21,992	0	1,162	1,162	472	09/01/2047	1.B FE
..913366-DG-2	Regents of the Universit-REVENUE BONDS .....	.....	05/15/2023	CALL 100 .....	.....	300,000	300,000	372,885	334,109	0	(1,724)	0	(1,724)	0	332,385	0	(32,385)	(32,385)	9,687	05/15/2029	1.D FE
..91412G-GX-7	University of California-REVENUE BONDS .....	.....	05/01/2023	CALL 100 .....	.....	85,000	85,000	89,604	87,487	0	(80)	0	(80)	0	87,407	0	(2,407)	(2,407)	1,706	05/15/2031	1.C FE
..914353-ZK-6	University of Illinois-REVENUE BONDS .....	.....	04/11/2023	CALL 100 .....	.....	5,970,000	5,970,000	5,309,002	5,614,381	0	(22,994)	0	(22,994)	0	5,591,387	0	378,613	378,613	126,033	04/01/2030	1.D FE
..914353-ZM-2	University of Illinois-REVENUE BONDS .....	.....	04/11/2023	CALL 100 .....	.....	8,650,000	8,650,000	7,464,807	7,922,192	0	(48,567)	0	(48,567)	0	7,873,625	0	776,375	776,375	182,611	04/01/2032	1.D FE
..91743P-DD-4	Utah Housing Corp-REVENUE BONDS .....	.....	05/23/2023	CALL 100 .....	.....	114,318	114,318	119,337	119,043	0	(24)	0	(24)	0	119,019	0	0	(4,701)	1,846	02/21/2050	1.B FE
..91743P-DE-2	Utah Housing Corp-REVENUE BONDS .....	.....	05/23/2023	CALL 100 .....	.....	26,127	26,127	27,094	27,041	0	(4)	0	(4)	0	27,037	0	(910)	(910)	242	03/21/2050	1.B FE
..92812U-Q3-5	Virginia Housing Develop-REVENUE BONDS .....	.....	05/25/2023	CALL 100 .....	.....	91,602	91,602	91,602	91,542	0	0	0	0	0	91,542	0	60	60	2,336	12/25/2043	1.A FE
..92812U-Q4-3	Virginia Housing Develop-REVENUE BONDS .....	.....	05/25/2023	CALL 100 .....	.....	138,159	138,159	138,159	138,159	0	0	0	0	0	138,159	0	0	0	2,761	10/25/2037	1.A FE
..92812U-Q6-8	Virginia Housing Develop-REVENUE BONDS .....	.....	05/25/2023	CALL 100 .....	.....	50,139	50,139	50,139	50,129	0	0	0	0	0	50,129	0	10	10	1,014	06/25/2041	1.A FE
..92812U-Q7-6	Virginia Housing Develop-REVENUE BONDS .....	.....	05/25/2023	CALL 100 .....	.....	112,464	112,464	112,464	112,464	0	0	0	0	0	112,464	0	0	0	1,500	10/25/2049	1.A FE
..92812U-Q8-4	Virginia Housing Develop-REVENUE BONDS .....	.....	05/25/2023	CALL 100 .....	.....	196,732	196,732	196,732	196,732	0	0	0	0	0	196,732	0	0	0	3,209	12/25/2049	1.A FE
..92812U-XA-1	Virginia Housing Develop-REVENUE BONDS .....	.....	05/25/2023	CALL 100 .....	.....	762,320	762,320	821,400	802,175	0	(16,833)	0	(16,833)	0	785,342	0	(23,022)	(23,022)	26,380	03/25/2038	1.A FE
..92812U-XB-9	Virginia Housing Develop-REVENUE BONDS .....	.....	05/25/2023	CALL 100 .....	.....	19,943	19,943	21,489	20,983	0	(14)	0	(14)	0	20,970	0	(1,027)	(1,027)	753	03/25/2038	1.A FE
..92813T-EE-6	Virginia Housing Develop-REVENUE BONDS .....	.....	05/25/2023	CALL 100 .....	.....	150,367	150,367	150,367	150,294	0	1	0	1	0	150,295	0	72	72	2,812	08/25/2042	1.B FE
..93978X-EQ-9	Washington State Housing-REVENUE BONDS .....	.....	05/01/2023	CALL 100 .....	.....	125,000	125,000	125,000	124,834	0	(119)	0	(119)	0	124,715	0	285	285	2,031	09/01/2040	1.A FE
..93978X-ER-7	Washington State Housing-REVENUE BONDS .....	.....	05/01/2023	CALL 100 .....	.....	135,000	135,000	134,393	135,000	0	0	0	0	0	135,000	0	0	0	2,288	05/01/2041	1.A FE
..97689Q-EL-6	Wisconsin Housing & Econ-REVENUE BONDS .....	.....	06/30/2023	CALL 100 .....	.....	225,000	225,000	222,751	222,923	0	23	0	23	0	222,946	0	2,054	2,054	3,938	09/01/2046	1.C FE
0909999999. Subtotal - Bonds - U.S. Special Revenues						45,941,506	45,804,754	44,770,583	44,517,176	109	(156,072)	0	(155,963)	0	44,828,266	0	1,113,240	1,113,240	1,040,838	XXX	XXX
..000366-AA-2	AASET 2017-1 TRUST-SERIES 17-1A CLASS A .....	.....	06/16/2023	PAYDOWN .....	.....	224,040	224,040	224,039	224,040	0	0	0	0	0	224,040	0	0	0	3,549	05/16/2042	2.B FE
..00038R-AA-4	Aaset 2019-2 Trust-AASET 2019-2 A .....	.....	06/16/2023	PAYDOWN .....	.....	548,119	548,119	548,116	548,166	0	(47)	0	(47)	0	548,119	0	0	0	8,589	10/16/2039	2.C FE
..00077B-4W-0	ABN Amro Mortgage Corp-AMAC 2002-9 A30 .....	.....	06/01/2023	PAYDOWN .....	.....	182	182	184	178	0	4	0	4	0	182	0	0	0	4	12/01/2032	1.A FM
..000780-NL-6	ABN Amro Mortgage Corp-AMAC 2003-12 2A .....	.....	06/01/2023	PAYDOWN .....	.....	89	89	90	88	1	0	0	1	0	89	0	0	0	2	12/01/2033	1.A FM
..00184E-AA-4	Amazon (Euclid Oh) Trust Certificate .....	.....	06/30/2023	SINKING PAYMENT .....	.....	32,387	32,387	32,387	32,371	0	16	0	16	0	32,387	0	0	0	884	06/30/2039	1.E
..00191F-AA-3	Amazon (Tucson Az) Trust Certificate .....	.....	06/30/2023	SINKING PAYMENT .....	.....	35,714	35,714	35,714	35,683	0	31	0	31	0	35,714	0	0	0	853	08/31/2039	1.E
..00191R-AA-5	Amazon (Oklahoma City Ok Trust Certifica .....	.....	06/30/2023	SINKING PAYMENT .....	.....	67,972	67,972	67,972	67,964	0	8	0	8	0	67,972	0	0	0	1,434	09/30/2039	1.E
..00192J-AA-4	APS Resecuritization Tru-APS 2016-1 1A .....	.....	06/01/2023	PAYDOWN .....	.....	270,203	270,203	240,819	270,038	0	165	0	165	0	270,203	0	0	0	6,106	07/01/2057	1.A FE
..00193*-AA-5	Amazon (Tulsa Ok) Trust Certificate .....	.....	06/30/2023	SINKING PAYMENT .....	.....	71,069	71,069	71,069	71,066	0	4	0	4	0	71,069	0	0	0	1,587	09/30/2039	1.E
..00195F-AA-5	Amazon (Toledo Oh) Trust Certificate .....	.....	06/30/2023	SINKING PAYMENT .....	.....	118,409	118,409	118,409	118,409	0	0	0	0	0	118,409	0	0	0	2,233	10/31/2040	1.E
..00206R-MM-1	AT&T Inc-SENIOR UNSECURED .....	.....	06/15/2023	CITIGROUP GLOBAL MAR .....	.....	10,156,380	13,000,000	13,330,460	13,283,375	0	(11,014)	0	(11,014)	0	13,272,361	0	(3,115,981)	(3,115,981)	183,246	12/01/2033	2.B FE
..00217L-AC-6	AREIT 2019-CRE3 Trust-AREIT 2019-CRE3 AS .....	.....	06/16/2023	PAYDOWN .....	.....	1,419,020	1,419,020	1,419,020	1,419,020	0	0	0	0	0	1,419,020	0	0	0	42,228	09/14/2036	1.A FE
..00225F-AA-3	Amazon (Grand Rapids, M Trust Certifica .....	.....	06/30/2023	SINKING PAYMENT .....	.....	33,402	33,402	33,402	33,376	0	26	0	26	0	33,402	0	0	0	798	09/30/2039	1.E
..00255U-AA-3	AASET 2020-1 Trust-AASET 2020-1A A .....	.....	04/15/2023	PAYDOWN .....	.....	20,722	20,722	20,722	20,722	0	0	0	0	0	20,722	0	0	0	231	01/16/2040	2.A FE
..00256D-AA-0	Aaset 2019-1 Trust-AASET 2019-1 A .....	.....	04/27/2023	VARIOUS .....	.....	2,158,194	2,988,258	2,312,351	2,518,070	0	102,625	0	102,625	0	2,620,696	0	(462,502)	(462,502)	43,354	05/15/2039	4.C FE
..00432C-CW-9	ACCESS GROUP INC-SERIES 2005-B CLASS A3 .....	.....	04/25/2023	PAYDOWN .....	.....	78,582	78,582	72,492	76,754	0	1,827	0	1,827	0	78,582	0	0	0	1,969	07/25/2035	1.A FE
..00436M-AA-3	Accelerated Assets 2018-AALLC 2018-1 A .....	.....	06/02/2023	PAYDOWN .....	.....	181,470	181,470	181,425	181,444	0	27	0	27	0	181,470	0	0	0	2,950	12/02/2033	1.F FE

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Identification	Description	For- eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid- eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor- tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn- ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con- tractual Maturity Date	NAIC Desig- nation, NAIC Desig- nation Modifier and SVO Admini- strative Symbol
..006346-AS-9	ADAMS OUTDOOR ADV SECD REV NT SER 2018-1		06/15/2023	PAYDOWN		295,413	295,413	291,835	212,966	0	3,800	0	3,800	0	295,413	0	0	0	5,860	11/15/2048	1.F FE
..007036-GS-9	Adjustable Rate Mortgage-ARMT 2005-2 2A1		06/01/2023	PAYDOWN		4,349	4,349	4,069	4,164	0	184	0	184	0	4,349	0	0	0	121	06/01/2035	1.A FM
..007036-SE-7	Adjustable Rate Mortgage-ARMT 2005-9 5A1		06/26/2023	PAYDOWN		14,289	14,289	9,968	13,168	0	1,121	0	1,121	0	14,289	0	0	0	279	11/25/2035	1.A FM
..00703Q-AD-4	Adjustable Rate Mortgage-ARMT 2006-3 4A1		06/26/2023	PAYDOWN		116,118	116,118	82,552	63,621	0	52,497	0	52,497	0	116,118	0	0	0	790	08/25/2036	1.A FM
..008252-AM-0	Affiliated Managers Grou-SENIOR UNSECURE		06/06/2023	VARIOUS		13,561,902	13,734,000	13,650,143	13,723,083	0	3,709	0	3,709	0	13,726,792	0	(164,890)	(164,890)	467,845	02/15/2024	1.G FE
..009098-A*-5	Air Cargo Logistics Ft W Lease-Collatera		06/10/2023	SINKING PAYMENT		25,927	25,927	25,927	25,927	0	0	0	0	0	25,927	0	0	0	291	11/10/2039	1.E
..00910G-A*-4	Air Cargo Logistics Ctl Trust Certificat		06/10/2023	SINKING PAYMENT		36,635	36,635	36,635	36,635	0	0	0	0	0	36,635	0	0	0	0	02/10/2041	1.E
..009818-AA-9	Akron Childrens Hospital Trust Certifica		06/15/2023	SINKING PAYMENT		25,856	25,856	26,114	26,099	0	(244)	0	(244)	0	25,856	0	0	0	513	08/15/2050	1.F
..02146P-AF-2	Alternative Loan Trust 2-CWALT 2006-HY12		06/01/2023	PAYDOWN		18,944	18,944	12,151	13,914	0	5,030	0	5,030	0	18,944	0	0	0	294	08/01/2036	1.A FM
..02146T-AL-1	Alternative Loan Trust 2-CWALT 2006-24CB		06/01/2023	PAYDOWN		3,362	3,540	2,385	1,972	0	1,499	0	1,499	0	3,362	0	0	0	111	08/01/2036	1.A FM
..02147W-AT-6	Alternative Loan Trust 2-CWALT 2006-26CB		06/01/2023	PAYDOWN		15,157	9,842	6,692	6,655	0	4,762	0	4,762	0	15,157	0	0	0	434	09/01/2036	4.B FM
..02147X-AR-8	Alternative Loan Trust 2-CWALT 2006-32CB		06/01/2023	PAYDOWN		9,841	9,930	7,015	7,188	0	2,726	0	2,726	0	9,841	0	0	0	206	11/01/2036	4.B FM
..02150V-AA-3	Alternative Loan Trust 2-CWALT 2007-HY7C		06/26/2023	PAYDOWN		22,052	20,492	16,558	18,196	0	2,622	0	2,622	0	22,052	0	0	0	560	08/25/2037	1.A FM
..02152A-AS-8	Alternative Loan Trust 2-CWALT 2007-16CB		06/25/2023	PAYDOWN		52,892	53,519	33,984	35,126	0	18,158	0	18,158	0	52,892	0	0	0	1,182	08/25/2037	1.A FM
..02377A-AA-6	American Airlines 2014-1-SECURED NOTE		04/01/2023	SINKING PAYMENT		216,435	216,435	216,435	216,481	0	(46)	0	(46)	0	216,435	0	0	0	4,004	10/01/2026	3.B FE
..02660L-AA-8	American Home Mortgage A-AHMA 2006-4 1A1		06/26/2023	PAYDOWN		4,571	4,571	3,428	2,519	0	2,052	0	2,052	0	4,571	0	0	0	51	10/25/2046	1.A FM
..02660T-AR-4	American Home Mortgage I-AHM 2004-1 4A		06/01/2023	PAYDOWN		53,046	53,046	52,450	52,551	0	495	0	495	0	53,046	0	0	0	915	04/01/2044	2.C FM
..02660T-DH-3	American Home Mortgage I-AHM 2005-1 6A		06/01/2023	PAYDOWN		38,945	38,945	33,931	38,240	0	705	0	705	0	38,945	0	0	0	649	06/01/2045	1.A FM
..02660T-EK-5	American Home Mortgage I-AHM 2005-2 1A1		06/26/2023	PAYDOWN		38,008	38,008	35,573	36,573	0	1,436	0	1,436	0	38,008	0	0	0	476	09/25/2045	1.A FM
..02660V-AE-8	American Home Mortgage A-AHMA 2005-1 3A1		06/26/2023	PAYDOWN		949	949	774	894	0	56	0	56	0	949	0	0	0	15	11/25/2035	1.A FM
..02665U-AA-3	AMERICAN HOMES 4 RENT-SERIES 2014-SFR2 C		06/01/2023	PAYDOWN		86,351	86,351	86,437	86,305	0	46	0	46	0	86,351	0	0	0	1,333	10/01/2036	1.A FE
..02666B-AG-1	American Homes 4 Rent 20-AHAR 2015-SFR2		06/01/2023	PAYDOWN		0	0	0	0	1	0	0	0	0	0	0	0	0	0	10/01/2052	6. *
..02666T-AE-7	American Homes 4 Rent LP-SENIOR UNSECURE		06/22/2023	SUNTRUST CAPITAL MAR		24,720,615	28,500,000	27,832,965	27,872,479	0	27,517	0	27,517	0	27,899,996	0	(3,179,381)	(3,179,381)	720,318	04/15/2032	2.B FE
..026929-AA-7	American Home Mortgage I-AHM 2006-3 11A1		06/26/2023	PAYDOWN		34,941	34,941	26,752	26,765	0	8,176	0	8,176	0	34,941	0	0	0	188	12/25/2046	1.A FM
..03072S-RC-1	Ameriquest Mortgage Secu-AMSI 2004-FR1W		06/01/2023	PAYDOWN		26,473	26,473	25,679	26,379	0	94	0	94	0	26,473	0	0	0	498	05/01/2034	1.A FM
..03076K-AA-6	Ameris Bancorp-SUBORDINATED		06/30/2023	CALL 100		0	0	0	0	0	0	0	0	0	0	0	0	0	258,750	03/15/2027	2.B FE
..03215P-DM-8	Amresco Residential Secu-AMRES 1998-1 A5		06/01/2023	PAYDOWN		70,351	70,351	70,395	70,315	0	37	0	37	0	70,351	0	0	0	2,263	10/01/2027	1.A FM
..03235T-AA-5	Amur Finance VI LLC-ACEF 2014-1A A		04/20/2023	PAYDOWN		6,703	6,703	6,703	1,609	4,312	782	0	5,094	0	6,703	0	0	0	252	12/20/2024	6. *
..03464B-AA-6	Angel Oak Mortgage Trust-AOMT 2022-1 A1		06/01/2023	PAYDOWN		112,598	112,598	112,596	112,598	0	0	0	0	0	112,598	0	0	0	1,597	12/01/2066	1.A
..03464B-AB-4	Angel Oak Mortgage Trust-AOMT 2022-1 A2		06/01/2023	PAYDOWN		321,708	321,708	321,705	321,705	0	3	0	3	0	321,708	0	0	0	4,969	12/01/2066	1.A
..03464B-AC-2	Angel Oak Mortgage Trust-AOMT 2022-1 A3		06/01/2023	PAYDOWN		321,708	321,708	321,702	321,703	0	5	0	5	0	321,708	0	0	0	5,211	12/01/2066	1.B
..03464P-AA-5	Angel Oak Mortgage Trust-AOMT 2022-2 A1		06/01/2023	PAYDOWN		603,996	603,996	601,872	602,971	0	1,025	0	1,025	0	603,996	0	0	0	9,951	01/01/2067	1.A FE
..03464P-AB-3	Angel Oak Mortgage Trust-AOMT 2022-2 A2		06/01/2023	PAYDOWN		362,398	362,398	361,838	361,833	0	564	0	564	0	362,398	0	0	0	6,699	01/01/2067	1.C FE
..03464P-AC-1	Angel Oak Mortgage Trust-AOMT 2022-2 A3		06/01/2023	PAYDOWN		362,398	362,398	361,486	361,479	0	919	0	919	0	362,398	0	0	0	6,880	01/01/2067	1.F FE
..03464T-AA-7	Angel Oak Mortgage Trust-AOMT 2022-3 A1		06/01/2023	PAYDOWN		228,886	228,886	226,436	226,693	0	2,193	0	2,193	0	228,886	0	0	0	4,069	01/01/2067	1.A FE
..03464T-AB-5	Angel Oak Mortgage Trust-AOMT 2022-3 A2		06/01/2023	PAYDOWN		152,591	152,591	149,335	149,710	0	2,881	0	2,881	0	152,591	0	0	0	2,817	01/01/2067	1.C FE
..03666H-AC-5	Antares Holdings LP-SENIOR UNSECURED		05/24/2023	SMBC NIKKO SECURITIE		3,048,535	3,500,000	3,457,860	3,472,190	0	2,867	0	2,867	0	3,475,057	0	(426,522)	(426,522)	119,433	07/15/2026	2.C FE
..03765H-AA-9	Apollo Management Holdin-SENIOR UNSECURE		04/20/2023	U. S. BANCORP		6,362,525	6,500,000	6,481,930	6,497,089	0	569	0	569	0	6,497,658	0	(135,133)	(135,133)	104,000	05/30/2024	1.G FE
..03765H-AF-8	Apollo Management Holdin-SENIOR UNSECURE		06/29/2023	STIFEL NICOLAUS		10,160,450	12,424,000	11,554,320	11,623,940	0	46,445	0	46,445	0	11,670,385	0	(1,509,935)	(1,509,935)	185,146	06/05/2030	1.G FE
..03789X-AD-0	Applebee's Funding LLC -DIN 2019-1A A21		04/17/2023	CALL 100		21,780,000	21,780,000	21,787,773	21,782,467	0	(512)	0	(512)	0	21,781,955	0	(1,955)	(1,955)	334,933	06/05/2049	2.B FE
..038370-AA-0	Aqua Finance Trust 2019-AQFIT 2019-A A		06/15/2023	PAYDOWN		86,939	86,939	86,926	86,922	0	17	0	17	0	86,939	0	0	0	1,148	07/16/2040	1.E FE
..038413-AA-8	Aqua Finance Trust 2020-AQFIT 2020-AA A		06/17/2023	PAYDOWN		320,907	320,907	320,848	320,859	0	48	0	48	0	320,907	0	0	0	2,518	07/17/2046	1.E FE
..038923-AD-0	Arbor Realty Trust Inc-SENIOR UNSECURED		05/01/2023	MATURITY		13,000,000	13,000,000	12,982,050	12,998,605	0	1,395	0	1,395	0	13,000,000	0	0	0	365,625	05/01/2023	1.F PL
..038923-AL-2	Arbor Realty Trust Inc-SENIOR UNSECURED		06/06/2023	PIPERJAFFRAY		5,208,000	5,600,000	5,600,000	5,600,000	0	0	0	0	0	5,600,000	0	(392,000)	(392,000)	182,506	10/15/2024	1.F PL
..04010L-AV-5	Ares Capital Corp-SENIOR UNSECURED		05/24/2023	SMBC NIKKO SECURITIE		5,718,720	6,000,000	5,977,260	5,992,545	0	1,244	0	1,244	0	5,993,789	0	(275,069)	(275,069)	187,708	03/01/2025	2.C FE
..04015C-AA-6	ARES FINANCE CO LLC-UNSECURED NOTE		06/06/2023	SMBC NIKKO SECURITIE		16,335,470	17,000,000	16,705,560	16,938,608	0	14,596	0	14,596	0	16,953,204	0	(617,734)	(617,734)	453,333	10/08/2024	2.A FE

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Identification	Description	For- eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid- eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor- tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn- ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con- tractual Maturity Date	NAIC Desig- nation, NAIC Desig- nation Modifier and SVO Admini- strative Symbol
..04249@-AD-3	Army & Air Force Exchang Senior Note		06/15/2023	SINKING PAYMENT		43,914	43,914	43,914	43,914	0	0	0	0	0	43,914	0	0	0	1,509	10/15/2024	1.D
..04285E-AC-1	Arroyo Mortgage Trust 20-ARRW 2022-2 A2		06/01/2023	PAYDOWN		192,390	192,390	186,265	186,784	0	5,605	0	5,605	0	192,390	0	0	0	3,841	07/01/2057	1.C FE
..04285E-AD-9	Arroyo Mortgage Trust 20-ARRW 2022-2 A3		06/01/2023	PAYDOWN		192,390	192,390	184,414	185,086	0	7,903	0	7,903	0	192,390	0	0	0	3,841	07/01/2057	1.F FE
..04285E-AM-9	Arroyo Mortgage Trust 20-ARRW 2022-2 A1		06/01/2023	PAYDOWN		184,991	184,991	182,754	183,091	0	1,900	0	1,900	0	184,991	0	0	0	3,693	07/01/2057	1.A FE
..043671-AA-4	Aseko Inc-FIRST LIEN		06/01/2023	SINKING PAYMENT		310,000	310,000	310,000	310,000	0	0	0	0	0	310,000	0	0	0	8,396	06/15/2025	1.E PL
..04544P-AD-1	Asset Backed Securities -ABSHE 2006-HE5		06/26/2023	PAYDOWN		311,329	311,329	202,305	304,122	0	7,206	0	7,206	0	311,329	0	0	0	2,345	07/25/2036	1.A FM
..05279@-AA-9	Autoliv ASP, Inc. Trust Certificate Tran		06/15/2023	SINKING PAYMENT		68,683	68,683	68,683	68,683	0	0	0	0	0	68,683	0	0	0	939	05/15/2034	2.B
..05453G-AC-9	Axalta Coating Systems L-SENIOR UNSECURE		05/10/2023	GOLDMAN		2,175,000	2,500,000	2,440,625	2,449,605	0	2,657	0	2,657	0	2,452,261	0	(277,261)	(277,261)	62,578	02/15/2029	4.A FE
..05525F-AA-9	BAMLL Re-REMIC Trust 201-BAMLL 2013-FRR3		05/01/2023	PAYDOWN		20,217,754	20,217,754	15,165,266	19,815,239	0	402,515	0	402,515	0	20,217,754	0	0	0	0	06/01/2023	2.B Z
..05532B-AA-6	BCC Middle Market CLO 20-BMMC 2018-1A A1		04/20/2023	PAYDOWN		1,250,280	1,250,280	1,250,280	1,250,280	0	0	0	0	0	1,250,280	0	0	0	38,380	10/20/2030	1.A FE
..05532E-CE-3	BCAP LLC 2009-RR10 Trust-BCAP 2009-RR10		06/01/2023	PAYDOWN		12,752	14,792	4,255	9,011	0	4,310	0	4,310	0	12,752	0	0	0	444	06/01/2037	1.A FM
..05532M-AG-2	BCAP LLC 2009-RR15 Trust-BCAP 2009-RR15		06/01/2023	PAYDOWN		0	521	282	188	0	97	0	97	0	0	0	0	0	10	05/01/2036	1.A FM
..05532T-AF-9	BCAP LLC 2010-RR1 Trust-BCAP 2010-RR1 2A		06/01/2023	PAYDOWN		351,620	351,620	152,955	323,547	0	28,073	0	28,073	0	351,620	0	0	0	7,281	06/01/2045	1.A FM
..05533N-AJ-3	BCAP LLC 2010-RR12 Trust-BCAP 2010-RR12		06/01/2023	PAYDOWN		26,613	26,473	23,193	25,988	0	500	0	500	0	26,613	0	0	0	421	06/01/2037	2.B FM
..05552E-AA-8	BBOMS 2017-DELC Mortgage-BBOMS 2017-DELC		06/15/2023	PAYDOWN		4,600,000	4,600,000	4,592,094	4,600,000	0	0	0	0	0	4,600,000	0	0	0	131,614	08/15/2036	1.A
..05553L-AA-1	BCPE Ulysses Intermediat-USLBMH 7 3/4 04		05/03/2023	VARIOUS		442,150	556,000	344,720	358,108	0	10,647	0	10,647	0	368,756	0	73,394	73,394	25,555	04/01/2027	5.B FE
..05567Y-AA-7	Burlington Northern and -SECURED		04/01/2023	MATURITY		101,602	101,602	101,602	101,602	0	0	0	0	0	101,602	0	0	0	33	04/01/2023	1.B FE
..05568D-AA-2	BNSF Railway Co 2006-3 P-FIRST LIEN		04/01/2023	SINKING PAYMENT		122,951	122,951	118,845	119,898	0	3,054	0	3,054	0	122,951	0	0	0	3,284	04/01/2024	1.C FE
..05584A-AA-8	BRE Grand Islander Times-HGVGI 2017-1A A		06/25/2023	PAYDOWN		90,793	90,793	90,770	90,783	0	11	0	11	0	90,793	0	0	0	1,126	05/25/2029	1.F FE
..05586*-AA-9	BGS Spartanburg 2017 Trust Certificate		06/15/2023	SINKING PAYMENT		110,945	110,945	110,945	110,945	0	0	0	0	0	110,945	0	0	0	1,957	07/15/2032	2.A S
..05587*-AA-8	BGS Fedex Series 2017A Trust Certificate		06/15/2023	SINKING PAYMENT		98,710	98,710	98,710	98,713	0	(3)	0	(3)	0	98,710	0	0	0	1,753	03/15/2037	1.E PL
..05588*-AA-7	BGS Huntersville 2017 Trust Certificate		06/15/2023	SINKING PAYMENT		89,574	89,574	89,574	89,574	0	0	0	0	0	89,574	0	0	0	1,660	05/15/2038	2.C S
..05590@-AA-9	BPHQ 2017 Trust Certificate BP Corp Nort		06/15/2023	SINKING PAYMENT		49,925	49,925	49,925	49,925	0	0	0	0	0	49,925	0	0	0	933	11/15/2032	1.F
..05606D-AC-2	BX TRUST - BX 2022-PSB B-BX 2022-PSB B		06/15/2023	PAYDOWN		479,727	479,727	476,535	477,370	0	2,357	0	2,357	0	479,727	0	0	0	14,053	08/15/2039	1.A
..05608W-AG-9	BX Commercial Mortgage T-BX 2021-SOAR B		04/15/2023	PAYDOWN		41,112	41,112	39,566	39,566	0	1,547	0	1,547	0	41,112	0	0	0	743	06/15/2038	1.A
..05608W-AN-4	BX Trust-BX 2021-SOAR E		04/15/2023	PAYDOWN		148,046	148,046	148,046	148,046	0	0	0	0	0	148,046	0	0	0	3,140	06/15/2038	1.A
..05684B-AB-3	Bain Capital Specialty F-SENIOR UNSECURE		06/21/2023	GOLDMAN		15,074,750	17,000,000	16,863,320	16,910,380	0	12,776	0	12,776	0	16,923,156	0	(1,848,406)	(1,848,406)	394,235	03/10/2026	2.C FE
..05874J-AJ-0	Ballyrock CLO 19 Ltd-BALLY 2022-19A C		05/03/2023	GOLDMAN		9,893,805	10,500,000	10,500,000	10,500,000	0	0	0	0	0	10,500,000	0	(606,195)	(606,195)	440,867	04/20/2035	2.C FE
..058927-AG-9	Banc of America Funding -BAFC 2006-A 3A2		06/01/2023	PAYDOWN		9,894	10,067	8,789	9,480	0	566	0	566	0	9,894	0	0	0	179	02/01/2036	1.G FM
..058931-AD-8	Banc of America Funding -BAFC 2006-3 2A1		06/01/2023	PAYDOWN		30,127	33,825	27,586	26,759	0	6,404	0	6,404	0	30,127	0	0	0	(1)	03/01/2036	1.A FM
..058931-AT-3	Banc of America Funding -BAFC 2006-3 4A1		06/01/2023	PAYDOWN		5,222	5,222	4,996	5,222	0	225	0	225	0	5,222	0	0	0	134	03/01/2036	4.C FM
..058931-BL-9	Banc of America Funding -BAFC 2006-3 5A8		05/01/2023	PAYDOWN		3,568	3,767	3,823	3,407	0	356	0	356	0	3,568	0	0	0	(2)	03/01/2036	1.A FM
..058933-AN-2	Banc of America Funding -BAFC 2006-D 5A1		06/01/2023	PAYDOWN		54,101	54,141	49,404	49,417	0	4,720	0	4,720	0	54,101	0	0	0	727	05/01/2036	1.A FM
..05946X-R7-0	Banc of America Funding -BAFC 2005-7 2A2		06/25/2023	PAYDOWN		0	0	19,530	0	0	3	0	3	0	0	0	0	0	161	11/25/2035	5.A FE
..05946X-XP-3	Banc of America Funding -BAFC 2005-E 3A1		06/01/2023	PAYDOWN		17,355	18,320	17,965	18,626	0	(316)	0	(316)	0	17,355	0	0	0	180	05/01/2035	4.A FM
..05946X-Y7-2	Banc of America Funding -BAFC 2005-8 2A8		06/01/2023	PAYDOWN		17,117	15,801	15,007	15,516	0	282	0	282	0	17,117	0	0	0	159	01/01/2036	3.B FM
..05946X-YV-9	Banc of America Funding -BAFC 2005-F 2A1		06/01/2023	PAYDOWN		27,591	28,208	25,519	28,208	0	(810)	0	(810)	0	27,591	0	0	0	436	09/01/2035	3.B FM
..05948X-T2-7	Banc of America Mortgage-BOAMS 2004-A 2A		05/01/2023	PAYDOWN		3,949	3,949	3,889	3,876	0	73	0	73	0	3,949	0	0	0	68	02/01/2034	1.A FM
..05949A-HB-6	Banc of America Mortgage-BOAMS 2005-A 2A		06/01/2023	PAYDOWN		19,739	19,739	19,085	19,617	0	123	0	123	0	19,739	0	0	0	334	02/01/2035	1.A FM
..05949A-HB-4	Banc of America Mortgage-BOAMS 2005-A 2A		06/01/2023	PAYDOWN		24,651	24,651	24,004	24,651	0	0	0	0	0	24,651	0	0	0	417	02/01/2035	1.A FM
..05949C-GW-0	Banc of America Mortgage-BOAMS 2005-B A9		06/01/2023	PAYDOWN		10,020	11,014	10,698	10,339	0	654	0	654	0	10,020	0	0	0	124	09/01/2035	2.C FM
..05949C-HM-1	Banc of America Mortgage-BOAMS 2005-1 1A		06/01/2023	PAYDOWN		6,322	8,437	7,090	7,449	0	606	124	482	0	6,322	0	0	0	182	10/01/2035	3.A FM
..05949C-KS-4	Banc of America Mortgage-BOAMS 2005-J 2A		04/01/2023	PAYDOWN		79	79	77	82	0	(3)	0	(3)	0	79	0	0	0	3	11/01/2035	3.B FM
..05949C-KX-3	Banc of America Mortgage-BOAMS 2005-J 4A		04/01/2023	PAYDOWN		13,474	13,935	22,206	11,541	0	(20,462)	(45,220)	24,758	0	13,474	0	0	0	1,828	11/01/2035	1.A FM
..05949C-PP-5	Banc of America Mortgage-BOAMS 2005-L 4A		06/30/2023	PAYDOWN		6,721	6,812	6,446	6,232	0	569	0	569	0	6,721	0	0	0	39	01/01/2036	1.A FM
..05949T-AX-7	Banc of America Funding -BAFC 2006-1 1A2		06/01/2023	PAYDOWN		14,808	14,808	16,163	16,210	0	(1,402)	0	(1,402)	0	14,808	0	0	0	352	01/01/2036	1.A FM

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22	
										11	12	13	14	15								
CUSIP Ident-ification	Description	For- eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid- eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor- tization)/ Accretion	Current Year's Other Than Temporary Impairment Recog- nized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con- tractual Maturity Date	NAIC Desig- nation, NAIC Desig- nation Modifier and SVO Admini- strative Symbol	
..05950F-AD-7	Banc of America Funding -BAFC 2006-4 A4		06/25/2023	PAYDOWN		0	0	4,308	0	0	0	0	0	0	0	0	0	0	8	07/25/2036	6. *	
..05950M-AJ-9	Banc of America Funding -BAFC 2006-G 3A3		06/01/2023	PAYDOWN		101,292	101,292	97,114	96,883	0	4,409	0	4,409	0	101,292	0	0	0	1,683	07/01/2036	1.A FM	....
..05950P-AF-0	Banc of America Funding -BAFC 2006-H 2A3		06/01/2023	PAYDOWN		19,098	17,059	14,943	13,815	0	3,506	0	3,506	0	19,098	0	0	0	146	09/01/2046	1.A FM	....
..05950R-BG-3	Banc of America Funding -BAFC 2006-6 3A2		06/25/2023	PAYDOWN		0	0	3,029	0	0	0	0	0	0	0	0	0	0	5	08/25/2036	6. *	
..05950T-AC-9	Banc of America Mortgage-BOAMS 2006-B 2A		06/01/2023	PAYDOWN		4,524	3,706	3,762	3,066	0	128	0	128	0	3,757	0	767	767	53	11/01/2046	1.A FM	....
..05951F-AB-0	Banc of America Funding -BAFC 2007-1 TA1		06/01/2023	PAYDOWN		820	820	779	646	0	176	0	176	0	820	0	0	0	11	01/01/2037	1.A FM	....
..05951K-AN-3	Banc of America Funding -BAFC 2006-7 1A1		06/30/2023	PAYDOWN		(1,392)	0	65	0	0	(94)	0	(94)	0	(1,392)	0	0	0	0	09/01/2036	3.A FM	....
..05951U-AC-5	Banc of America Funding -BAFC 2006-8T2 A		06/01/2023	PAYDOWN		534	588	556	430	0	150	0	150	0	534	0	0	0	10	10/01/2036	1.A FM	....
..05951V-AV-1	Banc of America Funding -BAFC 2006-I 6A1		06/20/2023	PAYDOWN		6,377	6,489	5,350	5,658	0	811	0	811	0	6,377	0	0	0	64	12/20/2046	1.A FM	....
..059522-AA-0	Banc of America Funding -BAFC 2007-C 6A1		06/20/2023	PAYDOWN		17,864	17,864	15,363	17,667	0	197	0	197	0	17,864	0	0	0	276	05/20/2047	1.A FM	....
..059522-AU-6	Banc of America Funding -BAFC 2007-C 1A2		06/01/2023	PAYDOWN		19,712	22,177	19,475	21,120	0	2,239	1,564	675	0	19,712	0	0	0	384	05/01/2036	1.A FM	....
..059523-AN-0	Banc of America Funding -BAFC 2007-5 4A3		06/25/2023	PAYDOWN		0	0	42,599	8,463	0	(211)	0	(211)	0	0	0	0	0	702	07/25/2037	6. *	
..059523-AX-8	Banc of America Funding -BAFC 2007-5 7A1		05/01/2023	PAYDOWN		16,534	22,088	12,887	14,663	0	5,129	0	5,129	0	16,534	0	0	0	124	07/01/2047	1.A FM	....
..05952G-AT-8	Banc of America Funding -BAFC 2007-D 3A1		06/01/2023	PAYDOWN		3,058	3,115	3,053	3,023	0	89	0	89	0	3,058	0	0	0	23	06/01/2037	2.C FM	....
..05952G-AV-3	Banc of America Funding -BAFC 2007-D 3A3		06/01/2023	PAYDOWN		4,400	4,483	4,393	4,348	0	130	0	130	0	4,400	0	0	0	43	06/01/2037	2.C FM	....
..05953Y-AH-4	Banc of America Funding -BAFC 2007-4 TA1		06/01/2023	PAYDOWN		10,839	10,361	9,055	8,507	0	1,943	0	1,943	0	10,839	0	0	0	111	05/01/2037	1.A FM	....
..05954D-AL-0	Banc of America Funding -BAFC 2007-E 6A1		06/01/2023	PAYDOWN		207	207	180	191	0	16	0	16	0	207	0	0	0	4	09/01/2037	5.A FM	....
..05956E-AB-8	Banc of America Funding -BAFC 2010-R6 1A		06/01/2023	PAYDOWN		33,930	33,930	33,421	33,848	0	82	0	82	0	33,930	0	0	0	981	02/01/2035	1.A FM	....
..05990E-AD-2	Banc of America Funding -BAFC 2012-R6 2A		06/27/2023	PAYDOWN		46,964	46,620	40,572	45,631	0	1,325	0	1,325	0	46,964	0	0	0	884	07/26/2036	3.B FM	....
..05990H-AH-6	Banc of America Funding -BAFC 2010-R2 1A		06/01/2023	PAYDOWN		41,024	44,356	28,065	26,113	0	16,950	0	16,950	0	41,024	0	0	0	1,330	08/01/2037	1.A FM	....
..05990H-AQ-6	Banc of America Funding -BAFC 2010-R2 3A		06/01/2023	PAYDOWN		64,649	64,649	62,851	62,828	0	1,821	0	1,821	0	64,649	0	0	0	1,485	07/01/2035	1.A FM	....
..05990H-AT-0	Banc of America Funding -BAFC 2010-R2 4A		06/01/2023	PAYDOWN		23,085	30,262	23,085	25,699	0	3,205	110	3,095	0	23,085	0	0	0	945	08/01/2036	1.A FM	....
..06051G-FB-0	Bank of America Corp-SENIOR UNSECURED		05/30/2023	U. S. BANCORP		6,927,410	7,000,000	6,994,890	6,999,324	0	56	0	56	0	6,999,380	0	(71,970)	(71,970)	247,844	01/22/2024	1.G FE	....
..06051G-HG-7	Bank of America Corp-SENIOR UNSECURED		06/21/2023	BOFAMILSEC		15,914,040	17,000,000	16,864,690	16,917,437	0	5,587	0	5,587	0	16,923,025	0	(1,008,985)	(1,008,985)	539,920	03/05/2029	1.E FE	....
..064248-AA-1	Bank Of America (Houston Pass-Thru Certi		06/15/2023	SINKING PAYMENT		93,817	94,393	94,393	94,231	0	(415)	0	(415)	0	93,817	0	0	0	1,353	12/31/2029	1.C S	....
..06744D-AA-7	Barclays Mortgage Loan T-BARC 2022-NQM1		06/01/2023	PAYDOWN		20,629	20,629	20,244	20,272	0	357	0	357	0	20,629	0	0	0	355	07/01/2052	1.A FE	....
..06744D-AB-5	Barclays Mortgage Loan T-BARC 2022-NQM1		06/01/2023	PAYDOWN		20,629	20,629	19,846	19,872	0	756	0	756	0	20,629	0	0	0	355	07/01/2052	1.C FE	....
..06744D-AC-3	Barclays Mortgage Loan T-BARC 2022-NQM1		06/01/2023	PAYDOWN		58,008	58,008	55,064	55,115	0	2,893	0	2,893	0	58,008	0	0	0	1,437	07/01/2052	1.F FE	....
..06744Y-AA-1	Barclays Mortgage Loan T-BARC 2022-INV1		06/01/2023	PAYDOWN		419,080	419,080	419,074	419,080	0	0	0	0	0	419,080	0	0	0	7,718	02/01/2062	1.A FE	....
..07325D-AF-1	Bayview Financial Mortga-BAYV 2006-C 1A5		06/01/2023	PAYDOWN		8,709	8,709	7,330	7,823	0	887	0	887	0	8,709	0	0	0	161	11/01/2036	1.A FM	....
..07325Y-AE-4	Bayview Financial Acquis-BAYV 2007-A 1A4		06/01/2023	PAYDOWN		1,272,921	1,272,921	1,069,253	1,170,851	0	102,069	0	102,069	0	1,272,921	0	0	0	32,059	05/01/2037	1.A FM	....
..07384M-AK-5	Bear Stearns ARM Trust 2-BSARM 2004-10 2		06/01/2023	PAYDOWN		16,713	16,713	15,585	16,114	0	599	0	599	0	16,713	0	0	0	320	01/01/2035	1.A FM	....
..07384M-Q8-8	Bear Stearns ARM Trust 2-BSARM 2004-3 2A		06/01/2023	PAYDOWN		24,748	24,748	24,826	24,748	0	0	0	0	0	24,748	0	0	0	367	07/01/2034	1.A FM	....
..07384M-S7-8	Bear Stearns ARM Trust 2-BSARM 2004-5 2A		06/01/2023	PAYDOWN		48,935	48,935	49,148	48,905	0	29	0	29	0	48,935	0	0	0	906	07/01/2034	3.B FM	....
..07384Y-KF-2	Bear Stearns Asset Backe-BSABS 2003-AC4		06/01/2023	PAYDOWN		71,514	71,514	72,274	70,722	0	792	0	792	0	71,514	0	0	0	1,261	09/01/2033	1.A FM	....
..07384Y-TL-0	Bear Stearns Asset Backe-BSABS 2004-S02		06/01/2023	PAYDOWN		8,391	8,391	8,486	8,567	0	(176)	0	(176)	0	8,391	0	0	0	177	03/01/2044	1.A FM	....
..07386H-PD-7	Bear Stearns ALT-A Trust-BALTA 2004-12 2		06/01/2023	PAYDOWN		2,622	2,406	2,406	2,450	0	172	0	172	0	2,622	0	0	0	57	01/01/2035	1.A FM	....
..07386H-QZ-7	Bear Stearns ALT-A Trust-BALTA 2005-2 2A		06/01/2023	PAYDOWN		246,901	244,718	209,776	196,507	0	48,528	0	48,528	0	246,901	0	0	0	4,772	04/01/2035	1.A FM	....
..07386H-UG-4	Bear Stearns ALT-A Trust-BALTA 2005-5 21		06/01/2023	PAYDOWN		378	378	344	357	0	21	0	21	0	378	0	0	0	9	07/01/2035	1.A FM	....
..07386Y-AH-9	Bear Stearns ALT-A Trust-BALTA 2007-1 21		05/01/2023	PAYDOWN		17,446	17,434	10,190	10,072	0	7,887	(8,680)	16,567	0	17,446	0	0	0	14	01/01/2047	2.A FM	....
..07386Y-AE-4	Bear Stearns ARM Trust 2-BSARM 2007-5 3A		05/01/2023	PAYDOWN		9,980	10,630	9,728	9,603	0	953	0	953	0	9,980	0	0	0	153	08/01/2047	1.A FM	....
..073870-AG-2	Bear Stearns ALT-A Trust-BALTA 2007-2 2A		06/01/2023	PAYDOWN		3,591	3,180	1,684	1,612	0	1,769	0	1,769	0	3,591	0	0	0	30	04/01/2037	1.A FM	....
..073877-CS-9	Bear Stearns Asset Backe-BSABS 2005-S03		04/25/2023	PAYDOWN		175,240	175,240	140,876	175,240	0	0	0	0	0	175,240	0	0	0	4,442	07/25/2035	1.A FM	....
..073879-GN-2	Bear Stearns Asset Backe-BSABS 2004-AC5		06/25/2023	PAYDOWN		29,001	29,001	21,678	24,528	0	4,473	0	4,473	0	29,001	0	0	0	308	10/25/2034	1.A FM	....
..073880-AD-8	Bear Stearns ARM Trust 2-BSARM 2007-1 2A		05/01/2023	PAYDOWN		33,414	38,026	35,743	36,034	0	1,548	(40)	1,588	0	33,414	0	0	0	377	02/01/2047	3.B FM	....
..07389N-AC-9	Bear Stearns Asset Backe-BSABS 2006-S04		06/01/2023	PAYDOWN		138,714	138,714	124,539	111,058	0	27,657	0	27,657	0	138,714	0	0	0	3,103	10/01/2036	1.A FM	....

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Identification	Description	For- eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid- eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor- tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn- ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con- tractual Maturity Date	NAIC Desig- nation, NAIC Desig- nation Modifier and SVO Admini- strative Symbol
..088555-ZE-0	BIDTELLECT INC - Convertible Bond		06/30/2023	CA_CASH_CLOSE		297,518	297,518	297,518	262,622	0	0	0	0	0	297,518	0	0	0	1,074	06/30/2023	5.B GI
..08888#-AA-4	Bidtellect, Inc. Promissory Note		06/30/2023	CA_CASH_CLOSE		2,222,992	2,222,992	2,222,992	1,963,415	0	0	0	0	0	2,222,992	0	0	0	5,559	06/30/2023	5.B GI
..09748R-AA-6	Bojangles Issuer LLC-BOJA 2020-1A A2		04/20/2023	PAYDOWN		20,000	20,000	20,000	20,000	0	0	0	0	0	20,000	0	0	0	383	10/20/2050	2.B FE
..09774X-AU-6	BOMSC Trust 1999-A-BCM 1999-A A3		04/01/2023	PAYDOWN		156	156	150	154	2	0	0	2	0	156	0	0	0	3	03/01/2029	6. *
..10568K-AA-6	BRAVO Residential Fundin-BRAVO 2022-NQM2		06/01/2023	PAYDOWN		105,902	105,902	105,901	105,901	0	1	0	1	0	105,902	0	0	0	1,857	11/01/2061	1.A FE
..10568K-AB-4	BRAVO Residential Fundin-BRAVO 2022-NQM2		06/01/2023	PAYDOWN		47,345	47,345	47,344	47,344	0	0	0	1	0	47,345	0	0	0	949	11/01/2061	1.C FE
..10569F-AC-2	BRAVO Residential Fundin-BRAVO 2022-NQM1		06/01/2023	PAYDOWN		247,906	247,906	247,718	247,763	0	143	0	143	0	247,906	0	0	0	4,017	09/01/2061	1.F FE
..10569J-AB-6	BRAVO Residential Fundin-BRAVO 2022-NQM3		06/01/2023	PAYDOWN		20,388	20,388	20,307	20,321	0	67	0	67	0	20,388	0	0	0	466	07/01/2062	1.C FE
..10948W-AA-1	Brightsphere Investment -SENIOR UNSECURE		05/01/2023	VARIOUS		349,799	372,000	371,327	371,745	0	8	0	8	0	371,753	0	(21,954)	(21,954)	13,690	07/27/2026	3.A FE
..11042A-AA-2	British Airways 2013-1 C-FIRST LIEN		06/06/2023	VARIOUS		4,762,688	4,828,614	4,834,186	4,830,027	0	(1,185)	0	(1,185)	0	4,828,843	0	(66,155)	(66,155)	99,873	06/20/2024	1.E FE
..11044M-AA-4	BRITISH AIR 20-1 A PPT-FIRST LIEN		05/15/2023	SINKING PAYMENT		36,987	36,987	36,987	36,982	0	5	0	5	0	36,987	0	0	0	786	11/15/2032	1.G FE
..115236-AE-1	Brown & Brown Inc-SENIOR UNSECURED		06/26/2023	BARCLAYS CAPITAL INC		22,494,000	25,000,000	25,436,950	25,406,859	0	(18,540)	0	(18,540)	0	25,388,318	0	(2,894,318)	(2,894,318)	812,292	03/17/2032	2.C FE
..11750*-AA-7	Bryan Health (Kearney NE Senior Secured		06/15/2023	SINKING PAYMENT		45,446	45,446	45,446	45,446	0	0	0	0	0	45,446	0	0	0	577	12/15/2046	1.E
..12325J-AD-3	Business Development Cor-SENIOR UNSECURE		05/30/2023	MATURITY		11,250,000	11,250,000	11,188,463	11,243,965	0	6,035	0	6,035	0	11,250,000	0	0	0	0	05/30/2023	2.C PL
..12327A-AA-6	Business Jet Securities -BJETS 2022-1A A		06/15/2023	PAYDOWN		433,033	433,033	420,110	421,404	0	11,629	0	11,629	0	433,033	0	0	0	7,621	06/15/2037	1.G FE
..12327F-AA-5	Business Jet Securities -BJETS 2020-1A A		06/15/2023	PAYDOWN		287,231	287,231	287,227	287,228	0	3	0	3	0	287,231	0	0	0	4,060	11/15/2035	1.F FE
..12479R-AE-7	CAPITAL AUTOMOTIVE REIT-SERIES 17-1A CLA		06/15/2023	PAYDOWN		13,899	13,899	13,933	13,906	0	(7)	0	(7)	0	13,899	0	0	0	206	04/15/2047	1.E FE
..12498W-JQ-8	Credit-Based Asset Servi-CBASS 2004-CB4		06/01/2023	PAYDOWN		736	736	735	731	0	6	0	6	0	736	0	0	0	13	05/01/2035	1.A FM
..12510H-AB-6	CARS-DB4 LP-CAUTO 2020-1A A2		06/15/2023	PAYDOWN		7,118	7,118	7,117	7,117	0	1	0	1	0	7,118	0	0	0	107	02/15/2050	1.A FE
..12510H-AC-4	Capital Automotive Reit-CAUTO 2020-1A A3		06/15/2023	PAYDOWN		7,415	7,415	7,410	7,410	0	5	0	5	0	7,415	0	0	0	86	02/15/2050	1.A FE
..12510H-AF-7	Capital Automotive Reit-CAUTO 2020-1A A6		06/15/2023	PAYDOWN		2,938	2,938	2,678	2,678	0	260	0	260	0	2,938	0	0	0	50	02/15/2050	1.E FE
..12510H-AM-2	CARS-DB5 LP-CAUTO 2021-1A A3		06/15/2023	PAYDOWN		1,444	1,444	1,284	1,304	0	139	0	139	0	1,444	0	0	0	12	08/15/2051	1.E FE
..12510H-AN-0	Capital Automotive REIT-CAUTO 2021-1A A4		06/15/2023	PAYDOWN		11,250	11,250	10,732	10,770	0	480	0	480	0	11,250	0	0	0	131	08/15/2051	1.E FE
..12510H-AQ-3	Capital Automotive REIT-CAUTO 2022-1A A2		06/15/2023	PAYDOWN		64,375	64,375	64,002	64,019	0	356	0	356	0	64,375	0	0	0	1,255	03/15/2052	1.E FE
..12529L-AA-8	CFMT 2020-HB4 LLC-CFMT 2020-HB4 A		04/25/2023	PAYDOWN		14,108,409	14,108,409	14,108,402	14,031,471	0	76,938	0	76,938	0	14,108,409	0	0	0	56,253	12/26/2030	1.A FE
..12530M-AA-3	CF Hippolyta LLC-SORT 2020-1 A1		04/15/2023	PAYDOWN		48,873	48,873	46,544	46,648	0	2,225	0	2,225	0	48,873	0	0	0	344	07/15/2060	1.D FE
..12530M-AB-1	CF Hippolyta Issuer LLC-SERIES 20-1 CLAS		06/15/2023	PAYDOWN		40,829	40,829	40,810	40,812	0	17	0	17	0	40,829	0	0	0	345	07/15/2060	1.D FE
..12530M-AE-5	CF Hippolyta LLC-SORT 2021-1A A1		04/15/2023	PAYDOWN		44,808	44,808	41,562	41,671	0	3,137	0	3,137	0	44,808	0	0	0	259	03/15/2061	3.D FE
..125431-AH-9	CHL Mortgage Pass-Throug-CIHL 2006-HYB4		06/01/2023	PAYDOWN		4,296	4,296	4,202	2,687	0	1,610	0	1,610	0	4,296	0	0	0	61	06/01/2036	1.A FM
..12543X-AD-8	CHL Mortgage Pass-Throug-CIHL 2006-19 1A		06/01/2023	PAYDOWN		1,448	1,617	1,097	1,073	0	544	14	530	0	1,448	0	0	0	44	01/01/2037	4.A FM
..12544B-AE-3	CHL Mortgage Pass-Throug-CIHL 2007-HY5 3		06/01/2023	PAYDOWN		60,362	60,824	47,338	51,161	0	9,303	0	9,303	0	60,362	0	0	0	1,209	09/01/2037	1.D FM
..12544D-AG-4	CHL Mortgage Pass-Throug-CIHL 2007-14 A7		06/01/2023	PAYDOWN		521	521	332	346	0	181	7	174	0	521	0	0	0	20	09/01/2037	2.C FM
..12544H-BF-6	CHL Mortgage Pass-Throug-CIHL 2007-HY7 A		06/01/2023	PAYDOWN		998	1,000	1,250	1,693	0	(694)	0	(694)	0	998	0	0	0	16	11/01/2037	1.A FM
..12545E-AK-2	CHL Mortgage Pass-Throug-CIHL 2007-J2 2A		06/01/2023	PAYDOWN		22,075	16,399	7,959	7,861	0	11,581	237	11,344	0	22,075	0	0	0	534	07/01/2037	1.A FM
..12546Y-AA-9	CHNGE Mortgage Trust-CHNGE 2022-2 A1		06/01/2023	PAYDOWN		1,154,688	1,154,688	1,154,679	1,154,682	0	6	0	6	0	1,154,688	0	0	0	19,228	03/01/2067	1.D FE
..12551S-AA-4	CHNGE Mortgage Trust 202-CHNGE 2022-4 A1		06/01/2023	PAYDOWN		718,551	718,551	704,115	705,691	0	12,860	0	12,860	0	718,551	0	0	0	22,430	10/01/2057	1.E FE
..12558M-AG-7	CIT Home Equity Loan Tru-CITHE 2002-1 AF		06/01/2023	PAYDOWN		7,601	7,601	7,531	7,531	0	71	0	71	0	7,601	0	0	0	283	02/01/2030	1.A FM
..12563L-AS-6	CLI Funding VI LLC-2020-3A A		06/18/2023	PAYDOWN		106,667	106,667	106,645	106,648	0	19	0	19	0	106,667	0	0	0	909	10/18/2045	1.F FE
..12564E-AA-0	CIM Trust 2021-J2-CIM 2021-J2 A1		06/01/2023	PAYDOWN		294,426	294,426	297,739	297,658	0	(3,232)	0	(3,232)	0	294,426	0	0	0	3,881	04/01/2051	1.A
..12564K-AA-6	CIM Trust 2021-J1-CIM 2021-J1 A1		06/01/2023	PAYDOWN		194,307	194,307	199,408	199,285	0	(4,978)	0	(4,978)	0	194,307	0	0	0	2,418	03/01/2051	1.A
..12565K-AA-5	CLI Funding VIII LLC-CLIF 2021-1A A		06/18/2023	PAYDOWN		109,128	109,128	93,419	93,513	0	15,615	0	15,615	0	109,128	0	0	0	746	02/18/2046	1.F FE
..12566U-AE-4	CitiMortgage Alternative-CMALT 2007-A2 1		06/01/2023	PAYDOWN		12,418	15,289	14,229	14,823	0	558	0	558	0	12,418	0	0	0	248	02/01/2037	3.B FM
..12566U-AN-4	CitiMortgage Alternative-CMALT 2007-A2 1		05/01/2023	PAYDOWN		11,488	19,527	15,953	15,953	0	524	(22,922)	23,446	0	11,488	0	0	0	209	02/01/2037	1.A FM
..12566V-AE-2	CitiMortgage Alternative-CMALT 2007-A4 1		05/01/2023	PAYDOWN		5,342	3,560	3,110	3,106	0	679	0	679	0	5,342	0	0	0	(4)	04/01/2037	1.A FM
..12566X-AM-0	CitiMortgage Alternative-CMALT 2007-A7 2		06/01/2023	PAYDOWN		10,957	9,180	8,799	8,952	0	250	0	250	0	10,957	0	0	0	56	07/01/2037	4.B FM
..12569C-AB-7	CHNGE Mortgage Trust 202-CHNGE 2022-NQM1		06/01/2023	PAYDOWN		190,016	190,016	189,583	189,636	0	379	0	379	0	190,016	0	0	0	6,023	06/01/2067	1.C FE

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Identification	Description	For-eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid-eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor-tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn-ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con-tractual Maturity Date	NAIC Desig-nation, NAIC Desig-nation Modifier and SVO Admini-strative Symbol
..12569C-AC-5	CHNGE Mortgage Trust 202-CHNGE 2022-NQM1 .....	.....	06/01/2023	PAYDOWN	.....	395,866	395,866	390,236	390,923	0	4,943	0	4,943	0	395,866	0	0	0	12,548	06/01/2067	1.F FE
..12575A-AB-3	CMFT Net Lease-CIMNL 2021-1 A2 .....	.....	06/20/2023	PAYDOWN	.....	52,869	52,869	52,846	52,846	0	21	0	21	0	52,869	0	0	0	566	07/20/2051	1.A FE
..12585@-AA-4	CHP (Fresno Ca) Trust Certificate .....	.....	06/15/2023	SINKING PAYMENT	.....	388,114	388,114	388,114	388,114	0	0	0	0	0	388,114	0	0	0	5,161	02/15/2028	1.F
..12591K-AD-7	COMM 2013-CORE12 Mortgage-COMM 2013-CR12 .....	.....	06/01/2023	PAYDOWN	.....	7,897,563	7,897,563	7,976,189	7,900,127	0	(2,563)	0	(2,563)	0	7,897,563	0	0	0	151,382	10/01/2046	1.A
..12593F-BC-7	COMM 2015-LC21 Mortgage -COMM 2015-LC21 .....	.....	05/01/2023	PAYDOWN	.....	197,555	197,555	198,844	197,905	0	(350)	0	(350)	0	197,555	0	0	0	3,403	07/01/2048	1.A
..12598R-AA-1	COLT 2021-5 Mortgage Loa-COLT 2021-5 A1 .....	.....	06/01/2023	PAYDOWN	.....	123,191	123,191	111,642	113,130	0	10,061	0	10,061	0	123,191	0	0	0	905	11/01/2066	1.A FE
..12625U-BF-9	COMM 2013-CORE9 Mortgage-COMM 2013-CR9 A .....	.....	04/01/2023	PAYDOWN	.....	7,414,393	7,414,393	7,681,574	7,426,107	0	(11,714)	0	(11,714)	0	7,414,393	0	0	0	208,475	07/01/2045	1.A
..12626G-AF-0	COMM 2013-LC13 Mortgage -COMM 2013-LC13 .....	.....	06/01/2023	PAYDOWN	.....	671,288	671,288	692,686	672,566	0	(1,278)	0	(1,278)	0	671,288	0	0	0	13,952	08/01/2046	1.A
..12628L-AD-2	CSAB Mortgage-Backed Tru-CSAB 2006-4 A2A .....	.....	06/01/2023	PAYDOWN	.....	31,892	31,892	7,724	7,917	0	24,184	209	23,975	0	31,892	0	0	0	288	12/01/2036	1.A FM
..12632Q-AW-3	COMM 2014-CORE18 Mortgage-COMM 2014-CR18 .....	.....	06/01/2023	PAYDOWN	.....	18,510	18,510	18,525	18,525	0	(15)	0	(15)	0	18,510	0	0	0	329	07/01/2047	1.A
..12638P-AB-5	CSMC Mortgage-Backed Tru-CSMC 2007-3 1A1 .....	.....	06/01/2023	PAYDOWN	.....	8,257	8,257	2,808	2,876	0	5,464	83	5,381	0	8,257	0	0	0	49	04/01/2037	1.A FM
..12640W-AC-4	CSMC Series 2008-3R-CSMC 2008-3R 1A2 .....	.....	06/01/2023	PAYDOWN	.....	9,316	10,388	9,525	9,655	0	605	0	605	0	9,316	0	0	0	200	07/01/2037	1.A FM
..126416-AB-2	CSMC 2022-NQM1-CSMC 2022-NQM1 A2 .....	.....	06/01/2023	PAYDOWN	.....	257,225	257,225	257,221	257,222	0	3	0	3	0	257,225	0	0	0	3,179	11/01/2066	1.C FE
..126416-AC-0	CSMC 2022-NQM1-CSMC 2022-NQM1 A3 .....	.....	06/01/2023	PAYDOWN	.....	629,919	629,919	629,916	629,917	0	2	0	2	0	629,919	0	0	0	8,096	11/01/2066	1.F FE
..12641T-AB-2	CSMC Series 2009-5R-CSMC 2009-5R 1A2 .....	.....	06/01/2023	PAYDOWN	.....	22,033	22,033	16,797	17,102	0	4,931	0	4,931	0	22,033	0	0	0	388	06/01/2036	1.A FM
..12646U-AK-1	CSMC Trust 2013-IVR1-CSMC 2013-IVR1 A2 .....	.....	06/01/2023	PAYDOWN	.....	42,422	42,422	39,665	39,970	0	2,452	0	2,452	0	42,422	0	0	0	702	03/01/2043	1.A
..12646W-AH-7	CSMC Trust 2013-IVR2-CSMC 2013-IVR2 A2 .....	.....	06/01/2023	PAYDOWN	.....	15,981	15,981	14,932	15,015	0	966	0	966	0	15,981	0	0	0	240	04/01/2043	1.A
..12646X-AJ-1	CSMC Trust 2013-IVR3-CSMC 2013-IVR3 A2 .....	.....	06/01/2023	PAYDOWN	.....	67,093	67,093	63,529	64,139	0	2,954	0	2,954	0	67,093	0	0	0	1,060	05/01/2043	1.A
..12647G-BZ-0	CSMC Trust 2013-IVR4-CSMC 2013-IVR4 A20 .....	.....	06/01/2023	PAYDOWN	.....	9,861	9,861	9,631	9,654	0	207	0	207	0	9,861	0	0	0	181	07/01/2043	1.A
..12647H-BC-9	CSMC Trust 2013-8R-CSMC 2013-8R 4A2 .....	.....	06/28/2023	PAYDOWN	.....	215,037	215,037	156,076	197,018	0	18,027	0	18,027	0	215,037	0	0	0	0	12/27/2036	1.A FM
..12647P-AK-4	CSMC Trust 2013-7-CSMC 2013-7 A6 .....	.....	06/01/2023	PAYDOWN	.....	25,677	25,677	24,747	24,796	0	881	0	881	0	25,677	0	0	0	473	08/01/2043	1.A
..12648H-BB-0	CSMC Trust 2014-IVR2-CSMC 2014-IVR2 B1 .....	.....	05/01/2023	PAYDOWN	.....	24,641	24,641	24,148	24,143	0	498	0	498	0	24,641	0	0	0	403	04/01/2044	1.A
..12648T-AQ-2	CSMC Trust 2014-IVR3-CSMC 2014-IVR3 B1 .....	.....	06/01/2023	PAYDOWN	.....	90,493	90,493	89,984	89,923	0	570	0	570	0	90,493	0	0	0	1,911	07/01/2044	1.A
..12659Y-AB-0	COLT 2022-3 Mortgage Loa-COLT 2022-3 A2 .....	.....	06/01/2023	PAYDOWN	.....	289,058	289,058	289,055	289,055	0	3	0	3	0	289,058	0	0	0	6,790	06/01/2028	1.C FE
..12659Y-AC-8	COLT 2022-3 Mortgage Loa-COLT 2022-3 A3 .....	.....	06/01/2023	PAYDOWN	.....	231,246	231,246	231,126	231,145	0	101	0	101	0	231,246	0	0	0	5,648	06/01/2028	1.F FE
..12660B-AB-7	Credit Suisse Mortgage C-CSMC 2022-ATH1 .....	.....	06/01/2023	PAYDOWN	.....	542,227	542,227	542,219	542,221	0	6	0	6	0	542,227	0	0	0	9,509	01/01/2067	1.C FE
..12660B-AC-5	Credit Suisse Mortgage C-CSMC 2022-ATH1 .....	.....	06/01/2023	PAYDOWN	.....	806,028	806,028	806,021	806,023	0	5	0	5	0	806,028	0	0	0	14,775	01/01/2067	1.F FE
..12663G-AA-5	COLT 2022-7 Mortgage Loa-COLT 2022-7 A1 .....	.....	06/01/2023	PAYDOWN	.....	110,147	110,147	110,146	110,147	0	0	0	0	0	110,147	0	0	0	2,191	04/01/2067	1.A FE
..12663G-AB-3	COLT 2022-7 Mortgage Loa-COLT 2022-7 A2 .....	.....	06/01/2023	PAYDOWN	.....	104,643	104,643	104,642	104,643	0	0	0	0	0	104,643	0	0	0	2,430	04/01/2067	1.C FE
..12663G-AC-1	COLT 2022-7 Mortgage Loa-COLT 2022-7 A3 .....	.....	06/01/2023	PAYDOWN	.....	55,075	55,075	54,700	54,752	0	323	0	323	0	55,075	0	0	0	1,613	04/01/2067	1.F FE
..12664A-AE-9	CSMC 2022-ATH3-CSMC 2022-ATH3 A2 .....	.....	06/01/2023	PAYDOWN	.....	264,399	264,399	264,397	264,399	0	0	0	0	0	264,399	0	0	0	6,582	08/01/2067	1.C FE
..12664A-AF-6	CSMC 2022-ATH3-CSMC 2022-ATH3 A3 .....	.....	06/01/2023	PAYDOWN	.....	275,563	275,563	275,562	275,563	0	0	0	0	0	275,563	0	0	0	8,629	08/01/2067	1.F FE
..126650-AN-0	CVS Pass-Through Trust-FIRST LIEN .....	.....	06/10/2023	SINKING PAYMENT	.....	80,500	80,500	82,333	80,642	0	(142)	0	(142)	0	80,500	0	0	0	972	10/10/2025	2.B
..126650-AW-0	CVS Pass-Through Trust-FIRST LIEN .....	.....	06/10/2023	SINKING PAYMENT	.....	66,020	66,020	66,020	66,021	0	(2)	0	(2)	0	66,020	0	0	0	1,458	01/11/2027	2.B
..126650-BQ-2	CVS HEALTH CORP PASS THRU CTF 30/360 .....	.....	06/10/2023	SINKING PAYMENT	.....	97,511	97,511	114,498	105,197	0	(7,686)	0	(7,686)	0	97,511	0	0	0	2,823	01/10/2030	2.B FE
..126650-BY-5	CVS PASS-THROUGH TRUST-SENIOR SECURED NO .....	.....	06/10/2023	SINKING PAYMENT	.....	10,795	10,795	12,757	11,868	0	(1,073)	0	(1,073)	0	10,795	0	0	0	267	01/10/2034	2.B FE
..12665E-AD-2	CSMC 2022-NQM4 Trust-CSMC 2022-NQM4 A2 .....	.....	06/01/2023	PAYDOWN	.....	107,823	107,823	104,925	105,172	0	2,651	0	2,651	0	107,823	0	0	0	2,155	06/01/2067	1.C FE
..12665V-AA-0	CVS Pass-Through Trust S-FIRST LIEN .....	.....	06/10/2023	SINKING PAYMENT	.....	79,841	79,841	79,841	79,841	0	0	0	0	0	79,841	0	0	0	1,386	08/11/2036	2.B FE
..12665W-AD-2	CSMC 2022-ATH2-CSMC 2022-ATH2 A2 .....	.....	06/01/2023	PAYDOWN	.....	211,515	211,515	205,434	0	0	6,081	0	6,081	0	211,515	0	0	0	0	05/01/2067	1.C FE
..126670-JP-4	CHL Mortgage Pass-Through-CIHL 2005-HYB9 .....	.....	06/01/2023	PAYDOWN	.....	8,405	8,405	6,562	6,916	0	1,486	0	1,486	0	8,405	0	0	0	113	02/01/2036	1.A FM
..126670-NY-0	CIABS Asset-Backed Certi-CIHL 2005-16 2AF .....	.....	06/01/2023	PAYDOWN	.....	17,662	17,662	16,916	22,569	0	(4,907)	0	(4,907)	0	17,662	0	0	0	392	05/01/2036	1.A FM
..12667F-4N-2	Alternative Loan Trust 2-CWALT 2005-7CB .....	.....	06/01/2023	PAYDOWN	.....	27,990	60,142	51,174	51,676	0	4,160	565	3,595	0	27,990	0	0	0	1,279	03/01/2038	1.A FM
..12667F-5E-1	Alternative Loan Trust 2-CWALT 2005-6CB .....	.....	06/01/2023	PAYDOWN	.....	23,472	26,385	23,410	23,664	0	2,563	64	2,499	0	23,472	0	0	0	594	04/01/2035	1.A FM
..12667F-EQ-6	Alternative Loan Trust 2-CWALT 2004-J2 3 .....	.....	06/01/2023	PAYDOWN	.....	17,134	17,134	17,014	17,081	0	54	0	54	0	17,134	0	0	0	553	04/01/2034	1.A FM
..12667F-HE-7	Alternative Loan Trust 2-CWALT 2004-J6 1 .....	.....	06/01/2023	PAYDOWN	.....	21,571	21,571	21,894	21,590	0	(19)	0	(19)	0	21,571	0	0	0	495	08/01/2024	1.A FM
..12667F-RG-2	Alternative Loan Trust 2-CWALT 2004-J6 2 .....	.....	06/01/2023	PAYDOWN	.....	304	304	306	304	0	0	0	0	0	304	0	0	0	8	11/01/2031	1.A FM

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Ident-ification	Description	For-eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid-eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor-tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn-ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con-tractual Maturity Date	NAIC Design-ation, NAIC Design-ation Modifier and SVO Admini-strative Symbol
..12667F-VN-2	COUNTRYWIDE ALTERNATIVE -SERIES 2004-24C		06/01/2023	PAYDOWN		232,746	232,746	232,600	230,500	0	2,246	0	2,246	0	232,746	0	0	0	5,601	11/01/2034	1.A FM
..12667G-AA-1	Alternative Loan Trust 2-CWALT 2005-13CB		06/25/2023	PAYDOWN		109,243	110,157	95,136	89,954	0	20,090	0	20,090	0	109,243	0	0	0	2,407	05/25/2035	1.A FM
..12667G-AC-7	Alternative Loan Trust 2-CWALT 2005-13CB		06/01/2023	PAYDOWN		14,970	15,095	13,729	13,452	0	1,634	0	1,634	0	14,970	0	0	0	350	05/01/2035	1.A FM
..12668A-4C-6	Alternative Loan Trust 2-CWALT 2005-IM1		06/26/2023	PAYDOWN		3,529	7,032	4,610	3,647	0	2,284	0	2,284	0	3,529	0	0	0	127	01/25/2036	5.B FM
..12668A-PC-3	Alternative Loan Trust 2-CWALT 2005-54CB		06/01/2023	PAYDOWN		43,759	41,114	32,759	34,998	0	7,341	506	6,835	0	43,759	0	0	0	1,025	11/01/2035	1.A FM
..12668A-XL-4	Alternative Loan Trust 2-CWALT 2005-63 5		06/01/2023	PAYDOWN		1,890	1,890	1,722	1,681	0	209	0	209	0	1,890	0	0	0	31	12/01/2035	1.A FM
..12668B-YA-5	Alternative Loan Trust 2-CWALT 2006-7CB		06/01/2023	PAYDOWN		3,405	6,539	5,648	3,059	0	3,007	0	3,007	0	3,405	0	0	0	187	05/01/2036	1.A FM
..12669A-4F-2	CHL Mortgage Pass-Through-CIHL 2006-HYB3		06/01/2023	PAYDOWN		16,165	13,608	13,068	13,419	0	279	0	279	0	16,165	0	0	0	94	05/01/2036	1.A FM
..12669A-BE-7	CHL Mortgage Pass-Through-CIHL 2005-HYB6		06/01/2023	PAYDOWN		7,478	7,233	6,142	6,222	0	1,057	0	1,057	0	7,478	0	0	0	123	10/01/2035	1.A FM
..12669A-CS-5	CHL Mortgage Pass-Through-CIHL 2005-21 A1		06/01/2023	PAYDOWN		2,298	2,319	1,824	1,853	0	468	7	461	0	2,298	0	0	0	54	10/01/2035	4.B FM
..12669A-O5-4	CHL Mortgage Pass-Through-CIHL 2006-HYB2		06/01/2023	PAYDOWN		3,452	7,372	6,456	5,911	0	(4,628)	0	(4,628)	0	3,452	0	0	0	109	04/01/2036	1.A FM
..12669A-O7-0	CHL Mortgage Pass-Through-CIHL 2006-HYB2		06/01/2023	PAYDOWN		5,928	5,928	5,410	6,057	0	(129)	0	(129)	0	5,928	0	0	0	90	04/01/2036	3.A FM
..12669A-LC-0	CHL Mortgage Pass-Through-CIHL 2005-24 A3		06/01/2023	PAYDOWN		17,616	17,621	13,444	13,680	0	3,940	0	3,940	0	17,616	0	0	0	257	11/01/2035	4.C FM
..12669A-MH-8	CHL Mortgage Pass-Through-CIHL 2005-HYB7		06/01/2023	PAYDOWN		90,610	90,533	72,426	77,540	0	13,011	0	13,011	0	90,610	0	0	0	1,473	11/01/2035	1.A FM
..12669A-QJ-0	CHL Mortgage Pass-Through-CIHL 2005-HYB8		06/01/2023	PAYDOWN		173,785	171,971	156,118	166,657	0	5,451	0	5,451	0	173,785	0	0	0	2,660	12/01/2035	1.A FM
..12669A-UJ-5	CHL Mortgage Pass-Through-CIHL 2005-31 1A		06/01/2023	PAYDOWN		15,520	15,520	12,652	12,643	0	2,876	0	2,876	0	15,520	0	0	0	254	01/01/2036	1.A FM
..12669A-UM-8	CHL Mortgage Pass-Through-CIHL 2005-31 2A		06/01/2023	PAYDOWN		9,073	9,073	8,730	8,666	0	404	0	404	0	9,073	0	0	0	124	01/01/2036	1.A FM
..12669A-UN-6	CHL Mortgage Pass-Through-CIHL 2005-31 2A		06/01/2023	PAYDOWN		14,014	14,014	13,484	13,385	0	625	0	625	0	14,014	0	0	0	192	01/01/2036	1.A FM
..12669D-US-5	CHL Mortgage Pass-Through-CIHL 2002-39 A1		06/01/2023	PAYDOWN		18,745	18,745	18,677	18,244	0	0	0	0	0	18,244	0	501	501	449	02/01/2033	1.A FM
..12669F-A8-6	CHL Mortgage Pass-Through-CIHL 2004-11 2A		06/01/2023	PAYDOWN		44,531	44,531	36,070	38,689	0	5,842	0	5,842	0	44,531	0	0	0	680	07/01/2034	1.A FM
..12669F-VH-3	CHL Mortgage Pass-Through-CIHL 2004-6 2A1		06/01/2023	PAYDOWN		5,053	5,053	5,063	5,011	0	42	0	42	0	5,053	0	0	0	75	05/01/2034	1.A FM
..12669G-3S-8	CHL Mortgage Pass-Through-CIHL 2005-16 A2		06/01/2023	PAYDOWN		33,120	33,127	26,205	26,409	0	9,214	(2,243)	11,457	0	33,120	0	0	0	687	09/01/2035	3.A FM
..12669G-4K-4	CHL Mortgage Pass-Through-CIHL 2005-J3 1A		06/01/2023	PAYDOWN		22,923	22,923	18,756	18,646	0	4,276	0	4,276	0	22,923	0	0	0	519	09/01/2035	1.A FM
..12669G-A5-0	CHL Mortgage Pass-Through-CIHL 2005-HYB3		06/01/2023	PAYDOWN		1,722	1,722	1,567	1,677	0	45	0	45	0	1,722	0	0	0	22	06/01/2035	1.A FM
..12669G-BY-6	CHL Mortgage Pass-Through-CIHL 2004-HYB7		06/01/2023	PAYDOWN		25,607	25,607	25,719	24,748	0	859	0	859	0	25,607	0	0	0	392	11/01/2034	1.A FM
..12669G-BZ-3	CHL Mortgage Pass-Through-CIHL 2004-HYB7		06/01/2023	PAYDOWN		74,584	74,584	74,909	72,040	0	2,544	0	2,544	0	74,584	0	0	0	1,140	11/01/2034	1.A FM
..12669G-GH-8	CHL Mortgage Pass-Through-CIHL 2004-HYB8		06/01/2023	PAYDOWN		35,831	35,831	29,292	30,984	0	4,847	0	4,847	0	35,831	0	0	0	656	01/01/2035	1.A FM
..12669G-R4-5	CHL Mortgage Pass-Through-CIHL 2005-15 A8		06/01/2023	PAYDOWN		18,349	18,689	11,855	11,627	0	7,020	0	7,020	0	18,349	0	0	0	509	08/01/2035	1.A FM
..12694*-AA-4	CVS (New Albany, IN) Trust Certificate		06/15/2023	SINKING PAYMENT		44,891	44,891	44,891	44,891	0	0	0	0	0	44,891	0	0	0	1,534	01/15/2041	2.B
..12697*-AA-7	Cric KY HQ LLC Senior Secured Note		06/15/2023	SINKING PAYMENT		37,400	37,400	37,400	37,401	0	(1)	0	(1)	0	37,400	0	0	0	1,117	03/15/2042	1.D PL
..12707*-AA-9	CVS (NC SC PA & VA) Con Trust Certifica		06/15/2023	SINKING PAYMENT		111,662	111,662	111,662	111,663	0	0	0	0	0	111,662	0	0	0	3,019	01/15/2044	2.B
..127248-AA-6	CVS (Clawson & Richmond Trust Certificat		06/15/2023	SINKING PAYMENT		121,982	121,982	123,156	122,974	0	(992)	0	(992)	0	121,982	0	0	0	2,059	01/15/2035	2.B
..12733*-AA-3	CTL Pass-Thru Trust Seri Trust Certifica		06/15/2023	SINKING PAYMENT		72,952	72,952	72,952	72,952	0	0	0	0	0	72,952	0	0	0	650	10/15/2043	2.A
..127608-AA-1	CGA Capital Corp Pass Thru Cfts Series 2		06/10/2023	SINKING PAYMENT		251,802	251,802	251,802	251,802	0	0	0	0	0	251,802	0	0	0	0	03/10/2031	1.B
..12762*-AA-1	ODI Tuscany Intermediate Senior Secured		06/30/2023	SINKING PAYMENT		43,264	43,264	43,264	43,264	0	0	0	0	0	43,264	0	0	0	666	06/30/2040	2.A PL
..13177*-AA-8	Camargo Investments I LL Senior Note		06/20/2023	CA_CASH_CLOSE		3,552,920	3,552,920	3,552,920	3,552,920	0	0	0	0	0	3,552,920	0	0	0	38,425	05/31/2024	1.F PL
..133131-AS-1	CAMDEN PROPERTY TRUST-SENIOR UNSECURED N		06/15/2023	MATURITY		5,000,000	5,000,000	4,943,900	4,997,147	0	2,853	0	2,853	0	5,000,000	0	0	0	121,875	06/15/2023	1.G FE
..138616-AE-7	Cantor Fitzgerald LP-SENIOR UNSECURED		05/30/2023	STIFEL NICOLAUS		9,775,000	10,000,000	9,970,600	9,991,166	0	2,745	0	2,745	0	9,993,912	(218,912)	(218,912)	284,375	05/01/2024	2.C FE	
..14040H-BK-0	Capital One Financial Co-SUBORDINATED		04/14/2023	MORGAN		463,220	500,000	475,900	476,327	0	1,791	0	1,791	0	478,118	(14,898)	(14,898)	13,542	07/28/2026	2.B FE	
..141781-G#-5	Cargill Inc. Senior Note		06/30/2023	MATURITY		394,737	394,737	462,261	397,398	0	(67,524)	0	(67,524)	0	394,737	0	0	0	0	06/30/2023	1.F Z
..14576A-AA-0	Cars Net Lease Mortgage -CARM 2020-1A A1		06/15/2023	PAYDOWN		17,500	17,500	17,493	17,493	0	7	0	7	0	17,500	0	0	0	129	12/15/2050	1.A FE
..14576A-AB-8	Cars Net Lease Mortgage -CARM 2020-1A A2		06/15/2023	PAYDOWN		1,875	1,875	1,874	1,874	0	1	0	1	0	1,875	0	0	0	21	12/15/2050	1.A FE
..14576A-AC-6	Cars Net Lease Mortgage -CARM 2020-1A A3		06/15/2023	PAYDOWN		2,813	2,813	2,811	2,811	0	2	0	2	0	2,813	0	0	0	43	12/15/2050	1.F FE
..14686G-AD-8	Carvana Auto Receivables-CRVNA 2022-N1 C		06/10/2023	PAYDOWN		154,467	154,467	154,450	154,457	0	11	0	11	0	154,467	0	0	0	2,564	12/11/2028	1.E FE
..14855M-AA-6	Castlelake Aircraft Secu-SERIES 2019-1A		06/15/2023	PAYDOWN		69,116	69,116	69,116	69,117	0	(1)	0	(1)	0	69,116	0	0	0	1,080	04/15/2039	2.B FE
..14855W-AA-4	Castlelake Secured Aviat Notes Class A		06/15/2023	SINKING PAYMENT		427,326	427,326	416,473	0	0	10,852	0	10,852	0	427,326	0	0	0	2,042	07/31/2036	1.F Z

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22	
										11	12	13	14	15								
CUSIP Ident-ification	Description	For-eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid-eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor-tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn-ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con-tractual Maturity Date	NAIC Design-ation, NAIC Design-ation Modifier and SVO Administrative Symbol	
..14856G-AA-8	Castlelake Aircraft Stru-CLAST 2021-1A A		06/15/2023	PAYDOWN		115,970	115,970	115,967	115,970	0		0	0	0	115,970	0	0	0	1,655	01/15/2046	1.G FE	
..152314-KJ-8	Centex Home Equity Loan -CXHE 2004-C AFS		06/01/2023	PAYDOWN		71,569	71,569	71,390	71,295	0	274	0	274	0	71,569	0	0	0	1,791	06/01/2034	1.A FM	
..161175-BQ-6	Charter Communications 0-FIRST LIEN		05/30/2023	VARIOUS		7,910,130	8,000,000	7,991,440	7,998,116	0	426	0	426	0	7,998,542	0	(88,412)	(88,412)	298,125	02/01/2024	2.C FE	
..161546-CW-4	Chase Funding Trust Seri-CFAB 2002-3 1A5		06/01/2023	PAYDOWN		79,261	79,261	78,472	78,810	0	451	0	451	0	79,261	0	0	0	2,631	06/01/2032	1.A FM	
..16159W-AC-8	Chase Home Lending Mortg-CHASE 2019-1 A3		06/01/2023	PAYDOWN		10,952	10,952	11,212	11,232	0	(280)	0	(280)	0	10,952	0	0	0	191	03/01/2050	1.A	
..16162W-PV-5	Chase Mortgage Finance T-CHASE 2005-A2 1		06/01/2023	PAYDOWN		6,143	6,143	5,279	4,551	0	1,592	0	1,592	0	6,143	0	0	0	120	01/01/2036	1.A FM	
..16162Y-AL-9	Chase Mortgage Finance T-CHASE 2006-S4 A		04/25/2023	PAYDOWN		0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	12/25/2036	3.B FM
..161630-BA-5	Chase Mortgage Finance T-CHASE 2007-A1 1		06/01/2023	PAYDOWN		41,998	41,998	40,659	40,970	0	1,027	0	1,027	0	41,998	0	0	0	944	02/01/2037	1.A FM	
..16165M-AG-3	ChaseFlex Trust Series 2-CFKX 2006-2 A5		06/01/2023	PAYDOWN		88,203	89,693	82,036	84,564	0	7,615	2,978	4,637	0	88,203	0	0	0	1,958	09/01/2036	1.A FM	
..16372F-AA-0	Chemical Bank Pass-Thru Certificate		06/10/2023	SINKING PAYMENT		49,329	49,329	49,329	49,329	0	0	0	0	0	49,329	0	0	0	0	06/10/2044	2.A	
..16877F-AA-0	Childress Klien-Cambridg Senior Secured		06/05/2023	SINKING PAYMENT		180,480	180,480	180,706	180,632	0	(152)	0	(152)	0	180,480	0	0	0	4,400	02/05/2036	1.B	
..170257-AE-9	CHL Mortgage Pass-Through-CIHL 2006-16 3A		05/01/2023	PAYDOWN		0	(33)	(16)	(13)	0	1	0	1	0	0	0	0	0	(1)	11/01/2036	1.A FM	
..17025A-AH-5	CHL Mortgage Pass-Through-CIHL 2006-17 A8		06/25/2023	PAYDOWN		0	40,700	21,872	20,552	0	1,605	0	1,605	0	0	0	0	0	845	12/25/2036	1.A FM	
..17025R-AA-3	COUNTRYWIDE HOME LOANS-SERIES 2007-HY4 C		06/01/2023	PAYDOWN		96,566	97,102	70,128	70,368	0	26,518	0	26,518	0	96,566	0	0	0	1,640	09/01/2047	1.A FM	
..17030J-AA-4	CHNGE Mortgage Trust 202-CHNGE 2022-1 A1		06/01/2023	PAYDOWN		776,298	776,298	776,292	776,298	0	0	0	0	0	776,298	0	0	0	10,577	01/01/2067	1.C FE	
..17287H-AA-8	Citadel Finance LLC-SENIOR UNSECURED		06/23/2023	GOLDMAN		11,713,780	13,000,000	12,939,030	12,959,976	0	5,780	0	5,780	0	12,965,756	0	(1,251,976)	(1,251,976)	351,000	03/09/2026	2.C FE	
..172967-HB-0	CITIGROUP INC-SUBORDINATED		04/20/2023	VARIOUS		2,266,602	2,267,000	2,267,000	2,267,000	0	0	0	0	0	2,267,000	0	(398)	(398)	74,801	09/13/2025	2.B FE	
..17307G-EB-7	Citigroup Mortgage Loan -CMLT1 2005-8 1A		06/01/2023	PAYDOWN		5,935	32,388	27,452	27,760	0	822	0	822	0	5,935	0	0	0	1,339	10/01/2035	1.A FM	
..17307G-ED-6	Citigroup Mortgage Loan -CMLT1 2004-HYB2		06/01/2023	PAYDOWN		18,741	18,741	16,882	16,942	0	1,997	198	1,799	0	18,741	0	0	0	335	03/01/2034	1.A FM	
..17307G-RE-0	Citigroup Mortgage Loan -CMLT1 2005-2 1A		06/01/2023	PAYDOWN		3,837	3,837	3,572	3,693	0	144	0	144	0	3,837	0	0	0	61	05/01/2035	1.A FM	
..17307G-TY-4	Citigroup Mortgage Loan -CMLT1 2005-3 24		06/01/2023	PAYDOWN		19,098	19,687	18,728	16,579	0	3,448	0	3,448	0	19,098	0	0	0	281	08/01/2035	1.A FM	
..17307G-VN-5	Citigroup Mortgage Loan -CMLT1 2005-WF2		06/01/2023	PAYDOWN		162	162	135	27	0	136	0	136	0	162	0	0	0	4	08/01/2035	1.A FM	
..17307G-W9-5	Citigroup Mortgage Loan -CMLT1 2005-11 A		06/01/2023	PAYDOWN		819	819	792	803	0	16	0	16	0	819	0	0	0	26	11/01/2035	1.A FM	
..17309A-AD-1	CitiMortgage Alternative-CMALT 2006-A1 1		06/01/2023	PAYDOWN		39,059	30,296	28,957	29,588	0	1,248	0	1,248	0	39,059	0	0	0	443	04/01/2036	1.F FM	
..17309A-AF-6	CitiMortgage Alternative-CMALT 2006-A1 1		06/01/2023	PAYDOWN		41,871	41,797	39,621	39,038	0	2,720	0	2,720	0	41,871	0	0	0	532	04/01/2036	1.A FM	
..17309B-AB-3	Citigroup Mortgage Loan -CMLT1 2006-WF2		06/01/2023	PAYDOWN		4,957	4,957	2,212	2,264	0	2,748	55	2,693	0	4,957	0	0	0	43	05/01/2036	1.A FM	
..17309N-AG-6	Citicorp Residential Mor-CRMS1 2006-1 M1		06/01/2023	PAYDOWN		220,821	220,821	211,574	217,214	0	3,607	0	3,607	0	220,821	0	0	0	5,414	07/01/2036	1.A FM	
..17309V-AH-6	CitiMortgage Alternative-CMALT 2006-A4 1		05/01/2023	PAYDOWN		7,181	6,893	6,624	6,742	0	143	0	143	0	7,181	0	0	0	97	09/01/2036	4.A FM	
..17312H-AF-6	Citicorp Residential Mor-CRMS1 2007-2 A6		06/01/2023	PAYDOWN		716	716	689	704	0	12	0	12	0	716	0	0	0	16	06/01/2037	1.A FM	
..17312V-AA-6	Citigroup Mortgage Loan -CMLT1 2007-6 1A		06/01/2023	PAYDOWN		1,053	1,094	382	535	0	531	0	531	0	1,053	0	0	0	3	03/01/2037	1.A FM	
..17322N-AD-6	Citigroup Mortgage Loan -CMLT1 2014-J1 A		06/01/2023	PAYDOWN		12,687	12,687	12,611	12,423	0	264	0	264	0	12,687	0	0	0	199	06/01/2044	1.A	
..17323M-AE-5	Citigroup Mortgage Loan -CMLT1 2015-A B3		06/01/2023	PAYDOWN		147,280	147,280	133,841	137,159	0	10,121	0	10,121	0	147,280	0	0	0	2,783	06/01/2058	1.A	
..174610-AW-5	Citizens Financial Group-SUBORDINATED		05/03/2023	BARCLAYS CAPITAL INC		6,605,309	9,413,000	9,413,000	9,413,000	0	0	0	0	0	9,413,000	0	(2,807,691)	(2,807,691)	147,713	09/30/2032	2.B FE	
..18977W-ZC-3	CNO Global Funding-SECURED		06/21/2023	SUNTRUST CAPITAL MAR		4,964,850	5,900,000	5,427,469	5,474,132	0	30,206	0	30,206	0	5,504,338	0	(539,488)	(539,488)	150,704	01/06/2029	1.G FE	
..19260Q-AD-9	Coinbase Global Inc-SENIOR UNSECURED		06/06/2023	MORGAN		534,465	963,000	947,953	949,589	0	570	0	570	0	950,159	0	(415,694)	(415,694)	23,951	10/01/2031	4.A FE	
..19421U-AB-0	College Avenue Student L-CASL 2019-A A2		06/25/2023	PAYDOWN		125,947	125,947	125,900	125,913	0	33	0	33	0	125,947	0	0	0	1,666	12/28/2048	1.A FE	
..19424K-AB-9	College Avenue Student L-CASL 2021-A A2		06/25/2023	PAYDOWN		217,338	217,338	217,295	217,299	0	39	0	39	0	217,338	0	0	0	1,357	07/25/2051	1.A FE	
..19424K-AD-5	College Ave Student Loan-CASL 2021-A C		06/25/2023	PAYDOWN		553,854	553,854	509,546	516,220	0	37,634	0	37,634	0	553,854	0	0	0	6,751	07/25/2051	1.F FE	
..19624R-AA-4	Colony Capital Inc-SENIOR UNSECURED		04/15/2023	MATURITY		21,500,000	21,500,000	22,180,700	21,538,519	0	(38,519)	0	(38,519)	0	21,500,000	0	0	0	537,500	04/15/2023	3.B FE	
..19685G-AA-4	COLT Funding LLC-COLT 2022-4 A1		06/01/2023	PAYDOWN		159,202	159,202	155,819	156,108	0	3,094	0	3,094	0	159,202	0	0	0	3,028	03/01/2067	1.A FE	
..19685G-AC-0	COLT Funding LLC-COLT 2022-4 A3		06/01/2023	PAYDOWN		212,993	212,993	211,182	211,369	0	1,624	0	1,624	0	212,993	0	0	0	5,037	03/01/2067	1.F FE	
..19687Y-AA-3	COLT 2020-RPL1 Trust-COLT 2020-RPL1 A1		06/01/2023	PAYDOWN		612,719	612,719	612,719	612,711	0	8	0	8	0	612,719	0	0	0	3,353	01/01/2065	1.A FE	
..19688E-AA-6	COLT 2021-1 Mortgage Loa-COLT 2021-1 A1		06/01/2023	PAYDOWN		185,952	185,952	163,638	165,711	0	20,241	0	20,241	0	185,952	0	0	0	903	06/01/2066	1.A FE	
..19688F-AA-3	COLT 2021-3 Mortgage Loa-COLT 2021-3 A1		06/01/2023	PAYDOWN		364,800	364,800	313,272	317,735	0	47,065	0	47,065	0	364,800	0	0	0	1,507	09/01/2066	1.A FE	
..19688H-AA-9	COLT 2022-1 Mortgage Loa-COLT 2022-1 A1		06/01/2023	PAYDOWN		725,250	725,250	725,243	725,245	0	5	0	5	0	725,250	0	0	0	8,639	12/01/2066	1.A FE	
..19688L-AA-0	COLT 2022-5 Mortgage Loa-COLT 2022-5 A1		06/01/2023	PAYDOWN		242,850	242,850	242,775	242,850	0	0	0	0	0	242,850	0	0	0	4,638	04/01/2067	1.A FE	

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Ident-ification	Description	For- eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid- eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor- tization)/ Accretion	Current Year's Other Than Temporary Impairment Recog- nized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con- tractual Maturity Date	NAIC Desig- nation, NAIC Desig- nation Modifier and SVO Admini- strative Symbol
..19688L-AB-8	COLT 2022-5 Mortgage Loa-COLT 2022-5 A2 .....	.....	06/01/2023	PAYDOWN	.....	404,919	404,919	399,021	400,050	0	4,869	0	4,869	0	404,919	0	0	0	7,733	03/01/2067	1.C FE
..19688M-AB-6	COLT 2022-8 Mortgage Loa-COLT 2022-8 A2 .....	.....	06/01/2023	PAYDOWN	.....	73,532	73,532	72,917	72,950	0	582	0	582	0	73,532	0	0	0	2,986	08/01/2067	1.C FE
..19688M-AC-4	COLT 2022-8 Mortgage Loa-COLT 2022-8 A3 .....	.....	06/01/2023	PAYDOWN	.....	76,147	76,147	74,974	75,036	0	1,111	0	1,111	0	76,147	0	0	0	3,092	08/01/2067	1.F FE
..20267U-AA-7	COMMONBOND STUDENT LOAN -SERIES 16-B CLA .....	.....	06/25/2023	PAYDOWN	.....	52,444	52,444	52,430	52,431	0	13	0	13	0	52,444	0	0	0	596	10/25/2040	1.A FE
..20268B-AB-6	Commonbond Student Loan -GBSLT 2020-1 B .....	.....	06/25/2023	PAYDOWN	.....	73,907	73,907	62,821	0	11,086	0	11,086	0	73,907	0	0	0	265	10/25/2051	1.D FE	
..20753Y-CH-3	Connecticut Avenue Secur-CAS 2022-R04 1M .....	.....	06/26/2023	PAYDOWN	.....	296,478	296,478	296,339	296,478	0	0	0	0	0	296,478	0	0	0	8,084	03/25/2042	1.E
..20755D-AA-4	Connecticut Avenue Secur-CAS 2022-R08 1M .....	.....	06/26/2023	PAYDOWN	.....	702,914	702,914	706,610	706,316	0	(3,402)	0	(3,402)	0	702,914	0	0	0	20,638	07/25/2042	2.A
..210795-OB-9	Continental Airlines 201-FIRST LIEN .....	.....	06/06/2023	VARIOUS	.....	5,342,278	5,520,171	5,561,572	5,532,445	0	(3,877)	0	(3,877)	0	5,528,567	0	(186,289)	(186,289)	133,244	10/29/2024	2.B FE
..21871X-AA-7	Corebridge Financial Inc-SENIOR UNSECURE .....	.....	05/30/2023	EXCHANGE OFFER	.....	9,956,308	10,000,000	9,932,200	9,946,925	0	9,383	0	9,383	0	9,956,308	0	0	0	229,444	04/04/2025	2.B FE
..21871X-AC-3	SAFG Retirement Services-SENIOR UNSECURE .....	.....	05/31/2023	EXCHANGE OFFER	.....	7,987,880	8,736,000	7,884,677	7,916,790	0	71,090	0	71,090	0	7,987,880	0	0	0	209,033	04/05/2027	2.B FE
..21871X-AE-9	Corebridge Financial Inc-SENIOR UNSECURE .....	.....	05/31/2023	EXCHANGE OFFER	.....	9,483,190	10,000,000	9,419,640	9,451,555	0	31,635	0	31,635	0	9,483,190	0	0	0	252,389	04/05/2029	2.B FE
..21871X-AG-4	SAFG Retirement Services-SENIOR UNSECURE .....	.....	05/31/2023	EXCHANGE OFFER	.....	11,959,589	12,500,000	11,910,400	11,939,070	0	20,519	0	20,519	0	11,959,589	0	0	0	319,583	04/05/2032	2.B FE
..21872M-AA-0	CoreVest American Financ-CAFL 2018-2 A .....	.....	06/01/2023	PAYDOWN	.....	1,243,247	1,243,247	1,243,237	1,243,189	0	58	0	58	0	1,243,247	0	0	0	20,488	11/01/2052	1.A FE
..22160B-AA-6	Costco (Monterey Park C Trust Certifica .....	.....	06/20/2023	SINKING PAYMENT	.....	30,955	30,955	30,955	30,951	0	5	0	5	0	30,955	0	0	0	436	06/20/2043	1.E
..22163B-AA-1	Costco (Oceanside NY) Le Trust Certifica .....	.....	06/15/2023	SINKING PAYMENT	.....	76,298	76,298	76,298	76,298	0	0	0	0	0	76,298	0	0	0	1,262	11/30/2041	1.E
..224044-CE-5	Cox Communications Inc-SENIOR UNSECURED .....	.....	05/30/2023	BARCLAYS CAPITAL INC	.....	11,561,326	11,900,000	11,084,559	11,684,939	0	41,042	0	41,042	0	11,725,981	0	(164,655)	(164,655)	381,792	02/01/2025	2.B FE
..224399-AR-6	Crane Co-SENIOR UNSECURED .....	.....	04/04/2023	CALL 100	.....	7,500,000	7,500,000	7,499,400	7,500,000	0	0	0	0	0	7,500,000	0	0	0	101,052	12/15/2023	2.B FE
..22541Q-CZ-3	Credit Suisse First Bost-CSFB 2003-AR15 .....	.....	06/26/2023	PAYDOWN	.....	25,609	25,609	25,609	26,017	0	(408)	0	(408)	0	25,609	0	0	0	533	06/25/2033	1.A FM
..22541Q-FV-9	CSFB MORTGAGE-BACKED PAS-CSFB 2003-17 1A .....	.....	06/01/2023	PAYDOWN	.....	16,816	16,816	16,973	16,786	0	30	0	30	0	16,816	0	0	0	377	06/01/2033	3.C FM
..22541Q-XS-6	Credit Suisse First Bost-CSFB 2003-23 DB .....	.....	05/01/2023	PAYDOWN	.....	19,816	19,816	19,828	19,773	0	43	0	43	0	19,816	0	0	0	578	09/01/2033	1.C FM
..22541S-PJ-1	CSFB Mortgage-Backed Tru-CSFB 2004-AR6 C .....	.....	05/25/2023	PAYDOWN	.....	14,779	14,779	11,749	13,147	0	1,632	0	1,632	0	14,779	0	0	0	262	10/25/2034	1.A FM
..225458-2Y-3	Credit Suisse First Bost-CSFB 2005-8 9A1 .....	.....	06/30/2023	PAYDOWN	.....	287	287	243	247	0	41	0	41	0	287	0	0	0	2	09/01/2035	2.C FM
..225458-L5-5	Credit Suisse First Bost-CSFB 2005-7 1A1 .....	.....	05/01/2023	PAYDOWN	.....	1,601	1,601	1,546	1,470	0	140	9	131	0	1,601	0	0	0	35	08/01/2035	3.C FM
..225458-LD-8	CSFB MORTGAGE-BACKED PAS-CSFB 2005-3 6A1 .....	.....	05/01/2023	PAYDOWN	.....	169,832	169,832	149,877	160,857	0	8,975	0	8,975	0	169,832	0	0	0	4,065	07/01/2035	1.A FM
..225470-VF-7	CSMC Mortgage-Backed Tru-CSMC 2006-1 3A1 .....	.....	04/01/2023	PAYDOWN	.....	16,096	16,105	9,863	10,100	0	6,173	171	6,002	0	16,096	0	0	0	206	02/01/2036	1.A FM
..22549N-AA-9	Credit Suisse ABS Repack-CSRT 2018-PS1 A .....	.....	04/25/2023	PAYDOWN	.....	937,673	937,673	909,542	919,812	0	17,860	0	17,860	0	937,673	0	0	0	23,343	01/01/2037	1.D FE
..225490-FJ-9	Credit Suisse First Bost-CSFB 2003-1 1A1 .....	.....	06/01/2023	PAYDOWN	.....	3,702	3,702	3,836	3,762	0	(60)	0	(60)	0	3,702	0	0	0	108	02/01/2033	2.B FM
..22942M-BF-2	CSMC Mortgage-Backed Tru-CSMC 2006-8 5A1 .....	.....	06/01/2023	PAYDOWN	.....	21,805	21,805	21,260	22,253	0	(448)	0	(448)	0	21,805	0	0	0	605	10/01/2026	3.C FM
..22960B-AA-0	CTL PASS THRU TR SER 2013 (OCHSNER SLIDE .....	.....	06/15/2023	SINKING PAYMENT	.....	233,011	233,011	233,011	233,015	0	(5)	0	(5)	0	233,011	0	0	0	5,110	12/15/2028	1.G
..22965B-AA-3	WAG (Edina, Minnesota) C Trust Certifica .....	.....	06/15/2023	SINKING PAYMENT	.....	46,754	46,754	47,222	47,092	0	(338)	0	(338)	0	46,754	0	0	0	1,073	07/15/2037	2.B
..22970B-AA-8	BNSF (Dayton, Texas) Con Trust Certifica .....	.....	05/01/2023	SINKING PAYMENT	.....	109,856	109,856	109,856	109,859	0	(3)	0	(3)	0	109,856	0	0	0	720	05/15/2034	1.D PL
..22977B-AA-9	CTL Pass-Thru Trust Seri Trust Certifica .....	.....	06/15/2023	SINKING PAYMENT	.....	73,340	73,340	73,340	73,340	0	0	0	0	0	73,340	0	0	0	551	12/15/2038	1.E
..23242L-AB-9	CIWHEQ Revolving Home Equ-CIWHEL 2006-F 2A .....	.....	06/15/2023	PAYDOWN	.....	15,895	15,895	11,107	15,003	0	892	0	892	0	15,895	0	0	0	322	07/15/2036	1.A FM
..233046-AF-8	DNKN 2017-1A A21I .....	.....	05/20/2023	PAYDOWN	.....	52,500	52,500	52,500	52,500	0	0	0	0	0	52,500	0	0	0	1,058	11/20/2047	2.B FE
..233046-AH-4	DB Master Finance LLC-DNKN 2017-1AW A21I .....	.....	05/20/2023	PAYDOWN	.....	30,000	30,000	29,986	29,993	0	7	0	7	0	30,000	0	0	0	503	11/20/2047	1.C FE
..233046-AM-3	DB Master Finance LLC-DNKN 2019-1AW A23I .....	.....	05/20/2023	PAYDOWN	.....	45,000	45,000	45,480	45,327	0	(327)	0	(327)	0	45,000	0	0	0	900	05/20/2049	1.C FE
..23316B-AA-5	DEA (Nashville TN) LLC Pass-Thru Certifi .....	.....	06/05/2023	SINKING PAYMENT	.....	88,911	88,911	88,911	88,911	0	0	0	0	0	88,911	0	0	0	239	08/05/2040	1.B
..23332U-AD-6	DSLA Mortgage Loan Trust-DSLA 2004-AR1 A .....	.....	06/20/2023	PAYDOWN	.....	11,203	11,203	9,827	10,370	0	833	0	833	0	11,203	0	0	0	133	09/19/2044	1.A FM
..24023B-AA-7	DC Department of Correct Pass-Thru Certi .....	.....	06/15/2023	SINKING PAYMENT	.....	83,467	83,467	83,467	83,589	0	(122)	0	(122)	0	83,467	0	0	0	2,310	03/15/2033	1.B PL
..24703T-AA-4	Dell International LLC -FIRST LIEN .....	.....	04/17/2023	CALL 100	.....	3,202,000	3,202,000	3,200,623	3,201,855	0	(130)	0	(130)	0	3,201,725	0	275	275	59,139	06/15/2023	2.B FE
..24763L-FN-5	Delta Funding Home Equit-DELHE 1999-2 A7 .....	.....	06/01/2023	PAYDOWN	.....	7	7	7	7	0	0	0	0	0	7	0	0	0	0	08/01/2030	1.A FM
..25150M-AC-0	Deutsche Alt-A Securitie-DBALT 2007-RMP1 .....	.....	06/26/2023	PAYDOWN	.....	102,413	102,413	80,650	94,328	0	8,085	0	8,085	0	102,413	0	0	0	725	12/25/2036	1.A FM
..25150N-AB-0	Deutsche Alt-A Securitie-DBALT 2006-AR5 .....	.....	06/26/2023	PAYDOWN	.....	49,628	49,628	26,427	31,916	0	31,916	0	31,916	0	49,628	0	0	0	213	10/25/2036	1.A FM
..251510-CV-3	Deutsche Alt-A Securitie-DBALT 2005-1 1A .....	.....	06/25/2023	PAYDOWN																	

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Ident- ification	Description	For- eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid- eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor- tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn- ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con- tractual Maturity Date	NAIC Desig- nation, NAIC Desig- nation Modifier and SVO Admini- strative Symbol
..251510-MD-2	Deutsche Alt-B Securitie-DBALT 2006-AB1		05/01/2023	PAYDOWN		15,635	15,779	15,753	10,657	0	5,121	0	5,121	0	15,635	0	0	0	248	02/01/2036	1.A FM
..251563-FP-2	Deutsche Mortgage Securi-DMSI 2004-4 7AR		06/25/2023	PAYDOWN		0	0	2,632	14	0	0	0	0	0	0	0	0	0	0	06/25/2034	6. *
..25273C-AB-6	Diamond Resorts Owner Tr-DROT 2021-1A B		06/20/2023	PAYDOWN		144,664	144,664	143,782	143,970	0	693	0	693	0	144,664	0	0	0	1,216	11/21/2033	1.F FE
..25512D-AA-7	Diversified ABS Phase V Senior Secured N		06/30/2023	SINKING PAYMENT		2,784,452	2,784,452	2,784,452	2,784,452	0	0	0	0	0	2,784,452	0	0	0	85,303	12/31/2030	2.B FE
..25755T-AE-0	DOMINOS PIZZA MASTER ISS-SERIES 2015-1A		04/25/2023	PAYDOWN		40,000	40,000	40,000	40,000	0	0	0	0	0	40,000	0	0	0	895	10/25/2045	2.A FE
..25755T-AH-3	DOMINOS PIZZA MASTER ISS-SERIES 17-1A CL		04/25/2023	PAYDOWN		57,500	57,500	57,477	57,480	0	20	0	20	0	57,500	0	0	0	1,184	07/25/2047	2.A FE
..25755T-AJ-9	Domino's Pizza Master Is-DPABS 2018-1A A		04/25/2023	PAYDOWN		17,500	17,500	17,500	17,501	0	(1)	0	(1)	0	17,500	0	0	0	360	07/25/2048	2.A FE
..25755T-AK-6	Domino's Pizza Master Is-DPABS 2018-1A A		04/25/2023	PAYDOWN		8,750	8,750	8,747	8,750	0	1	0	1	0	8,750	0	0	0	189	07/25/2048	2.A FE
..25755T-AL-4	Domino's Pizza Master Is-DPABS 2019-1A A		04/25/2023	PAYDOWN		18,750	18,750	18,750	18,750	0	0	0	0	0	18,750	0	0	0	344	10/25/2049	2.A FE
..25755T-AM-2	Domino's Pizza Master Is-DPABS 2019-1AW		04/25/2023	PAYDOWN		53,777	53,750	53,777	53,777	0	(27)	0	(27)	0	53,750	0	0	0	1,726	10/25/2049	1.C FE
..26067*-AA-3	Dow (Midland Mi) Control Trust Certifica		06/15/2023	SINKING PAYMENT		133,740	133,740	134,342	134,124	0	(383)	0	(383)	0	133,740	0	0	0	3,850	03/15/2034	2.A
..26208L-AC-2	DRIVEN BRANDS FUNDING LL-HONK 2018-1A A2		04/20/2023	PAYDOWN		17,500	17,500	17,500	17,502	0	(2)	0	(2)	0	17,500	0	0	0	415	04/20/2048	2.C FE
..26209X-AC-5	DRIVEN BRANDS FUNDING LL-HONK 2020-2A A2		04/20/2023	PAYDOWN		12,500	12,500	12,500	12,500	0	0	0	0	0	12,500	0	0	0	202	01/20/2051	2.C FE
..26209X-AF-8	DRIVEN BRANDS FUNDING LL-HONK 2022-1A A2		04/20/2023	PAYDOWN		87,500	87,500	87,500	87,500	0	0	0	0	0	87,500	0	0	0	3,234	10/20/2052	2.C FE
..26443B-AA-6	Dulles Discovery 1 Contr Pass-Thru Certi		06/05/2023	SINKING PAYMENT		144,768	144,768	144,768	144,768	0	0	0	0	0	144,768	0	0	0	2,623	06/05/2037	1.B
..26847B-AA-8	Edx/Ge Inventory Supply Pass-Thru Certif		04/15/2023	SINKING PAYMENT		273,892	273,892	273,892	273,894	0	(1)	0	(1)	0	273,892	0	0	0	0	04/15/2028	2.A
..26848B-AA-5	EDX/GE Inventory Supply Pass-Thru Certif		04/15/2023	SINKING PAYMENT		119,905	119,905	119,905	119,907	0	(2)	0	(2)	0	119,905	0	0	0	0	01/15/2029	2.A
..26848*-AA-9	EDX/GE Inventory Supply Pass-Thru Certif		04/15/2023	SINKING PAYMENT		85,044	85,044	85,044	85,044	0	0	0	0	0	85,044	0	0	0	0	01/15/2030	2.A
..26929H-AB-1	EWC Master Issuer LLC-WAX 2022-1A A2		06/15/2023	PAYDOWN		18,750	18,750	18,015	18,064	0	686	0	686	0	18,750	0	0	0	516	03/15/2052	2.B FE
..278265-AE-3	Eaton Vance Corp-SENIOR UNSECURED		06/23/2023	MORGAN		3,258,430	3,500,000	3,487,120	3,494,014	0	628	0	628	0	3,494,643	0	(236,213)	(236,213)	88,813	04/06/2027	1.G FE
..28416L-AA-0	Elara HGV Timeshare Issu-EHGV 2021-A A		06/25/2023	PAYDOWN		252,334	252,334	226,233	0	0	26,101	0	26,101	0	252,334	0	0	0	1,422	08/27/2035	1.A FE
..28416L-AB-8	Elara HGV Timeshare Issu-EHGV 2021-A B		06/25/2023	PAYDOWN		192,961	192,961	189,720	190,184	0	2,777	0	2,777	0	192,961	0	0	0	1,391	08/27/2035	1.F FE
..28416T-AA-3	Elara HGV Timeshare Issu-EHGV 2019-A A		05/25/2023	PAYDOWN		173,745	173,745	162,777	0	0	10,968	0	10,968	0	173,745	0	0	0	1,679	01/25/2034	1.A FE
..28628C-AB-2	ELFI Graduate Loan Progr-ELFI 2022-A B		06/25/2023	PAYDOWN		49,667	49,667	40,137	41,476	0	8,191	0	8,191	0	49,667	0	0	0	0	08/26/2047	1.C FE
..28852L-AA-1	Ellington Clo III Ltd-ECLD 2018-3A A1		04/20/2023	PAYDOWN		2,209,219	2,209,219	2,209,219	2,221,568	0	(12,349)	0	(12,349)	0	2,209,219	0	0	0	73,886	07/20/2030	1.A FE
..28852L-AN-3	Ellington Clo III Ltd-ECLD 2018-3A A2R		05/03/2023	VARIOUS		22,042,487	22,235,384	22,235,384	22,235,384	0	0	0	0	0	22,235,385	0	(192,898)	(192,898)	768,033	07/20/2030	1.A FE
..292480-AH-3	Enable Midstream Partner-SENIOR UNSECURE		05/24/2023	TORONTO DOMINION SEC		2,948,010	3,000,000	2,996,610	2,999,444	0	204	0	204	0	2,999,649	0	(51,639)	(51,639)	62,075	05/15/2024	2.C FE
..29273R-BD-0	Energy Transfer Partners-SR UNSECURED		05/24/2023	TORONTO DOMINION SEC		3,904,080	4,000,000	3,996,720	3,999,182	0	112	0	112	0	3,999,294	0	(95,214)	(95,214)	112,950	03/15/2025	2.C FE
..29364W-AP-8	Entergy New Orleans LLC-FIRST LIEN		06/21/2023	BARCLAYS BANK PLC		4,694,000	5,000,000	5,000,000	5,000,000	0	0	0	0	0	5,000,000	0	(306,000)	(306,000)	112,222	06/01/2026	2.B FE
..29364W-AS-7	Entergy Louisiana LLC-SECURED		05/30/2023	KEY CAPITAL MARKETS		2,986,770	3,000,000	2,990,670	2,999,199	0	396	0	396	0	2,999,595	0	(12,825)	(12,825)	91,125	09/01/2023	1.F FE
..30227F-AJ-9	Extended Stay America Tr-ESA 2021-ESH D		06/15/2023	PAYDOWN		186,815	186,815	186,815	186,815	0	0	0	0	0	186,815	0	0	0	6,319	07/15/2038	1.A
..30260G-AA-4	FCI Funding 2021-1 LLC-FCITL 2021-1A A		06/15/2023	PAYDOWN		1,136,798	1,136,798	1,136,748	1,136,772	0	26	0	26	0	1,136,798	0	0	0	5,178	04/15/2033	1.A FE
..302637-AG-8	FS KKR MM CLO 1 LLC-FSKMM 2019-1A A1R		04/17/2023	PAYDOWN		210,530	210,530	210,530	210,530	0	0	0	0	0	210,530	0	0	0	6,686	01/15/2031	1.A FE
..30291J-AJ-2	FREMF 2013-K29 Mortgage -FREMF 2013-K29		04/01/2023	PAYDOWN		5,535,238	5,535,238	4,841,518	5,474,622	0	60,616	0	60,616	0	5,535,238	0	0	0	66,013	05/01/2046	1.A
..30292*-AA-2	FBI Bronx Control Trust Pass-Thru Certif		06/15/2023	SINKING PAYMENT		136,606	136,606	136,606	136,606	0	0	0	0	0	136,606	0	0	0	1,781	07/15/2033	1.B PL
..30295A-AN-8	FREMF 2016-K722 Mortgage-FREMF 2016-K722		06/30/2023	PAYDOWN		0	0	0	0	0	0	0	0	0	0	0	0	0	10,944	07/01/2049	1.A
..31307B-AA-9	FDL-CC LLC Senior Note Tranche A-1		06/15/2023	SINKING PAYMENT		33,228	33,228	33,233	33,231	0	(3)	0	(3)	0	33,228	0	0	0	1,047	02/15/2035	1.B
..31307B-AA-5	FDL-CC LLC Senior Note Tranche A-3		06/15/2023	SINKING PAYMENT		19,094	19,094	19,095	19,094	0	(1)	0	(1)	0	19,094	0	0	0	601	06/15/2037	1.B
..3137BL-AR-9	Freddie Mac Multifamily -FMV M036 A		06/01/2023	CALL 100		145,000	145,000	148,988	146,142	0	(109)	0	(109)	0	146,032	0	(1,032)	(1,032)	3,016	12/01/2029	1.B FE
..31429B-AA-2	Fedex Chino Control Pass Trust Certifica		06/15/2023	SINKING PAYMENT		184,470	184,470	184,470	184,470	0	0	0	0	0	184,470	0	0	0	4,308	10/15/2035	2.B
..31572Y-AB-4	Ellington Financial Mort-EFMT 2022-2 A2		06/01/2023	PAYDOWN		120,292	120,292	118,468	118,589	0	1,703	0	1,703	0	120,292	0	0	0	2,564	04/01/2067	1.C FE
..31572Y-AC-2	Ellington Financial Mort-EFMT 2022-2 A3		06/01/2023	PAYDOWN		458,361	458,361	449,912	450,473	0	7,888	0	7,888	0	458,361	0	0	0	9,769	04/01/2067	1.G FE
..31573E-AA-9	Ellington Financial Mort-EFMT 2022-3 A1		06/01/2023	PAYDOWN		506,701	506,701	501,140	501,874	0	4,826	0	4,826	0	506,701	0	0	0	11,467	08/01/2067	1.A FE
..31573E-AB-7	Ellington Financial Mort-EFMT 2022-3 A2		06/01/2023	PAYDOWN		350,232	350,232	340,400	341,042	0	9,190	0	9,190	0	350,232	0	0	0	8,403	08/01/2067	1.C FE
..31573E-AC-5	Ellington Financial Mort-EFMT 2022-3 A3		06/01/2023	PAYDOWN		168,900	168,900	161,509	161,937	0	6,963	0	6,963	0	168,900	0	0	0	4,392	08/01/2067	1.F FE
..31847R-AF-9	First American Financial-SENIOR UNSECURE		06/06/2023	JEFFERIESLLC		6,813,170	7,000,000	6,998,250	6,999,619	0	152	0	152	0	6,999,771	0	(186,601)	(186,601)	181,572	11/15/2024	2.B FE

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Ident- ification	Description	For- eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid- eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor- tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn- ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con- tractual Maturity Date	NAIC Desig- nation, NAIC Desig- nation Modifier and SVO Admini- strative Symbol
..318916-AA-1	First Bancshares Inc/The-SUBORDINATED		06/01/2023	CALL 100		4,000,000	4,000,000	4,000,000	3,999,508	0	151	0	151	0	3,999,659	0	341	341	137,083	05/01/2028	2.C FE
..320106-AN-4	First Eagle Commercial L-NWISTR 2016-1A A		04/25/2023	PAYDOWN		739,387	739,387	739,378	739,338	0	49	0	49	0	739,387	0	0	0	12,396	01/25/2032	1.A FE
..32027L-AE-5	First Franklin Mortgage -FFML 2006-FF14		06/26/2023	PAYDOWN		51,391	51,391	44,991	50,906	0	485	0	485	0	51,391	0	0	0	942	10/25/2036	1.A FM
..32051G-SQ-9	First Horizon Alternativ-FHAMS 2005-AA7		06/01/2023	PAYDOWN		118,286	117,712	103,516	105,096	0	14,369	0	14,369	0	118,286	0	0	0	2,546	09/01/2035	1.A FM
..32051G-T7-0	First Horizon Alternativ-FHAMS 2006-FA1		06/01/2023	PAYDOWN		1,530	2,150	1,194	1,214	0	671	1	670	0	1,530	0	0	0	58	04/01/2036	3.B FM
..32051G-XQ-3	First Horizon Mortgage P-FHASI 2005-AR5		06/01/2023	PAYDOWN		15,348	15,348	13,893	12,920	0	2,428	0	2,428	0	15,348	0	0	0	276	11/01/2035	1.A FM
..32051G-XV-2	First Horizon Mortgage P-FHASI 2005-AR5		06/01/2023	PAYDOWN		17,297	17,297	17,050	16,139	0	1,158	0	1,158	0	17,297	0	0	0	350	11/01/2035	1.A FM
..32052E-AA-7	First Horizon Mortgage P-FHASI 2006-AR3		06/01/2023	PAYDOWN		1,390	1,399	1,175	951	0	446	0	446	0	1,390	0	0	0	19	11/01/2036	1.A FM
..32056J-AA-2	First Horizon Mortgage P-FHASI 2007-AR3		06/01/2023	PAYDOWN		2,955	5,987	4,029	2,677	0	2,330	0	2,330	0	2,955	0	0	0	115	11/01/2037	1.A FM
..33803W-AA-7	Fishers Lane Associates -SECURED		06/05/2023	SINKING PAYMENT		245,153	245,153	245,153	245,154	0	0	0	0	0	245,153	0	0	0	3,494	08/05/2030	1.B
..33829T-AA-4	FIVE CORNERS FUNDING TRS-UNSECURED NOTE		05/24/2023	U. S. BANCORP		13,901,160	14,000,000	13,986,280	13,998,480	0	739	0	739	0	13,999,219	0	(98,059)	(98,059)	328,234	11/15/2023	1.G FE
..33830J-AB-1	Five Guys Funding LLC-GUYS 2017-1AW 1AW		06/30/2023	PAYDOWN		5,000	5,000	4,913	4,925	0	75	0	75	0	5,000	0	0	0	45	07/25/2047	1.C FE
..33972P-AA-7	FLNG LIQUEFACTION 2 LLC-FIRST LIEN		06/30/2023	SINKING PAYMENT		0	0	0	0	0	0	0	0	0	0	0	0	0	2,011	03/31/2038	2.B FE
..34417M-AB-3	FOCUS Brands Funding LLC-FOCUS 2017-1A A		04/30/2023	PAYDOWN		15,000	15,000	15,000	15,000	0	0	0	0	0	15,000	0	0	0	382	04/30/2047	2.B FE
..34417Q-AA-6	FOCUS Brands Funding LLC-FOCUS 2018-1 A2		04/30/2023	PAYDOWN		30,000	30,000	30,000	30,004	0	(4)	0	(4)	0	30,000	0	0	0	778	10/30/2048	2.B FE
..347466-AE-4	Fort Irwin Land LLC-UNSECURED		06/15/2023	SINKING PAYMENT		215,494	215,494	202,658	207,615	0	7,879	0	7,879	0	215,494	0	0	0	5,711	12/15/2035	1.F FE
..35041J-AA-3	Foundation Finance Trust-FFIN 2019-1A A		06/15/2023	PAYDOWN		241,676	241,676	241,638	239,950	0	1,725	0	1,725	0	241,676	0	0	0	3,370	11/15/2034	1.A FE
..35564K-B2-4	Freddie Mac Structured A-STACR 2022-HQ42		06/26/2023	PAYDOWN		498,872	498,872	499,276	499,332	0	(459)	0	(459)	0	498,872	0	0	0	14,702	07/25/2042	1.B
..35564K-E3-9	Freddie Mac STACR REMIC -STACR 2022-HQ43		06/26/2023	PAYDOWN		290,287	290,287	290,287	290,287	0	0	0	0	0	290,287	0	0	0	8,278	08/25/2042	1.B
..35824#-AA-4	Fresno County (Rowell Bu Trust Certifica		06/15/2023	SINKING PAYMENT		3,708	3,708	3,742	3,739	0	(31)	0	(31)	0	3,708	0	0	0	61	05/15/2040	1.D S
..35826#-AA-4	County of Fresno CA Trust Certificates		06/15/2023	SINKING PAYMENT		95,340	95,340	96,291	96,142	0	(803)	0	(803)	0	95,340	0	0	0	1,860	06/15/2038	1.C
..36157N-FL-3	GE Mortgage Services LLC-GEOMS 1997-HE4		06/01/2023	PAYDOWN		6,419	6,428	5,070	3,916	0	2,508	0	2,508	0	6,419	0	0	0	149	12/01/2028	5.A FM
..36167K-AA-6	GCAT 2021-NQM6 Trust-GCAT 2021-NQM6 A1		06/01/2023	PAYDOWN		124,399	124,399	111,803	113,051	0	11,348	0	11,348	0	124,399	0	0	0	1,204	08/01/2066	1.A
..36169K-AA-4	GCAT 2022-NQM2 Trust-GCAT 2022-NQM2 A1		06/01/2023	PAYDOWN		84,393	84,393	84,000	84,073	0	320	0	320	0	84,393	0	0	0	1,567	02/01/2067	1.A FE
..36169K-AB-2	GCAT 2022-NQM2 Trust-GCAT 2022-NQM2 A2		06/01/2023	PAYDOWN		309,443	309,443	303,357	304,154	0	5,288	0	5,288	0	309,443	0	0	0	5,747	02/01/2067	1.E FE
..36185N-6N-5	GMACM Mortgage Loan Trus-GMACM 2005-AR2		06/01/2023	PAYDOWN		61,027	61,027	50,992	56,806	0	10,471	6,249	4,222	0	61,027	0	0	0	912	05/01/2035	1.A FM
..36186C-BY-8	ALLY FINL INC SR GTD NT		06/21/2023	BOFAMILSEC		5,223,900	5,000,000	6,868,050	6,713,317	0	(79,970)	0	(79,970)	0	6,633,347	0	(1,409,447)	(1,409,447)	257,778	11/01/2031	2.C FE
..36197X-AK-0	GS Mortgage Securities T-GSMS 2013-GC12		04/01/2023	PAYDOWN		14,204,072	14,204,072	13,367,233	14,122,252	0	81,820	0	81,820	0	14,204,072	0	0	0	246,063	06/01/2046	1.A
..36198#-AA-0	GE Huntsville 2020A Leas Trust Certifica		06/15/2023	SINKING PAYMENT		60,145	60,145	60,145	60,145	0	0	0	0	0	60,145	0	0	0	76	04/15/2046	2.A
..36200#-AA-8	GE Huntsville 2020B Leas Trust Certifica		06/15/2023	SINKING PAYMENT		14,196	14,196	14,196	14,196	0	0	0	0	0	14,196	0	0	0	216	04/15/2046	2.A
..36228F-UJ-3	GSR Mortgage Loan Trust -GSR 2003-7F 4A1		06/01/2023	PAYDOWN		9,016	9,016	8,793	8,786	0	230	0	230	0	9,016	0	0	0	122	10/01/2036	1.A FM
..3622EA-AA-8	GSAA TRUST-GSAA 2007-3 1A1A		06/26/2023	PAYDOWN		228,353	228,353	129,057	131,352	0	100,859	3,857	97,002	0	228,353	0	0	0	1,268	03/25/2047	1.A FM
..362341-AA-4	GSR Mortgage Loan Trust -GSR 2006-AR1 2A		06/01/2023	PAYDOWN		3,610	3,466	3,316	3,427	0	49	0	49	0	3,610	0	0	0	46	01/01/2036	1.A FM
..362341-4F-3	GSR Mortgage Loan Trust -GSR 2006-AR1 3A		05/01/2023	PAYDOWN		67,147	67,050	65,961	65,300	0	1,781	0	1,781	0	67,147	0	0	0	197	01/01/2036	1.A FM
..362341-OP-1	GSR Mortgage Loan Trust -GSR 2005-6F 1A5		06/01/2023	PAYDOWN		42,470	42,470	42,629	42,628	0	(158)	0	(158)	0	42,470	0	0	0	1,079	07/01/2035	1.C FM
..362341-FN-4	GSR Mortgage Loan Trust -GSR 2005-AR4 3A		05/01/2023	PAYDOWN		7,543	6,874	5,376	5,508	0	1,486	64	1,422	0	7,543	0	0	0	69	07/01/2035	1.A FM
..362341-SG-5	GSR MORTGAGE LOAN TRUST-SERIES 2005-AR6		05/01/2023	PAYDOWN		103,278	80,450	72,908	73,028	0	10,097	0	10,097	0	103,278	0	0	0	1,299	09/01/2035	1.A FM
..362341-XC-8	GSR Mortgage Loan Trust -GSR 2005-AR7 4A		05/01/2023	PAYDOWN		726	0	(107)	0	0	138	0	138	0	726	0	0	0	0	11/01/2035	4.B FM
..362341-XE-4	GSR Mortgage Loan Trust -GSR 2005-AR7 5A		06/01/2023	PAYDOWN		16,890	11,652	10,107	9,913	0	2,866	0	2,866	0	16,890	0	0	0	108	11/01/2035	1.A FM
..362341-XG-9	GSR Mortgage Loan Trust -GSR 2005-AR7 6A		06/01/2023	PAYDOWN		31,710	30,814	30,157	30,814	0	896	0	896	0	31,710	0	0	0	509	11/01/2035	1.A FM
..36242D-4W-0	GSR Mortgage Loan Trust -GSR 2005-AR3 6A		06/01/2023	PAYDOWN		18,921	18,921	17,779	16,961	0	1,960	0	1,960	0	18,921	0	0	0	344	05/01/2035	1.A FM
..36242D-BZ-5	GSR MORTGAGE LOAN TRUST-SERIES 2004-9 CL		06/01/2023	PAYDOWN		29,980	29,980	29,118	29,770	0	210	0	210	0	29,980	0	0	0	681	08/01/2034	1.A FM
..36242D-FS-7	GSR Mortgage Loan Trust -GSR 2004-11 2A1		06/01/2023	PAYDOWN		24,203	24,203	24,331	24,203	0	0	0	0	0	24,203	0	0	0	423	09/01/2034	1.A FM
..36242D-FX-6	GSR Mortgage Loan Trust -GSR 2004-11 3A1		06/01/2023	PAYDOWN		823	823	825	823	0	0	0	0	0	823	0	0	0	17	09/01/2034	1.A FM
..36242D-H4-8	GSR Mortgage Loan Trust -GSR 2005-AR2 1A		06/01/2023	PAYDOWN		159,468	159,468	146,311	151,180	0	8,288	0	8,288	0	159,468	0	0	0	3,204	04/01/2035	1.A FM
..36242D-H9-7	GSR Mortgage Loan Trust -GSR 2005-AR2 4A		06/01/2023	PAYDOWN		249,584	249,584	242,565	247,874	0	1,711	0	1,711	0	249,584	0	0	0	4,407	04/01/2035	1.A FM

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Identification	Description	For- eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid- eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor- tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn- ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con- tractual Maturity Date	NAIC Desig- nation, NAIC Desig- nation Modifier and SVO Admini- strative Symbol
..36242D-LY-7	GSR Mortgage Loan Trust -GSR 2004-13F 4A		04/25/2023	PAYDOWN		0	0	3,622	0	0	0	0	0	0	0	0	0	0	34	11/25/2034	6. *
..36242D-QY-2	GSR Mortgage Loan Trust -GSR 2004-15F 2A		06/01/2023	PAYDOWN		20,310	20,310	18,072	18,418	0	2,219	327	1,892	0	20,310	0	0	0	419	12/01/2034	3.B FM
..36242D-VA-8	GSR Mortgage Loan Trust -GSR 2005-1F 1A6		06/01/2023	PAYDOWN		22,056	22,056	21,714	21,408	0	0	0	648	0	22,056	0	0	0	506	02/01/2035	1.G FM
..36244S-AD-0	GSAA Home Equity Trust 2-GSAA 2006-13 AF		06/01/2023	PAYDOWN		58,554	58,554	18,149	18,377	0	40,177	0	40,177	0	58,554	0	0	0	453	07/01/2036	1.A FM
..36248#-AA-0	GSA (Anchorage AK) CTL P Pass-Thru Certi		06/15/2023	SINKING PAYMENT		347,208	347,208	350,333	349,008	0	(1,800)	0	(1,800)	0	347,208	0	0	0	5,065	11/15/2030	1.B
..362480-AD-7	GSC CAPITAL CORP MORTGAG-SERIES 2006-2 C		06/26/2023	PAYDOWN		52,261	51,620	39,928	44,860	0	6,915	0	6,915	0	52,261	0	0	0	1,042	05/25/2036	1.A FM
..36248G-AC-4	GS Mortgage Securities T-GSMS 2013-GC16		06/01/2023	PAYDOWN		7,600,714	7,600,714	7,828,264	7,611,103	0	(10,388)	0	(10,388)	0	7,600,714	0	0	0	149,725	11/01/2046	1.A
..36264E-BD-5	GS Mortgage-Backed Secur-GSMB 2022-NQM1		06/01/2023	PAYDOWN		116,244	116,244	119,840	119,480	0	(3,236)	0	(3,236)	0	116,244	0	0	0	2,397	05/01/2062	1.G
..36298G-AA-7	GSPA Monetization Trust-SECURED		06/09/2023	SINKING PAYMENT		226,008	226,008	229,171	227,364	0	(1,356)	0	(1,356)	0	226,008	0	0	0	6,052	10/09/2029	2.A FE
..36850#-AA-9	Geisinger (Jenkins Towns Trust Certifica		06/15/2023	SINKING PAYMENT		132,809	132,809	132,809	132,809	0	0	0	0	0	132,809	0	0	0	1,856	12/15/2033	1.F S
..378272-AF-5	GLENCORE FUNDING LLC-SENIOR UNSECURED NO		05/30/2023	MATURITY		7,000,000	7,000,000	6,139,960	6,953,429	0	46,571	0	46,571	0	7,000,000	0	0	0	144,375	05/30/2023	2.A FE
..380241-AA-7	Goddard Funding LLC-GORD 2022-1 A2		04/30/2023	PAYDOWN		42,250	42,250	42,262	42,262	0	(12)	0	(12)	0	42,250	0	0	0	1,450	10/30/2052	2.C FE
..38173M-AA-0	Golub Capital BDC Inc-SENIOR UNSECURED		05/24/2023	SIMBC NIKKO SECURITIE ...		10,654,710	11,000,000	10,991,200	10,996,553	0	1,051	0	1,051	0	10,997,603	0	(342,893)	(342,893)	227,906	04/15/2024	2.C FE
..38177B-AA-0	Golub Capital BDC CLO 20-GCBDC 2018-1A A		04/20/2023	PAYDOWN		589,547	589,547	589,547	590,113	0	(566)	0	(566)	0	589,547	0	0	0	17,889	01/20/2031	1.A FE
..38217U-AC-6	Goodgreen 2021-1 Trust-GOODG 2021-1A C		06/15/2023	PAYDOWN		27,701	27,701	25,277	25,435	0	2,266	0	2,266	0	27,701	0	0	0	0	10/15/2056	2.B FE
..39538W-BE-7	GreenPoint Mortgage Fund-GPMF 2005-HY1 M		06/26/2023	PAYDOWN		101,705	101,705	73,418	94,637	0	7,067	0	7,067	0	101,705	0	0	0	1,534	07/25/2035	1.A FM
..39678W-AA-6	Greenwich Capital Struct-GCSP 2005-1 A1		06/01/2023	PAYDOWN		18,596	18,596	18,503	18,896	0	(300)	0	(300)	0	18,596	0	0	0	413	09/01/2034	1.A FM
..40431H-AD-9	HSI Asset Loan Obligatio-HALO 2006-2 1A4		05/25/2023	PAYDOWN		0	0	10,996	0	0	22	0	22	0	0	0	0	0	427	12/25/2036	6. FE
..406216-BL-4	Halliburton Co-SENIOR UNSECURED		06/21/2023	GOLDMAN		7,948,800	9,000,000	8,997,660	8,998,311	0	77	0	77	0	8,998,388	0	(1,049,588)	(1,049,588)	213,160	03/01/2030	2.A FE
..41161P-CX-9	HarborView Mortgage Loan-HVMLT 2004-1 1A		06/19/2023	PAYDOWN		6,289	6,289	5,969	5,985	0	316	12	304	0	6,289	0	0	0	103	04/19/2034	1.A FM
..41161P-EX-7	HarborView Mortgage Loan-HVMLT 2004-5 2A		06/01/2023	PAYDOWN		2,443	2,443	1,961	2,333	0	110	0	110	0	2,443	0	0	0	34	06/01/2034	1.A FM
..41161P-EZ-2	HarborView Mortgage Loan-HVMLT 2004-5 3A		06/01/2023	PAYDOWN		6,337	6,337	6,309	6,337	0	0	0	0	0	6,337	0	0	0	87	06/01/2034	1.A FM
..41161P-FV-0	HarborView Mortgage Loan-HVMLT 2004-6 5A		06/01/2023	PAYDOWN		9,519	9,519	9,650	9,710	0	(190)	0	(190)	0	9,519	0	0	0	121	08/01/2034	2.C FM
..41161P-MV-2	HarborView Mortgage Loan-HVMLT 2005-4 1A		06/01/2023	PAYDOWN		6,518	6,518	4,600	4,411	0	0	0	0	0	4,411	0	2,107	2,107	108	07/01/2035	1.A FM
..41161P-TN-3	HARBORVIEW MORTGAGE LOAN-SERIES 2005-10		06/20/2023	PAYDOWN		7,049	7,049	4,932	4,854	0	2,195	0	2,195	0	7,049	0	0	0	120	11/19/2035	1.A FM
..41161P-UK-7	HarborView Mortgage Loan-SERIES 05-11 QL		06/20/2023	PAYDOWN		21,742	21,742	15,334	18,757	0	2,985	0	2,985	0	21,742	0	0	0	302	08/19/2045	1.A FM
..41161V-AC-4	HarborView Mortgage Loan-HVMLT 2006-7 2A		06/20/2023	PAYDOWN		8,942	9,905	7,037	8,412	0	1,223	0	1,223	0	8,942	0	0	0	128	09/19/2046	1.A FM
..41162G-AA-0	HarborView Mortgage Loan-HVMLT 2006-11 A		06/20/2023	PAYDOWN		163,643	149,744	135,004	149,088	0	3,129	0	3,129	0	163,643	0	0	0	1,906	12/19/2036	2.A FM
..411707-AD-4	Hardee's Funding LLC-HNGRY 2018-1A A211		06/20/2023	PAYDOWN		35,000	35,000	35,000	35,000	0	0	0	0	0	35,000	0	0	0	868	06/20/2048	2.B FE
..411707-AH-5	Hardee's Funding LLC-HNGRY 2020-1A A2		06/20/2023	PAYDOWN		30,000	30,000	30,000	30,000	0	0	0	0	0	30,000	0	0	0	597	12/20/2050	2.B FE
..42217P-BC-9	WELTOWER INC-NOTE		05/24/2023	PNC CAPITAL MARKETS		4,936,650	5,000,000	4,947,900	4,993,661	0	2,224	0	2,224	0	4,995,885	0	(59,235)	(59,235)	194,375	01/15/2024	2.A FE
..428291-AM-0	Hexcel Corp-SENIOR UNSECURED		05/30/2023	CITCAP		4,915,400	5,000,000	4,985,650	4,995,644	0	526	0	526	0	4,996,170	0	(80,770)	(80,770)	196,625	08/15/2025	3.A FE
..43283G-AD-4	Hilton Grand Vacations T-HGVT 2022-2A D		06/25/2023	PAYDOWN		332,838	332,838	332,793	332,800	0	38	0	38	0	332,838	0	0	0	12,702	01/25/2037	3.C FE
..433674-AA-6	NRZ Excess Spread-Collat-NZES 2020-PLS1		06/25/2023	PAYDOWN		273,627	273,627	273,626	273,626	0	0	0	0	0	273,627	0	0	0	4,365	12/25/2025	2.C FE
..43722#-AA-1	Home Depot (Monterey Par Trust Certifica		06/15/2023	SINKING PAYMENT		53,702	53,702	53,702	53,702	0	0	0	0	0	53,702	0	0	0	498	06/15/2038	1.F
..43722*-AA-5	Home Depot South Windsor Pass-Thru Certi		06/15/2023	SINKING PAYMENT		50,486	50,486	50,486	50,486	0	0	0	0	0	50,486	0	0	0	1,555	10/15/2040	1.F
..43738E-AP-2	HOMEBANC MORTGAGE TRUST-SERIES 2005-1 CL		06/26/2023	PAYDOWN		38,219	38,219	32,975	38,219	0	5,240	0	5,240	0	38,219	0	0	0	845	03/25/2035	1.A FM
..43739E-CL-9	HomeBanc Mortgage Trust -HMBT 2006-1 1A1		06/01/2023	PAYDOWN		60,196	60,348	52,661	51,141	0	9,156	0	9,156	0	60,196	0	0	0	910	04/01/2037	1.A FM
..43739H-AA-8	HomeBanc Mortgage Trust -HMBT 2006-2 A1		06/26/2023	PAYDOWN		225,281	225,281	197,030	222,434	0	2,846	0	2,846	0	225,281	0	0	0	5,179	12/25/2036	1.A FM
..43741B-AA-7	HomeBanc Mortgage Trust -HMBT 2007-1 11A		05/01/2023	PAYDOWN		39,346	42,007	39,716	41,726	0	0	0	0	0	39,346	0	0	0	365	04/01/2047	1.A FM
..448579-AF-9	Hyatt Hotels Corp-SENIOR UNSECURED		05/30/2023	BARCLAYS CAPITAL INC ...		2,943,540	3,000,000	3,007,740	3,002,860	0	(380)	0	(380)	0	3,002,480	0	(58,940)	(58,940)	103,467	03/15/2026	2.C FE
..44891A-BJ-5	Hyundai Capital America-SENIOR UNSECURED		04/06/2023	MATURITY		3,000,000	3,000,000	2,996,580	2,999,434	0	566	0	566	0	3,000,000	0	0	0	86,250	04/06/2023	2.A FE
..45254N-UB-4	IMPAC CMB TRUST-SERIES 2004-4 CLASS 2A1		06/01/2023	PAYDOWN		36,273	36,273	34,900	34,411	0	1,862	0	1,862	0	36,273	0	0	0	1,016	09/01/2034	1.A FM
..45254N-KX-4	IMPAC CMB TRUST-SERIES 2004-9 CLASS 1A1		06/26/2023	PAYDOWN		5,493	5,493	5,026	5,218	0	275	0	275	0	5,493	0	0	0	138	01/25/2035	1.A FM
..45254N-MZ-7	Impac CMB Trust Series 2-IMM 2005-2 1A2		06/26/2023	PAYDOWN		56,572	56,572	45,964	51,961	0	4,611	0	4,611	0	56,572	0	0	0	1,456	04/25/2035	1.A FM
..45254N-NT-0	Impac CMB Trust Series 2-IMM 2005-3 M1		06/26/2023	PAYDOWN		3,363	3,363	1,630	2,590	0	773	0	773	0	3,363	0	0	0	72	08/25/2035	5.A FM

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Ident- ification	Description	For- eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid- eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor- tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn- ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con- tractual Maturity Date	NAIC Desig- nation, NAIC Desig- nation Modifier and SVO Admini- strative Symbol
..45254T-TN-4	Impac Secured Assets Tru-IMSA 2006-1 2A1		06/26/2023	PAYDOWN		52	52	37	48	0	4	0	4	0	52	0	0	0	1	05/25/2036	1.A FM
..45276Q-AA-2	Imperial Fund Mortgage T-IMPRL 2022-NQM5		06/01/2023	VARIOUS		57,026	57,026	57,025	57,026	0	0	0	0	0	57,026	0	0	0	1,236	08/01/2067	1.A FE
..45276Q-AB-0	Imperial Fund Mortgage T-IMPRL 2022-NQM5		06/01/2023	VARIOUS		153,821	153,821	153,819	153,821	0	0	0	0	0	153,821	0	0	0	4,961	08/01/2067	1.D FE
..45276Q-AC-8	Imperial Fund Mortgage T-IMPRL 2022-NQM5		06/01/2023	VARIOUS		42,342	42,342	41,983	42,212	0	129	0	129	0	42,342	0	0	0	1,087	08/01/2067	1.G FE
..45384B-AB-2	Independent Bank Group I-SUBORDINATED		06/30/2023	CALL 100		0	0	0	0	0	0	0	0	0	0	0	0	0	255	12/31/2027	2.B FE
..45660K-AA-9	IndyMac INDX Mortgage Lo-INDX 2006-AR39		06/26/2023	PAYDOWN		35,617	23,055	18,573	20,486	0	(15,629)	0	(15,629)	0	35,617	0	0	0	659	02/25/2037	1.A FM
..45660L-CK-3	IndyMac INDX Mortgage Lo-INDX 2005-AR2 1		05/25/2023	PAYDOWN		35,782	33,646	23,095	22,997	0	12,111	650	11,461	0	35,782	0	0	0	969	02/25/2035	1.A FM
..45660L-DB-2	IndyMac INDX Mortgage Lo-INDX 2005-AR1 1		06/01/2023	PAYDOWN		3,643	3,643	3,616	3,643	0	0	0	0	0	3,643	0	0	0	64	03/01/2035	1.A FM
..45660L-V9-7	IndyMac INDX Mortgage Lo-INDX 2005-AR31		06/01/2023	PAYDOWN		3,095	3,095	2,770	3,035	0	59	0	59	0	3,095	0	0	0	181	01/01/2036	1.A FM
..45660N-X9-1	IndyMac INDX Mortgage Lo-INDX 2004-AR6 5		06/01/2023	PAYDOWN		3,061	3,061	2,510	2,755	0	296	0	296	0	3,061	0	0	0	61	10/01/2034	1.A FM
..45661B-AF-4	IndyMac INDX Mortgage Lo-INDX 2006-AR8 A		06/26/2023	PAYDOWN		26,651	26,651	23,613	26,928	0	(276)	0	(276)	0	26,651	0	0	0	539	07/25/2046	1.A FM
..45661X-AB-8	IndyMac INDX Mortgage Lo-INDX 2006-AR13		06/25/2023	PAYDOWN		5,851	5,851	3,507	3,632	0	2,219	0	2,219	0	5,851	0	0	0	103	07/25/2036	1.A FM
..45669A-AD-6	IndyMac INDX Mortgage Lo-INDA 2007-AR1 2		06/01/2023	PAYDOWN		14,518	13,660	12,656	12,656	0	1,862	0	1,862	0	14,518	0	0	0	278	03/01/2037	2.C FM
..45783N-AA-5	IndStar Leasing III LLC-INSTR 2021-1A A		06/15/2023	PAYDOWN		52,958	52,930	52,933	52,933	0	26	0	26	0	52,958	0	0	0	508	02/15/2054	1.F FE
..46188B-AD-4	Invitation Homes Operati-SENIOR UNSECURE		06/21/2023	SUNTRUST CAPITAL MAR		5,019,155	5,610,000	5,595,358	5,596,013	0	594	0	594	0	5,596,608	0	(577,453)	(577,453)	160,384	04/15/2032	2.B FE
..46591K-AC-7	JP Morgan Mortgage Trust-JPMIT 2019-8 A3		06/01/2023	PAYDOWN		50,341	50,341	50,994	52,168	0	(1,827)	0	(1,827)	0	50,341	0	0	0	879	03/01/2050	1.A
..46616M-AA-8	J G WENTWORTH RECV XXII-ASSET BKD NT 10-		06/15/2023	PAYDOWN		30,741	30,741	30,735	30,615	0	127	0	127	0	30,741	0	0	0	492	12/15/2048	1.A FE
..46616M-AB-6	JG Wentworth XXII LLC-HENDR 2010-3A B		06/15/2023	PAYDOWN		11,867	11,867	11,866	11,867	0	(1)	0	(1)	0	11,867	0	0	0	341	12/15/2050	1.A FE
..46616P-AA-1	JGWPT XXIII LLC-HENDR 2011-1A A		06/15/2023	PAYDOWN		45,459	45,447	45,447	45,447	0	12	0	12	0	45,459	0	0	0	894	10/15/2056	1.A FE
..46616Q-AA-9	321 HENDERSON RECEIVABLE-SERIES 2011-2A		06/15/2023	PAYDOWN		98,871	98,871	98,814	98,815	0	56	0	56	0	98,871	0	0	0	1,913	09/15/2056	1.A FE
..46616V-AA-8	J G WENTWORTH RECV XXV-ASSET BKD NT 12-1		06/15/2023	PAYDOWN		42,412	42,412	42,402	42,737	0	(325)	0	(325)	0	42,412	0	0	0	637	02/16/2065	1.A FE
..46617A-AA-3	JGWPT XXVII LLC-ASSET BKD SERIES 2012-3		05/15/2023	PAYDOWN		31,780	31,780	31,462	31,466	0	295	0	295	0	31,780	0	0	0	426	09/15/2065	1.A FE
..46617F-AA-2	JGWPT XXVIII LLC-HENDR 2013-1A A		06/15/2023	PAYDOWN		77,074	77,074	76,852	76,852	0	222	0	222	0	77,074	0	0	0	980	04/15/2067	1.A FE
..46617J-AA-4	JGWPT XXIX LLC-HENDR 2013-2A A		06/15/2023	PAYDOWN		104,258	104,258	104,234	104,257	0	2	0	2	0	104,258	0	0	0	1,611	03/15/2062	1.A FE
..46617L-AA-9	JGWPT XXX LLC-HENDR 2013-3A A		06/15/2023	PAYDOWN		146,690	146,690	146,571	146,584	0	106	0	106	0	146,690	0	0	0	2,198	01/17/2073	1.A FE
..46617T-AA-2	JGWPT XXXI LLC-ASSET BKD SERIES 2014-1 C		06/15/2023	PAYDOWN		113,362	113,362	113,298	113,293	0	68	0	68	0	113,362	0	0	0	1,829	03/15/2063	1.A FE
..46618A-AA-2	JGWPT XXXII LLC-ASSET BKD SERIES 2014-2		06/15/2023	PAYDOWN		252,152	252,152	251,799	251,841	0	311	0	311	0	252,152	0	0	0	3,605	01/17/2073	1.A FE
..46618H-AA-7	J G WENTWORTH XXXIII LLC-ASSET BKD SER 2		06/15/2023	PAYDOWN		285,546	285,546	285,765	285,771	0	(224)	0	(224)	0	285,546	0	0	0	4,281	06/15/2077	1.A FE
..46618L-AA-8	J G WENTWORTH XXXIV LLC-ASSET BKD SER 20		06/15/2023	PAYDOWN		384,404	384,404	380,835	383,332	0	1,071	0	1,071	0	384,404	0	0	0	5,068	09/15/2072	1.A FE
..46619R-AA-4	J G WENTWORTH XXXV LLC-ASSET BKD NT 15-		06/15/2023	PAYDOWN		202,629	202,629	202,941	202,879	0	(250)	0	(250)	0	202,629	0	0	0	3,277	03/15/2058	1.A FE
..46619X-AA-1	JG Wentworth XXXVI LLC-HENDR 2015-3A A		06/15/2023	PAYDOWN		88,078	88,078	88,001	88,009	0	69	0	69	0	88,078	0	0	0	1,486	03/17/2070	1.A FE
..46620J-AA-9	J.G. Wentworth XXXVIII L-HENDR 2017-1A A		06/15/2023	PAYDOWN		94,182	94,182	94,109	94,102	0	80	0	80	0	94,182	0	0	0	961	08/16/2060	1.A FE
..46620V-AA-2	J.G. Wentworth XXXIX LLC-HENDR 2017-2A A		06/15/2023	PAYDOWN		124,374	124,374	124,318	124,374	0	0	0	0	0	124,374	0	0	0	1,641	09/15/2072	1.A FE
..466247-J4-6	JP Morgan Mortgage Trust-JPMIT 2006-A2 2		06/01/2023	PAYDOWN		2,146	2,146	1,916	1,928	0	253	35	218	0	2,146	0	0	0	33	04/01/2036	1.A FM
..466247-L6-8	JP Morgan Mortgage Trust-JPMIT 2006-A2 1		05/01/2023	PAYDOWN		139,737	139,737	133,187	138,222	0	1,515	0	1,515	0	139,737	0	0	0	2,368	08/01/2034	1.A FM
..466247-PW-7	JP Morgan Mortgage Trust-JPMIT 2005-A3 2		06/01/2023	PAYDOWN		43,785	43,785	36,889	41,906	0	1,879	0	1,879	0	43,785	0	0	0	624	06/01/2035	1.A FM
..466247-QP-1	JP Morgan Mortgage Trust-JPMIT 2005-A3 7		06/01/2023	PAYDOWN		23,445	23,703	21,794	18,977	0	4,694	0	4,694	0	23,445	0	0	0	155	06/01/2035	1.A FM
..466247-PP-0	JP Morgan Mortgage Trust-JPMIT 2005-A4 2		06/01/2023	PAYDOWN		4,383	4,383	3,890	4,176	0	207	0	207	0	4,383	0	0	0	82	07/01/2035	1.A FM
..466247-UG-6	JP MORGAN MORTGAGE TRUST-SERIES 2005-A6		06/01/2023	PAYDOWN		71,867	71,867	64,132	64,978	0	8,327	1,438	6,889	0	71,867	0	0	0	1,323	08/01/2035	1.A FM
..46627M-AD-9	JP Morgan Alternative Lo-JPALT 2005-S1 1		05/01/2023	PAYDOWN		2,985	2,885	1,154	1,227	0	1,682	17	1,665	0	2,985	0	0	0	88	12/01/2035	1.A FM
..46627M-CY-1	JP Morgan Alternative Lo-JPALT 2006-A1 3		06/01/2023	PAYDOWN		1,014,764	1,014,764	793,519	793,195	0	221,569	0	221,569	0	1,014,764	0	0	0	21,293	03/01/2036	1.A FM
..46627M-EC-7	JP Morgan Alternative Lo-JPALT 2006-S1 1		06/01/2023	PAYDOWN		2,330	7,690	5,171	4,668	0	2,652	0	2,652	0	2,330	0	0	0	213	03/01/2036	1.A FM
..46627M-EJ-2	JP Morgan Alternative Lo-JPALT 2006-S1 1		06/01/2023	PAYDOWN		8,182	5,602	5,528	5,602	0	2,589	10	2,579	0	8,182	0	0	0	208	03/01/2036	4.B FM
..46628K-AC-4	JP Morgan Mortgage Trust-JPMIT 2006-A3 2		06/01/2023	PAYDOWN		4,619	4,619	4,079	3,563	0	1,056	0	1,056	0	4,619	0	0	0	87	05/01/2036	1.A FM
..46628L-AB-4	JP Morgan Mortgage Trust-JPMIT 2006-A4 1		06/01/2023	PAYDOWN		1,378	1,378	993	994	0	384	0	384	0	1,378	0	0	0	29	06/01/2036	1.A FM
..46628V-AH-9	JP Morgan Alternative Lo-JPALT 2006-S3 A		04/01/2023	PAYDOWN		0	208,507	139,336	143,940	0	(2,220)	0	(2,220)	0	0	0	0	0	2,764	08/01/2036	1.A FM

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Ident-ification	Description	For-eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid-eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/(Decrease)	Current Year's (Amor-tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn-ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con-tractual Maturity Date	NAIC Desig-nation, NAIC Desig-nation Modifier and SVO Admini-strative Symbol
..466308-AE-3	JP Morgan Alternative Lo-JPALT 2008-R3 3	.....	06/01/2023	PAYDOWN	.....	21,475	21,475	19,457	17,497	0	3,978	0	3,978	0	21,475	0	0	0	0	05/01/2037	1.A FM
..46630G-AN-5	JP Morgan Mortgage Trust-JPMMT 2007-A1 4	.....	06/01/2023	PAYDOWN	.....	6,380	6,380	5,965	6,257	0	123	0	123	0	6,380	0	0	0	105	07/01/2035	1.A FM
..46630P-AP-0	JP Morgan Mortgage Trust-JPMMT 2007-A2 3	.....	06/01/2023	PAYDOWN	.....	415	415	397	297	0	118	0	118	0	415	0	0	0	7	04/01/2037	1.A FM
..46630W-AB-6	JP Morgan Mortgage Trust-JPMMT 2007-S2 1	.....	06/01/2023	PAYDOWN	.....	96,903	(7,324)	(8,933)	(4,031)	0	40,611	0	40,611	0	96,903	0	0	0	(235)	06/01/2037	4.B FM
..46630W-AL-4	JP Morgan Mortgage Trust-JPMMT 2007-S2 1	.....	06/01/2023	PAYDOWN	.....	66,493	7,926	4,038	4,617	0	29,876	(888)	30,764	0	66,493	0	0	0	202	06/01/2037	4.C FM
..46631N-AA-7	JP Morgan Mortgage Trust-JPMMT 2007-S3 1	.....	04/01/2023	PAYDOWN	.....	783	783	474	495	0	306	17	289	0	783	0	0	0	21	08/01/2037	4.B FM
..46631N-DT-3	JP Morgan Mortgage Trust-JPMMT 2007-S3 1	.....	06/01/2023	PAYDOWN	.....	14,947	19,138	11,270	11,086	0	6,302	0	6,302	0	14,947	0	0	0	638	08/01/2037	1.A FM
..46632T-AA-3	JP Morgan Mortgage Trust-JPMMT 2008-R2 1	.....	06/01/2023	PAYDOWN	.....	125,182	125,182	100,769	115,234	0	9,947	0	9,947	0	125,182	0	0	0	2,195	07/01/2037	1.A FM
..46632Y-AB-0	JP Morgan Mortgage Trust-JPMMT 2008-R3 1	.....	06/01/2023	PAYDOWN	.....	52,109	52,109	6,625	(1,704)	0	53,813	0	53,813	0	52,109	0	0	0	1,069	06/01/2036	1.A FM
..46632Y-AD-6	JP Morgan Mortgage Trust-JPMMT 2008-R3 2	.....	06/01/2023	PAYDOWN	.....	62,253	62,382	20,613	20,613	0	62,089	0	62,089	0	62,253	0	0	0	1,625	08/01/2037	3.A FM
..46633M-AM-1	JP Morgan Resecuritizati-JPMRR 2009-6 2A	.....	06/01/2023	PAYDOWN	.....	55,508	55,617	5,618	(1,637)	0	57,154	0	57,154	0	55,508	0	0	0	995	04/01/2035	1.A FM
..46634D-AX-6	JP Morgan Resecuritizati-JPMRR 2010-1 3A	.....	06/01/2023	PAYDOWN	.....	4,153	60,610	28,622	32,445	0	(1,371)	0	(1,371)	0	4,153	0	0	0	1,023	04/01/2037	1.A FM
..46635B-AD-3	JP Morgan Resecuritizati-JPMRR 2010-7 1A	.....	06/01/2023	PAYDOWN	.....	131,138	131,138	92,223	107,835	0	23,304	0	23,304	0	131,138	0	0	0	2,626	03/01/2039	1.A FM
..466365-AB-9	Jack in the Box Funding -JACK 2019-1A A2	.....	05/25/2023	PAYDOWN	.....	50,000	50,000	50,000	50,000	0	0	0	0	0	50,000	0	0	0	1,119	08/25/2049	2.B FE
..466365-AC-7	Jack in the Box Funding -JACK 2019-1A A2	.....	05/25/2023	PAYDOWN	.....	80,238	80,238	75,615	75,836	0	4,401	0	4,401	0	80,238	0	0	0	1,994	08/25/2049	2.B FE
..466365-AD-5	Jack in the Box Funding -JACK 2022-1A A2	.....	05/25/2023	PAYDOWN	.....	50,000	50,000	50,000	50,000	0	0	0	0	0	50,000	0	0	0	861	02/26/2052	2.B FE
..466365-AE-3	Jack in the Box Funding -JACK 2022-1A A2	.....	05/25/2023	PAYDOWN	.....	25,725	25,725	22,935	23,039	0	2,686	0	2,686	0	25,725	0	0	0	532	02/26/2052	2.B FE
..46639Y-AQ-0	JP Morgan Chase Commerci-JPMCC 2013-LC11	.....	05/01/2023	PAYDOWN	.....	2,645,603	2,645,603	2,467,025	2,641,694	0	3,909	0	3,909	0	2,645,603	0	0	0	47,058	04/01/2046	1.A
..46647P-AM-8	JPMorgan Chase & Co-SENIOR UNSECURED	.....	06/21/2023	FIRST TENNESSEE	.....	4,628,900	5,000,000	4,822,100	4,891,841	0	7,601	0	7,601	0	4,899,442	0	(270,542)	(270,542)	160,829	01/23/2029	1.F FE
..46647P-AR-7	JPMorgan Chase & Co-SENIOR UNSECURED	.....	06/21/2023	MORGAN	.....	6,588,750	7,000,000	7,000,000	7,000,000	0	0	0	0	0	7,000,000	0	(411,250)	(411,250)	186,900	04/23/2029	1.F FE
..46647P-AV-8	JPMorgan Chase & Co-SENIOR UNSECURED	.....	06/21/2023	BOFAMILSEC	.....	4,750,250	5,000,000	5,000,000	5,000,000	0	0	0	0	0	5,000,000	0	(249,750)	(249,750)	192,638	07/23/2029	1.F FE
..46651G-AC-3	JP Morgan Mortgage Trust-JPMMT 2019-7 A3	.....	06/01/2023	PAYDOWN	.....	50,768	50,768	51,402	51,461	0	(693)	0	(693)	0	50,768	0	0	0	845	02/01/2050	1.A
..46849L-TC-5	Jackson National Life GI-SECURED	.....	04/20/2023	U. S. BANCORP	.....	14,417,250	15,000,000	14,970,900	14,989,353	0	993	0	993	0	14,990,346	0	(573,096)	(573,096)	213,125	06/11/2025	1.F FE
..472320-AA-8	Jefferies Resecuritizati-JMAC 2008-R1 A	.....	06/26/2023	PAYDOWN	.....	46,424	50,713	46,440	47,124	0	3,205	0	3,205	0	46,424	0	0	0	2,273	06/25/2047	1.A FM
..472321-AA-6	Jefferies Resecuritizati-JMAC 2008-R2 1A	.....	06/01/2023	PAYDOWN	.....	297,718	228,173	284,193	284,193	0	13,525	0	13,525	0	297,718	0	0	0	7,431	10/01/2035	1.A FM
..472321-AD-0	Jefferies Resecuritizati-JMAC 2008-R2 2A	.....	06/01/2023	PAYDOWN	.....	37,741	37,741	16,292	27,429	0	10,312	0	10,312	0	37,741	0	0	0	834	01/01/2037	1.A FM
..472321-AG-3	Jefferies Resecuritizati-JMAC 2008-R2 1A	.....	06/01/2023	PAYDOWN	.....	0	25,554	5,609	7,569	0	(1,233)	0	(1,233)	0	0	0	0	0	789	10/01/2035	1.A FM
..472321-AH-1	Jefferies Resecuritizati-JMAC 2008-R2 2A	.....	05/01/2023	PAYDOWN	.....	0	63	17	10	0	7	0	7	0	0	0	0	0	1	01/01/2037	1.A FM
..472321-AJ-7	Jefferies Resecuritizati-JMAC 2008-R2 3A	.....	06/01/2023	PAYDOWN	.....	70,938	70,938	59,923	70,938	0	0	0	0	0	70,938	0	0	0	1,277	01/01/2039	1.A FM
..472321-AK-4	Jefferies Resecuritizati-JMAC 2008-R2 3A	.....	06/01/2023	PAYDOWN	.....	0	906	314	516	0	(206)	0	(206)	0	0	0	0	0	17	01/01/2039	1.A FM
..47232A-AB-4	Jefferies Resecuritizati-JMAC 2008-R3 1A	.....	06/01/2023	PAYDOWN	.....	21,665	21,665	13,141	21,652	0	13	0	13	0	21,665	0	0	0	32	03/01/2036	1.A FM
..47232A-AC-2	Jefferies Resecuritizati-JMAC 2008-R3 1A	.....	06/30/2023	PAYDOWN	.....	0	0	0	0	0	0	0	0	0	0	0	0	0	8	03/01/2036	1.A FM
..47232A-AE-8	Jefferies Resecuritizati-JMAC 2008-R3 2A	.....	06/01/2023	PAYDOWN	.....	31,650	31,650	22,472	31,650	0	0	0	0	0	31,650	0	0	0	487	06/01/2036	1.A FM
..47232A-AH-1	Jefferies Resecuritizati-JMAC 2008-R3 3A	.....	06/01/2023	PAYDOWN	.....	35,531	36,333	7,095	11,546	0	24,133	0	24,133	0	35,531	0	0	0	571	05/01/2037	1.A FM
..47232C-AH-7	Jefferies Resecuritizati-JMAC 2009-R1 4A	.....	06/01/2023	PAYDOWN	.....	16,365	18,247	16,373	15,760	0	(234)	0	(234)	0	14,152	0	2,213	2,213	287	06/01/2037	1.A FM
..47232T-AB-3	Jefferies Resecuritizati-JMAC 2009-R3 1A	.....	06/01/2023	PAYDOWN	.....	15,985	15,985	13,987	14,913	0	1,072	0	1,072	0	15,985	0	0	0	301	12/01/2035	1.A FM
..472330-AB-7	Jefferies Resecuritizati-JMAC 2009-R11 1	.....	06/01/2023	PAYDOWN	.....	41,260	116,582	18,222	74,412	0	(21,279)	0	(21,279)	0	41,260	0	0	0	3,839	09/01/2036	1.A FM
..47233J-BH-0	Jefferies Group LLC / Je-SENIOR UNSECURE	.....	06/27/2023	JEFFERIESLLC	.....	4,951,014	5,500,000	5,273,855	5,352,126	0	8,819	0	8,819	0	5,360,944	0	(409,930)	(409,930)	212,618	01/23/2030	2.B FE
..47760Q-AB-9	Jimmy Johns Funding LLC-JIMMY 2017-1A A2	.....	04/30/2023	PAYDOWN	.....	18,000	18,000	18,000	18,000	0	0	0	0	0	18,000	0	0	0	436	07/30/2047	2.B FE
..482480-AE-0	KLA Corp-SENIOR UNSECURED	.....	05/24/2023	STIFEL NICOLAUS	.....	4,035,620	4,059,000	4,048,771	4,056,744	0	540	0	540	0	4,057,284	0	(21,664)	(21,664)	107,479	11/01/2024	1.G FE
..48252A-AA-9	KKR Group Finance Co VI -SENIOR UNSECURE	.....	06/29/2023	SMBC NIKKO SECURITIE	.....	18,930,287	21,027,000	20,987,483	21,004,636	0	1,390	0	1,390	0	21,006,026	0	(2,075,739)	(2,075,739)	575,720	07/01/2029	1.F FE
..488401-AB-6	Kemper Corp-SENIOR UNSECURED	.....	05/24/2023	U. S. BANCORP	.....	9,653,300	10,000,000	10,119,300	10,034,096	0	(7,222)	0	(7,222)	0	10,026,874	0	(373,574)	(373,574)	339,542	02/15/2025	2.C FE
..493268-AY-2	Keycorp Student Loan Tru-KSLT 2000-B A2	.....	04/25/2023	PAYDOWN	.....	1,380	1,380	1,118	1,380	0	0	0	0	0	1,380	0	0	0	34	07/25/2029	1.A FE
..49338L-AB-9	Keysight Technologies In-SENIOR UNSECURE	.....	05/30/2023	BARCLAYS CAPITAL INC	.....	11,797,200	12,000,000	11,995,920	11,999,167	0	283	0	283	0	11,999,449	0	(202,249)	(202,249)	320,017	10/30/2024	2.B FE
..502439-AA-8	LVCVA (Las Vegas NV) Rec Trust Certifica	.....	06/15/2023	SINKING PAYMENT	.....	282,955	282,955	282,955	282,955	0	0	0	0	0	282,955	0	0	0	(484)	12/15/2039	4.A
..50543L-AA-0	LABRADOR AVIATION FINANC-SERIES 2016-1A	.....	06/15/2023	PAYDOWN	.....	252,224	252,224	247,330	251,191	0	1,033	0	1,033	0	252,224	0	0	0	4,440	01/15/2042	3.A FE

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Ident-ification	Description	For-ign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid-eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/(Decrease)	Current Year's (Amor-tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn-ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con-tractual Maturity Date	NAIC Desig-nation, NAIC Desig-nation Modifier and SVO Admini-strative Symbol
..505742-AM-8	Ladder Capital Finance H-SENIOR UNSECURE .....	.....	06/08/2023	JP MORGAN SECURITIES ...	.....	1,286,250	1,500,000	1,267,500	1,290,423	0	19,641	0	19,641	0	1,310,064	0	(23,814)	(23,814)	55,073	02/01/2027	3.B FE
..52520M-CE-1	Lehman Mortgage Trust 20-LMT 2005-2 3A7 .....	.....	06/01/2023	PAYDOWN	.....	2,381	2,381	1,722	1,303	0	1,078	0	1,078	0	2,381	0	0	0	45	12/01/2035	1.A FM
..525221-EM-5	Lehman XS Trust Series 2-LXS 2005-7N 1A1 .....	.....	06/26/2023	PAYDOWN	.....	44,989	44,989	32,996	38,111	0	6,878	0	6,878	0	44,989	0	0	0	827	12/25/2035	1.A FM
..525221-GM-3	LEHMAN XS TRUST-SERIES 2005-9N CLASS 1A1 .....	.....	06/26/2023	PAYDOWN	.....	113,940	113,940	97,170	103,781	0	10,160	0	10,160	0	113,940	0	0	0	2,773	02/25/2036	1.A FM
..52523M-AD-2	Lehman XS Trust 2006-15-LXS 2006-15 A4 .....	.....	06/26/2023	PAYDOWN	.....	36,128	36,109	19,960	25,705	0	10,413	0	10,413	0	36,128	0	0	0	590	10/25/2036	1.A FM
..525241-AL-9	Lehman XS Trust 2007-1-LXS 2007-1 WF1 .....	.....	06/01/2023	PAYDOWN	.....	15,059	15,059	9,726	10,147	0	4,911	0	4,911	0	15,059	0	0	0	306	01/01/2037	1.A FM
..52605A-AC-3	Lendingpoint 2022-A Asse-LENDINGPOINT 20 .....	.....	06/15/2023	PAYDOWN	.....	658,514	658,514	658,478	658,499	0	14	0	14	0	658,514	0	0	0	7,935	06/15/2029	1.G FE
..53079E-BE-3	Liberty Mutual Group Inc-SENIOR UNSECURE .....	.....	06/15/2023	VARIOUS	.....	2,423,751	2,426,000	2,412,107	2,425,201	0	662	0	662	0	2,425,864	0	(2,113)	(2,113)	46,607	06/15/2023	2.B FE
..53946H-AA-6	Loan Asset Issuer LLC - Series 2022 NG-2 .....	.....	06/25/2023	CA_CASH_CLOSE	.....	3,891,724	3,891,724	3,891,724	3,891,724	0	0	0	0	0	3,891,724	0	0	0	128,801	11/25/2047	1.G PL
..53946H-AB-4	Loan Asset Issuer LLC - Series 2022 NG-2 .....	.....	06/30/2023	CA_CASH_CLOSE	.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
..53948W-AA-1	Loan Asset Issuer LLC - Series 2021 NG-1 .....	.....	06/25/2023	CA_CASH_CLOSE	.....	383,905	383,905	383,905	383,905	0	0	0	0	0	383,905	0	0	0	26,401	10/25/2046	1.G PL
..53948W-AB-9	Loan Asset Issuer LLC - Series 2021 NG-1 .....	.....	05/25/2023	VARIOUS	.....	240,996	240,996	240,996	240,996	0	0	0	0	0	240,996	0	0	0	3,559	10/25/2046	2.C PL
..53948W-AC-7	Loan Asset Issuer LLC - Series 2021 NG-1 .....	.....	05/25/2023	VARIOUS	.....	76,226	76,226	76,226	76,226	0	0	0	0	0	76,226	0	0	0	2,081	10/25/2046	3.C PL
..53950X-AA-4	Loan Asset Issuer LLC - Series 2022 NG-1 .....	.....	06/25/2023	CA_CASH_CLOSE	.....	523,598	523,598	523,598	523,598	0	0	0	0	0	523,598	0	0	0	11,922	02/25/2047	1.G PL
..53950X-AB-2	Loan Asset Issuer LLC - Series 2022 NG-1 .....	.....	05/25/2023	CA_CASH_CLOSE	.....	271,027	271,027	271,027	271,027	0	0	0	0	0	271,027	0	0	0	4,006	02/25/2047	2.C PL
..53950X-AC-0	Loan Asset Issuer LLC - Series 2022 NG-1 .....	.....	05/25/2023	CA_CASH_CLOSE	.....	160,152	160,152	160,152	160,152	0	0	0	0	0	160,152	0	0	0	3,245	02/25/2047	3.C PL
..55274Q-AK-1	MASTR Asset Securitizati-MASTR 2006-2 1A .....	.....	06/01/2023	PAYDOWN	.....	4,813	4,649	4,382	3,316	0	1,342	0	1,342	0	4,813	0	0	0	45	06/01/2036	3.A FM
..552758-AA-2	MFRA Trust-MFRA 2022-CHM1 A1 .....	.....	06/01/2023	PAYDOWN	.....	726,239	726,239	726,238	726,239	0	0	0	0	0	726,239	0	0	0	15,412	09/01/2056	1.C FE
..55281F-AP-5	MCF CLO VII LLC-MCFCL 2017-3A BR .....	.....	05/18/2023	WELLS FARGO	.....	2,609,420	2,750,000	2,750,000	2,750,000	0	0	0	0	0	2,750,000	0	(140,580)	(140,580)	106,909	07/20/2033	1.C FE
..55283A-AA-7	MCA Fund Holding LLC-MCA 2020-1 A .....	.....	05/01/2023	PAYDOWN	.....	1,097,984	1,097,984	1,100,293	1,099,659	0	(1,674)	0	(1,674)	0	1,097,984	0	0	0	17,842	11/01/2035	1.F FE
..55285P-AB-0	MFA 2023-NQM1 Trust-MFRA 2023-NQM1 A2 .....	.....	06/01/2023	PAYDOWN	.....	30,330	30,330	29,901	0	0	0	0	0	0	30,330	0	0	0	594	11/01/2067	1.C FE
..55286E-AC-2	MFA 2022-NQM3 Trust-MFRA 2022-NQM3 A3 .....	.....	06/01/2023	PAYDOWN	.....	267,540	267,540	260,646	261,288	0	6,252	0	6,252	0	267,540	0	0	0	8,444	09/01/2067	1.F FE
..55336V-AA-8	MPLX 4 02/15/25-SENIOR UNSECURED .....	.....	05/24/2023	BARCLAYS CAPITAL INC	.....	5,355,153	5,491,000	5,103,720	5,388,095	0	18,593	0	18,593	0	5,406,688	0	(51,535)	(51,535)	171,441	02/15/2025	2.B FE
..55336V-BQ-2	MPLX LP-SENIOR UNSECURED .....	.....	06/23/2023	VARIOUS	.....	8,380,614	10,000,000	9,263,700	9,324,077	0	37,927	0	37,927	0	9,362,003	0	(981,389)	(981,389)	229,667	08/15/2030	2.B FE
..55400U-AB-9	MVVI 2022-1 LLC-MVIVOT 2022-1A B .....	.....	06/20/2023	PAYDOWN	.....	571,895	571,895	571,831	571,833	0	61	0	61	0	571,895	0	0	0	10,502	11/21/2039	1.F FE
..55903V-AG-8	Magallanes Inc-SENIOR UNSECURED .....	.....	05/01/2023	EXCHANGE OFFER	.....	28,386,761	30,000,000	28,169,440	28,262,721	0	124,039	0	124,039	0	28,386,761	0	0	0	707,192	03/15/2027	2.C FE
..55903V-AJ-2	Warnermedia Holdings Inc-SENIOR UNSECURE .....	.....	05/01/2023	EXCHANGE OFFER	.....	9,912,407	11,500,000	9,800,010	9,839,828	0	72,579	0	72,579	0	9,912,407	0	0	0	292,676	03/15/2029	2.C FE
..55903V-AL-7	Magallanes Inc-SENIOR UNSECURED .....	.....	05/01/2023	EXCHANGE OFFER	.....	5,033,520	5,000,000	5,037,200	5,034,530	0	(1,011)	0	(1,011)	0	5,033,520	0	0	0	134,313	03/15/2032	2.C FE
..56035L-AE-4	Main Street Capital Corp-SENIOR UNSECURE .....	.....	06/23/2023	GOLDMAN	.....	14,107,680	16,000,000	15,840,640	15,894,639	0	13,820	0	13,820	0	15,908,459	0	(1,800,779)	(1,800,779)	457,333	07/14/2026	2.C FE
..576431-AJ-9	MASTR Adjustable Rate Mo-MARM 2007-1 2A1 .....	.....	06/01/2023	PAYDOWN	.....	1,439	1,439	1,150	(44)	0	1,483	0	1,483	0	1,439	0	0	0	24	11/01/2036	1.A FM
..576433-C5-3	MASTR Adjustable Rate Mo-MARM 2005-6 5A2 .....	.....	06/01/2023	PAYDOWN	.....	7,807	7,807	6,045	6,046	0	1,760	0	1,760	0	7,807	0	0	0	110	07/01/2035	1.A FM
..576433-O5-2	MASTR Adjustable Rate Mo-MARM 2005-7 3A1 .....	.....	06/01/2023	PAYDOWN	.....	926	926	626	637	0	302	13	289	0	926	0	0	0	18	09/01/2035	1.A FM
..576433-GM-2	MASTR Adjustable Rate Mo-MARM 2003-6 6A1 .....	.....	06/01/2023	PAYDOWN	.....	10,626	10,626	10,028	10,161	0	465	0	465	0	10,626	0	0	0	172	12/01/2033	1.A FM
..576433-HM-1	MASTR Adjustable Rate Mo-MARM 2003-7 4A1 .....	.....	05/01/2023	PAYDOWN	.....	9,339	9,339	9,082	9,180	0	159	0	159	0	9,339	0	0	0	143	01/01/2034	1.A FM
..576433-XA-9	MASTR Adjustable Rate Mo-MARM 2005-1 3A1 .....	.....	06/01/2023	PAYDOWN	.....	2,105	2,105	2,000	1,987	0	118	0	118	0	2,105	0	0	0	34	02/01/2035	1.A FM
..576433-XW-1	MASTR Adjustable Rate Mo-MARM 2005-2 3A1 .....	.....	05/01/2023	PAYDOWN	.....	4,175	4,175	4,008	4,045	0	130	0	130	0	4,175	0	0	0	64	03/01/2035	1.A FM
..576434-U7-0	MASTR Alternative Loan T-MALT 2005-2 4A3 .....	.....	06/25/2023	PAYDOWN	.....	62,839	62,839	52,235	61,888	0	952	0	952	0	62,839	0	0	0	1,615	03/25/2035	1.A FM
..576434-W5-9	MASTR Alternative Loan T-MALT 2005-6 3A1 .....	.....	06/01/2023	PAYDOWN	.....	2,915	2,915	2,124	2,833	0	82	0	82	0	2,915	0	0	0	67	12/01/2035	4.A FM
..57643M-LZ-5	MASTR Asset Securitizati-MASTR 2006-1 1A .....	.....	06/01/2023	PAYDOWN	.....	13,707	13,707	10,007	10,175	0	3,654	121	3,533	0	13,707	0	0	0	271	05/01/2036	1.A FM
..57645T-AA-5	MASTR Adjustable Rate Mo-MARM 2007-HF2 A .....	.....	06/26/2023	PAYDOWN	.....	342,918	342,918	300,779	339,520	0	3,398	0	3,398	0	342,918	0	0	0	2,888	09/25/2037	1.A FM
..57778K-AC-9	Maxar Technologies Inc-FIRST LIEN .....	.....	05/04/2023	CALL 106.826231	.....	3,471,853	3,250,000	3,250,000	3,250,000	0	0	0	0	0	3,250,000	0	221,853	221,853	97,252	06/15/2027	4.B FE
..579063-AB-4	Condor Merger Sub Inc-SENIOR UNSECURED .....	.....	05/25/2023	VARIOUS	.....	5,540,857	6,668,000	5,595,165	5,636,716	0	38,221	0	38,221	0	5,676,936	0	(136,079)	(136,079)	375,467	02/15/2030	5.B FE
..58403Y-AR-7	Med Trust 2021-MDLN-MED 2021-MDLN D .....	.....	05/15/2023	PAYDOWN	.....	18,749	18,749	18,491	18,583	0	166	0	166	0	18,749	0	0	0	519	11/15/2038	1.A
..58403Y-AU-0	Med Trust 2021-MDLN-MED 2021-MDLN E .....	.....	05/15/2023	PAYDOWN	.....	14,514	14,514	14,514	14,514	0	0	0	0	0	14,514	0	0	0	472	11/15/2038	1.A
..58403Y-AX-4	Med Trust 2021-MDLN-MED 2021-MDLN F .....	.....	05/15/2023	PAYDOWN	.....	16,328	16,328	16,328	16,328	0	0	0	0	0	16,328	0	0	0	589	11/15/2038	1.A
..585495-AA-2	Mello Mortgage Capital A-NELLO 2021-MTG1 .....	.....	06/01/2023	PAYDOWN	.....	480,473	480,473	486,379	486,425	0	(5,952)	0	(5,952)	0	480,473	0	0	0	6,048	04/01/2051	1.A

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Ident- ification	Description	For- eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid- eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor- tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn- ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con- tractual Maturity Date	NAIC Desig- nation, NAIC Desig- nation Modifier and SVO Admini- strative Symbol
..59020U-W4-3	MERRILL LYNCH MORTGAGE I-SERIES 2005-A9C		06/01/2023	PAYDOWN		63	63	20	20	0	43	0	43	0	63	0	0	0	1	12/01/2035	1.A FM
..59023N-AW-8	Merrill Lynch Mortgage I-MLMI 2006-AF2 P		04/01/2023	PAYDOWN		2,883	2,883	1,730	447	0	2,436	0	2,436	0	2,883	0	0	0	0	10/01/2036	1.A FM
..59023P-AB-9	Merrill Lynch Mortgage I-MLCC 2006-3 2A1		06/01/2023	PAYDOWN		6,997	6,997	6,011	6,068	0	1,043	114	929	0	6,997	0	0	0	127	10/01/2036	1.A FM
..595481-AA-0	Mid-State Capital Corp 2-MDST 2005-1 A		06/01/2023	PAYDOWN		48,738	48,738	46,789	48,738	0	0	0	0	0	48,738	0	0	0	1,138	01/01/2040	1.E FE
..59549W-AA-1	Mid-State Trust XI-MDST 11 A1		06/15/2023	PAYDOWN		65,795	65,795	65,793	65,795	0	0	0	0	0	65,795	0	0	0	1,329	07/15/2038	1.F FE
..61690A-AD-6	Morgan Stanley Bank of A-MSBAM 2015-C27		04/01/2023	PAYDOWN		36,513	36,513	37,301	36,685	0	(172)	0	(172)	0	36,513	0	0	0	528	12/01/2047	1.A
..61744Y-AP-3	Morgan Stanley-SENIOR UNSECURED		06/21/2023	MORGAN		23,269,500	25,000,000	24,384,470	24,603,664	0	27,373	0	27,373	0	24,631,037	0	(1,361,537)	(1,361,537)	861,797	01/24/2029	1.G FE
..61747Y-DU-6	MORGAN STANLEY-SUBORDINATED		05/22/2023	MATURITY		10,000,000	10,000,000	9,923,400	9,996,124	0	3,876	0	3,876	0	10,000,000	0	0	0	205,000	05/22/2023	2.A FE
..61747Y-ET-8	Morgan Stanley-SENIOR UNSECURED		06/21/2023	MORGAN		10,969,257	11,180,000	11,186,300	11,185,289	0	(1,016)	0	(1,016)	0	11,184,273	0	(215,016)	(215,016)	483,879	07/17/2026	1.E FE
..61748H-AW-1	Morgan Stanley Mortgage -MSM 2004-5AR 4A		05/01/2023	PAYDOWN		16,814	16,814	17,002	16,814	0	(281)	0	(281)	0	16,814	0	0	0	299	07/01/2034	1.A FM
..61748H-UF-6	Morgan Stanley Mortgage -MSM 2006-1AR 1A		06/30/2023	PAYDOWN		3	0	0	0	0	1	0	1	0	3	0	0	0	(10)	02/25/2036	1.A FM
..61749L-AP-6	Morgan Stanley Mortgage -MSM 2006-8AR 5A		06/01/2023	PAYDOWN		13,643	13,643	9,985	11,293	0	2,349	0	2,349	0	13,643	0	0	0	336	06/01/2036	1.A FM
..61749L-BM-2	Morgan Stanley Mortgage -MSM 2006-8AR 6A		06/01/2023	PAYDOWN		1,150	1,150	893	727	0	424	0	424	0	1,150	0	0	0	26	06/01/2036	1.A FM
..61751D-AE-4	Morgan Stanley Mortgage -MSM 2006-17XS A		06/01/2023	PAYDOWN		22,861	22,861	7,148	7,319	0	15,830	288	15,542	0	22,861	0	0	0	116	10/01/2046	1.A FM
..61751M-AU-8	Morgan Stanley Mortgage -MSM 2007-10XS A		06/01/2023	PAYDOWN		107,109	107,109	97,569	97,412	0	9,697	0	9,697	0	107,109	0	0	0	566	02/01/2037	1.A FM
..61751Q-AB-1	Morgan Stanley Home Equi-MSHEL 2007-1 A2		06/26/2023	PAYDOWN		57,527	57,527	32,970	20,510	0	37,017	0	37,017	0	57,527	0	0	0	601	12/25/2036	1.A FM
..617526-AD-0	Morgan Stanley ABS Capit-MSAC 2007-HE1 A		06/26/2023	PAYDOWN		87,026	87,026	44,138	48,216	0	43,840	5,030	38,810	0	87,026	0	0	0	1,047	11/25/2036	1.A FM
..61759X-AC-6	Morgan Stanley Re-REMIC -MSRR 2010-R8 1C		06/01/2023	PAYDOWN		22,570	22,342	15,105	14,552	0	7,845	0	7,845	0	22,570	0	0	0	506	01/01/2037	3.B FM
..618933-AA-3	Mosaic Solar Loan Trust -MSAIC 2023-3A A		06/20/2023	PAYDOWN		146,265	146,265	143,120	0	0	3,145	0	3,145	0	146,265	0	0	0	480	11/20/2053	1.D FE
..61915R-AK-2	MortgageIT Trust 2005-3-MHL 2005-3 A1		06/25/2023	PAYDOWN		759	759	436	636	0	123	0	123	0	759	0	0	0	18	08/25/2035	1.A FM
..61915R-AU-0	MortgageIT Trust 2005-5-MHL 2005-5 A1		06/26/2023	PAYDOWN		25,460	25,460	16,422	22,063	0	3,397	0	3,397	0	25,460	0	0	0	615	12/25/2035	1.A FM
..61945C-AC-7	Mosaic Co/The-SENIOR UNSECURED		05/30/2023	TORONTO DOMINION SEC		4,958,700	5,000,000	4,989,500	4,998,826	0	577	0	577	0	4,999,403	0	(40,703)	(40,703)	115,694	11/15/2023	2.B FE
..61946K-AA-2	Mosaic Solar Loan Trust -MSAIC 2022-3A A		06/20/2023	PAYDOWN		252,148	252,148	252,137	252,136	0	11	0	11	0	252,148	0	0	0	5,053	06/20/2053	1.D FE
..61946Q-AB-7	Mosaic Solar Loan Trust -MSAIC 2022-1A B		06/20/2023	PAYDOWN		1,068,405	1,068,405	1,028,267	1,031,069	0	37,336	0	37,336	0	1,068,405	0	0	0	14,044	01/20/2053	1.G FE
..61946U-AB-8	Mosaic Solar Loan Trust -MSAIC 2022-2A B		06/20/2023	PAYDOWN		216,467	216,467	214,228	214,382	0	2,084	0	2,084	0	216,467	0	0	0	4,576	01/21/2053	1.G FE
..62942K-AA-4	NRP Mortgage Trust 2013--NRPMT 2013-1 A1		06/01/2023	PAYDOWN		368,874	368,874	352,696	355,189	0	13,685	0	13,685	0	368,874	0	0	0	4,840	07/01/2043	1.A
..62946A-AA-2	NP SPE II LLC-NPRL 2016-1A A1		06/20/2023	PAYDOWN		286,769	286,769	286,769	286,776	0	(7)	0	(7)	0	286,769	0	0	0	4,954	04/20/2046	1.G FE
..62946A-AC-8	NP SPE II LLC-NPRL 2017-1A A1		06/20/2023	PAYDOWN		313,979	313,979	313,976	313,979	0	0	0	0	0	313,979	0	0	0	4,524	10/21/2047	1.G FE
..62947A-AB-9	NP SPE II LLC-NPRL 2019-2A A2		06/19/2023	PAYDOWN		127,403	127,403	127,397	127,397	0	5	0	5	0	127,403	0	0	0	1,642	11/19/2049	1.F FE
..62947A-AF-0	NP SPE X LP-NPRL 2021-1A A1		05/19/2023	PAYDOWN		28,580	28,580	28,571	28,580	0	0	0	0	0	28,580	0	0	0	272	03/19/2051	1.F FE
..62953J-AA-3	NXT Capital CLO 2017-2 L-NXTC 2017-2A A		04/25/2023	PAYDOWN		1,132,698	1,132,698	1,132,698	1,132,698	0	0	0	0	0	1,132,698	0	0	0	35,135	10/25/2029	1.A FE
..62955M-AA-4	NRZ FHT Excess LLC-NZES 2020-FHT1 A		06/25/2023	PAYDOWN		501,003	501,003	500,991	500,909	0	94	0	94	0	501,003	0	0	0	7,194	11/25/2025	2.C FE
..637138-AC-2	Truist Financial Corp-SENIOR UNSECURED		05/30/2023	JP MORGAN SECURITIES		2,915,670	3,000,000	3,000,000	3,000,000	0	0	0	0	0	3,000,000	0	(84,330)	(84,330)	85,354	09/30/2024	1.G FE
..638961-AA-0	Navient Private Educatio-NAVSL 2023-A A		06/15/2023	PAYDOWN		50,417	50,417	50,344	0	0	73	0	73	0	50,417	0	0	0	370	10/15/2071	1.A FE
..63942A-AB-2	Navient Private Educatio-NAVSL 2020-1A A		06/15/2023	PAYDOWN		310,065	310,065	301,538	301,564	0	8,501	0	8,501	0	310,065	0	0	0	7,286	04/15/2069	1.A FE
..64016N-AA-5	Neighborly Issuer LLC-NBLY 2021-1A A2		04/30/2023	PAYDOWN		4,000	4,000	3,503	3,520	0	480	0	480	0	4,000	0	0	0	72	04/30/2051	2.C FE
..64016N-AC-1	Neighborly Issuer 2022-1-NBLY 2022-1A A2		04/30/2023	PAYDOWN		10,000	10,000	8,841	8,922	0	1,078	0	1,078	0	10,000	0	0	0	185	01/30/2052	2.C FE
..64033N-AA-4	Nelnet Student Loan Trus-NSLT 2014-5A A		06/26/2023	PAYDOWN		661,594	661,594	637,611	637,778	0	23,816	0	23,816	0	661,594	0	0	0	14,219	07/25/2046	1.A FE
..64033Q-AB-5	Nelnet Student Loan Trus-NSLT 2015-2A A2		06/26/2023	PAYDOWN		337,234	337,234	325,852	325,852	0	11,382	0	11,382	0	337,234	0	0	0	6,921	09/25/2042	1.A FE
..643529-AC-4	New Century Alternative -NCAMT 2006-ALT2		06/01/2023	PAYDOWN		5,952	5,952	1,139	1,185	0	4,836	69	4,767	0	5,952	0	0	0	30	10/01/2036	1.A FM
..643529-AD-2	New Century Alternative -NCAMT 2006-ALT2		06/01/2023	PAYDOWN		2,716	2,716	1,806	569	0	2,146	0	2,146	0	2,716	0	0	0	11	10/01/2036	1.A FM
..643529-MP-3	New Century Home Equity -NCHEI 2005-A A5		06/01/2023	PAYDOWN		68,981	68,981	65,014	66,093	0	2,888	0	2,888	0	68,981	0	0	0	1,633	08/01/2035	1.A FM
..64830Y-AC-1	NRZ Excess Spread-Collat-NZES 2021-FNT1		06/25/2023	PAYDOWN		277,398	277,398	277,394	277,395	0	2	0	2	0	277,398	0	0	0	3,435	03/25/2026	2.C FE
..64831Q-AA-1	New Residential Mortgage-NRZT 2022-NQM3		06/01/2023	PAYDOWN		742,521	742,521	731,593	733,607	0	8,914	0	8,914	0	742,521	0	0	0	12,712	04/01/2062	1.A
..64831Q-AB-9	New Residential Mortgage-NRZT 2022-NQM3		06/01/2023	PAYDOWN		185,839	185,839	181,890	182,822	0	3,017	0	3,017	0	185,839	0	0	0	3,282	04/01/2062	2.A
..64831T-AA-5	New Residential Mortgage-NRZT 2021-NQM3		06/01/2023	PAYDOWN		290,164	290,164	269,854	271,126	0	19,038	0	19,038	0	290,164	0	0	0	1,678	11/01/2056	1.A

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Identification	Description	For- eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid- eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor- tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn- ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con- tractual Maturity Date	NAIC Desig- nation, NAIC Desig- nation Modifier and SVO Admini- strative Symbol
..64831V-AB-8	New Residential Mortgage-NRZT 2022-NQM5		06/01/2023	PAYDOWN		254,141	254,141	250,825	251,114	0	3,027	0	3,027	0	254,141	0	0	0	11,253	11/01/2052	1.D FE
..64831V-AC-6	New Residential Mortgage-NRZT 2022-NQM5		06/01/2023	PAYDOWN		355,797	355,797	347,912	348,524	0	7,273	0	7,273	0	355,797	0	0	0	11,900	11/01/2052	1.G FE
..65444#-AA-1	9 Campus Circle Westlake Senior Secured		05/16/2023	VARIOUS		894,679	894,679	894,679	894,679	0	0	0	0	0	894,680	0	(1)	(1)	11,187	07/01/2024	1.G
..65535V-KX-5	Nomura Asset Acceptance -NAA 2005-WF1 2A		06/01/2023	PAYDOWN		597	597	607	599	0	(2)	0	(2)	0	597	0	0	0	12	03/01/2035	1.A FM
..65535V-MJ-4	Nomura Asset Acceptance -NAA 2005-AR3 1A		06/26/2023	PAYDOWN		15,004	15,004	11,790	11,849	0	3,155	0	3,155	0	15,004	0	0	0	255	07/25/2035	1.A FM
..65535V-NL-8	Nomura Asset Acceptance -NAA 2005-AR4 5A		06/26/2023	PAYDOWN		30,631	30,631	17,898	17,132	0	0	0	0	0	17,132	0	13,499	13,499	277	08/25/2035	1.A FM
..65535V-SJ-8	Nomura Asset Acceptance -NAA 2006-AP2 A2		06/01/2023	PAYDOWN		13,848	13,848	5,211	5,248	0	8,600	0	8,600	0	13,848	0	0	0	127	01/01/2036	1.A FM
..65539C-AK-2	Nomura Resecuritization -NMRR 2011-4RA 1		05/01/2023	PAYDOWN		13,765	12,340	10,253	10,557	0	2,053	0	2,053	0	13,765	0	0	0	160	12/01/2036	1.A FM
..65540E-BR-9	Nomura Resecuritization -NMRR 2014-1R 3A		06/27/2023	PAYDOWN		579,166	579,166	483,603	572,505	0	6,661	0	6,661	0	579,166	0	0	0	14,154	07/26/2036	6. *
..67087T-DE-8	Oakwood Mortgage Investo-OAK 2002-A A3		06/01/2023	PAYDOWN		13,165	13,165	13,164	13,165	0	0	0	0	0	13,165	0	0	0	334	05/01/2024	5.A FE
..67098A-AM-1	OBX 2019-INV1 Trust-OBX 2019-INV1 A12		06/01/2023	PAYDOWN		493,868	493,868	451,889	458,678	0	35,190	0	35,190	0	493,868	0	0	0	7,766	11/01/2048	1.A
..67113A-AP-5	OBX 2019-EXP3 Trust-OBX 2019-EXP3 1A8		06/01/2023	PAYDOWN		8,106	8,106	8,119	8,127	0	(21)	0	(21)	0	8,106	0	0	0	162	10/01/2059	1.A
..67113X-AB-6	OBX 2021-J1 Trust-OBX 2021-J1 A2		06/01/2023	PAYDOWN		598,378	598,378	594,732	593,523	0	4,856	0	4,856	0	598,378	0	0	0	6,290	05/01/2051	1.A
..67117D-AA-8	Onslow Bay Mortgage Loan-OBX 2022-NQM7 A		06/01/2023	PAYDOWN		94,762	94,762	94,762	94,762	0	0	0	0	0	94,762	0	0	0	2,006	08/01/2062	1.A FE
..67117D-AB-6	Onslow Bay Mortgage Loan-OBX 2022-NQM7 A		06/01/2023	PAYDOWN		44,796	44,796	44,694	44,710	0	86	0	86	0	44,796	0	0	0	1,058	08/01/2062	1.C FE
..67117D-AC-4	Onslow Bay Mortgage Loan-OBX 2022-NQM7 A		06/01/2023	PAYDOWN		45,227	45,227	44,944	44,777	0	450	0	450	0	45,227	0	0	0	1,068	08/01/2062	1.F FE
..67118A-AN-5	OPG Trust 2021-PORT-OPG 2021-PORT E		04/15/2023	PAYDOWN		488,287	488,287	484,225	486,505	0	1,782	0	1,782	0	488,287	0	0	0	7,299	10/15/2036	1.A
..67118A-AQ-8	OPG Trust 2021-PORT-OPG 2021-PORT F		04/15/2023	PAYDOWN		195,080	195,080	194,591	194,866	0	214	0	214	0	195,080	0	0	0	4,235	10/15/2036	1.A
..67118A-AS-4	OPG Trust 2021-PORT-OPG 2021-PORT G		04/15/2023	PAYDOWN		195,002	195,002	194,518	194,778	0	225	0	225	0	195,002	0	0	0	4,528	10/15/2036	1.A
..67181D-AA-9	Oak Street Investment Gr-OAKIG 2020-1A A		06/20/2023	PAYDOWN		28,338	28,338	28,337	28,338	0	0	0	0	0	28,338	0	0	0	218	11/20/2050	1.A FE
..67181D-AB-7	Oak Street Investment Gr-SERIES 20-1A CL		06/20/2023	PAYDOWN		28,338	28,338	28,327	28,332	0	7	0	7	0	28,338	0	0	0	261	11/20/2050	1.A FE
..67190A-AA-4	Oak Street Investment Gr-OAKIG 2021-1A A		06/20/2023	PAYDOWN		39,201	39,201	37,604	37,636	0	1,565	0	1,565	0	39,201	0	0	0	242	01/20/2051	1.A FE
..67190A-AB-2	Oak Street Investment Gr-OAKIG 2021-1A A		06/20/2023	PAYDOWN		23,956	23,956	23,953	23,955	0	2	0	2	0	23,956	0	0	0	193	01/20/2051	1.A FE
..674135-EM-6	Oakwood Mortgage Investo-OAK 1999-A M2		05/01/2023	PAYDOWN		0	257	228	34	0	187	0	187	0	0	0	0	0	7	04/01/2029	6. FE
..67448Q-AC-5	OBX 2019-EXP1 Trust-OBX 2019-EXP1 1A3		06/01/2023	PAYDOWN		72,113	72,113	71,752	71,623	0	489	0	489	0	72,113	0	0	0	1,219	01/01/2059	1.A
..674599-CG-8	OCCIDENTAL PETROLEUM COR-SR UNSECURED		05/24/2023	JEFFERIESLLC		6,580,000	7,000,000	6,981,940	6,994,946	0	771	0	771	0	6,995,717	0	(415,717)	(415,717)	109,569	06/15/2025	3.A FE
..674599-CH-6	Occidental Petroleum Cor-SENIOR UNSECURE		05/24/2023	JEFFERIESLLC		12,090,000	13,000,000	12,970,360	12,989,314	0	1,320	0	1,320	0	12,990,635	0	(900,635)	(900,635)	271,339	04/15/2026	3.A FE
..675932-AL-1	OCTAGON 58 LTD-OCT58 2022-1A D		05/11/2023	VARIOUS		11,947,188	12,750,000	12,750,000	12,750,000	0	0	0	0	0	12,750,001	0	(802,813)	(802,813)	806,807	07/15/2037	2.C FE
..677071-AF-9	Ohana Military Communiti-UNSECURED		04/01/2023	SINKING PAYMENT		119,764	119,764	121,210	120,163	0	(398)	0	(398)	0	119,764	0	0	0	3,398	10/01/2026	1.D FE
..677071-AM-4	Ohana Military Communiti-UNSECURED		04/01/2023	SINKING PAYMENT		79,508	79,508	81,846	80,186	0	(678)	0	(678)	0	79,508	0	0	0	2,171	10/01/2026	1.D FE
..680223-AJ-3	Old Republic Internation-SENIOR UNSECURE		06/06/2023	STIFEL NICOLAUS		12,777,960	13,000,000	12,934,740	12,989,209	0	3,159	0	3,159	0	12,989,367	0	(211,407)	(211,407)	434,823	10/01/2024	2.B FE
..680277-AB-6	Old Second Bancorp Inc-SENIOR UNSECURED		06/30/2023	CALL 100		5,000,000	5,000,000	5,000,000	5,000,000	0	0	0	0	0	5,000,000	0	0	0	203,690	12/31/2026	2.B FE
..681936-BD-1	Omega Healthcare Investo-SENIOR UNSECURE		05/30/2023	GOLDMAN		4,798,050	5,000,000	4,956,550	4,990,097	0	1,787	0	1,787	0	4,991,884	0	(193,834)	(193,834)	197,500	01/15/2025	2.C FE
..681936-BJ-8	Omega Healthcare Investo-SENIOR UNSECURE		05/24/2023	GOLDMAN		1,229,511	1,236,000	1,232,774	1,235,677	0	166	0	166	0	1,235,844	0	(6,333)	(6,333)	44,311	08/01/2023	2.C FE
..68268N-AP-8	ONEOK Partners LP-SENIOR UNSECURED		05/30/2023	VARIOUS		8,874,940	9,000,000	8,981,100	8,995,053	0	766	0	766	0	8,995,819	0	(120,879)	(120,879)	310,197	03/15/2025	2.B FE
..691205-AA-6	Owl Rock Technology Fina-SENIOR UNSECURE		05/30/2023	OPPENHEIMER AND CO		6,923,750	7,250,000	7,835,000	7,567,476	0	(52,547)	0	(52,547)	0	7,514,929	0	(591,179)	(591,179)	449,953	06/30/2025	2.C FE
..691205-AC-2	Owl Rock Technology Fina-SENIOR UNSECURE		05/30/2023	OPPENHEIMER AND CO		12,657,540	14,000,000	13,907,040	13,943,883	0	7,426	0	7,426	0	13,951,309	0	(1,293,769)	(1,293,769)	306,639	07/15/2037	2.C FE
..69121K-AD-6	Owl Rock Capital Corp-SENIOR UNSECURED		05/30/2023	SIBC NIKKO SECURITIE		7,379,920	8,000,000	7,940,320	7,965,069	0	4,294	0	4,294	0	7,969,363	0	(589,443)	(589,443)	298,444	01/15/2026	2.C FE
..69144A-AA-7	Oxford Finance Funding 2-OXFIN 2020-1A A		06/15/2023	PAYDOWN		189,022	189,022	188,210	188,244	0	778	0	778	0	189,022	0	0	0	2,468	02/15/2028	1.F FE
..69337B-AH-7	PHH Alternative Mortgage-PHAM 2007-1 21		05/01/2023	PAYDOWN		8,609	12,960	11,605	12,192	0	472	0	472	0	8,609	0	0	0	302	02/01/2037	4.A FM
..693456-AA-3	PMT Loan Trust 2013-J1-PMTLT 2013-J1 A1		06/01/2023	PAYDOWN		33,141	33,141	32,292	32,316	0	824	0	824	0	33,141	0	0	0	579	09/01/2043	1.A
..69349L-AM-0	PNC Bank NA-SUBORDINATED		05/30/2023	U. S. BANCORP		8,970,210	9,000,000	8,962,740	8,997,396	0	1,617	0	1,617	0	8,999,013	0	(28,803)	(28,803)	290,700	07/25/2023	1.G FE
..693684-AA-0	PSMC 2020-1 Trust-PSMC 2020-1 A1		06/01/2023	PAYDOWN		106,543	106,543	108,923	109,775	0	(3,233)	0	(3,233)	0	106,543	0	0	0	1,946	01/01/2050	1.A
..69374X-AA-8	PSMC 2019-2 Trust-PSMC 2019-2 A1		06/01/2023	PAYDOWN		177,099	177,099	180,641	183,204	0	(6,104)	0	(6,104)	0	177,099	0	0	0	2,748	10/01/2049	1.A
..69375B-AA-5	PSMC 2019-3 Trust-PSMC 2019-3 A1		06/01/2023	PAYDOWN		47,778	47,778	48,473	48,917	0	(1,138)	0	(1,138)	0	47,778	0	0	0	835	11/01/2049	1.A
..69506Y-SC-4	Pacific Western Bank-SUBORDINATED		05/01/2023	JEFFERIESLLC		7,056,250	10,000,000	10,000,000	10,000,000	0	0	0	0	0	10,000,000	0	(2,943,750)	(2,943,750)	164,306	05/01/2031	2.A PL

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Identification	Description	For- eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid- eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor- tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn- ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con- tractual Maturity Date	NAIC Desig- nation, NAIC Desig- nation Modifier and SVO Admini- strative Symbol
..69546V-AA-5	PAGAYA AI Debt Trust 202-PAID 2022-2 A		06/15/2023	PAYDOWN		1,232,405	1,232,405	1,232,405	1,232,405	0	0	0	0	0	1,232,405	0	0	0	25,384	01/15/2030	1.6 FE
..70215F-AA-8	Partstat (Varian 2020 I Pass-Thru Certif		06/15/2023	SINKING PAYMENT		145,575	145,575	145,575	145,575	0	0	0	0	0	145,575	0	0	0	3,539	03/15/2030	1.E
..70337U-10-0	Patrons' Legacy-PATRL 5.775 12/23/22		06/23/2023	SINKING PAYMENT		2,638,316	2,638,316	2,550,580	2,638,316	0	0	0	0	0	2,638,316	0	0	0	0	02/23/2025	3.C FE
..70338A-10-3	Patrons' Legacy-PATRL 5.646 05/17/22		04/17/2023	SINKING PAYMENT		348,033	348,033	348,033	348,033	0	0	0	0	0	348,033	0	0	0	0	12/17/2053	1.F FE
..720198-AC-4	Piedmont Operating Partn-SENIOR UNSECURE		06/01/2023	MATURITY		1,000,000	1,000,000	996,010	999,795	0	205	0	205	0	1,000,000	0	0	0	17,000	06/01/2023	2.B FE
..720198-AD-2	Piedmont Operating Partn-SENIOR UNSECURE		06/06/2023	MORGAN		6,667,500	7,000,000	6,985,370	6,997,817	0	617	0	617	0	6,998,434	0	(330,934)	(330,934)	227,568	03/15/2024	2.B FE
..722844-AA-5	Pine Street Trust I-SENIOR UNSECURED		06/23/2023	WELLS FARGO		12,930,260	14,000,000	14,000,000	14,000,000	0	0	0	0	0	14,000,000	0	(1,069,740)	(1,069,740)	554,736	02/15/2029	2.A FE
..72703P-AC-7	Planet Fitness Master Is-2019-1A A2 FIXE		06/05/2023	PAYDOWN		27,500	27,500	27,841	27,800	0	(300)	0	(300)	0	27,500	0	0	0	530	12/05/2049	2.C FE
..74042W-AA-2	Preferred Term Securitie-SECURED		06/30/2023	PAYDOWN		185,524	185,524	176,152	185,524	0	0	0	0	0	185,524	0	0	0	2,388	09/23/2035	1.C FE
..74333W-AJ-1	Progress Residential Trust-PROG 2021-SFR		05/01/2023	PAYDOWN		19,904	19,904	19,904	19,904	0	1	0	1	0	19,904	0	0	0	269	12/01/2040	2.A FE
..74338F-AA-6	Project Axis Garner NC C Trust Certificat		06/15/2023	SINKING PAYMENT		108,840	108,840	108,840	108,841	0	(2)	0	(2)	0	108,840	0	0	0	1,586	11/15/2039	1.D
..74351@-AA-6	Project Arrow Oak Creek Trust Certificate		06/10/2023	SINKING PAYMENT		115,326	115,326	115,326	115,326	0	0	0	0	0	115,326	0	0	0	1,564	07/10/2040	1.D
..743874-AC-3	Provident Funding Mortga-PFMT 2020-1 A2		06/01/2023	PAYDOWN		27,034	27,034	27,419	27,443	0	(408)	0	(408)	0	27,034	0	0	0	387	02/01/2050	1.A
..74387L-AC-5	Provident Funding Mortga-PFMT 2019-1 A2		06/01/2023	PAYDOWN		88,501	88,501	89,732	89,784	0	(1,283)	0	(1,283)	0	88,501	0	0	0	1,353	12/01/2049	1.A
..74387Y-AD-5	Provident Funding Mortga-PFMT 2021-1 A2A		06/01/2023	PAYDOWN		837,707	837,707	829,442	829,515	0	8,192	0	8,192	0	837,707	0	0	0	9,789	04/01/2051	1.A
..74922M-AA-9	RALI Series 2006-QA6 Tru-RALI 2006-QA6 A		06/26/2023	PAYDOWN		20,513	20,362	17,803	19,587	0	922	0	922	0	20,513	0	0	0	368	07/25/2036	3.A FM
..74922Q-AA-0	RALI Series 2006-QA8 Tru-RALI 2006-QA8 A		06/26/2023	PAYDOWN		7,722	7,722	5,911	7,155	0	577	0	577	0	7,722	0	0	0	126	09/25/2036	1.A FM
..74923G-AC-7	RALI Series 2007-QA1 Tru-RALI 2007-QA1 A		06/26/2023	PAYDOWN		16,027	18,218	13,492	13,666	0	3,797	15	3,782	0	16,027	0	0	0	354	01/25/2037	1.A FM
..74923H-AQ-4	RALI Series 2007-QS4 Tru-RALI 2007 QA 3A		06/01/2023	PAYDOWN		10,965	12,799	11,894	11,949	0	673	(2)	675	0	10,965	0	0	0	190	03/01/2037	4.A FM
..74927T-AC-5	RBSSP Resecuritization T-RBSSP 2010-9 3A		06/27/2023	PAYDOWN		61,908	61,908	58,116	53,690	0	8,218	0	8,218	0	61,908	0	0	0	432	10/26/2034	1.A FM
..74928D-AV-7	RBSSP Resecuritization T-RBSSP 2009-1 7A		06/01/2023	PAYDOWN		12,666	12,666	5,851	8,071	0	4,595	0	4,595	0	12,666	0	0	0	203	06/01/2037	1.A FM
..74928F-AY-6	RBSSP Resecuritization T-RBSSP 2009-3 6A		06/01/2023	PAYDOWN		0	6,780	4,145	1,292	0	2,893	0	2,893	0	0	0	0	0	159	03/01/2036	1.A FM
..74928R-AB-0	RBSSP Resecuritization T-RBSSP 2009-10 1		06/01/2023	PAYDOWN		2,589	2,561	1,735	1,837	0	772	46	726	0	2,589	0	0	0	149	08/01/2035	1.A FM
..74928U-AM-9	RBSSP Resecuritization T-RBSSP 2009-12 5		06/01/2023	PAYDOWN		101,758	84,551	59,878	73,726	0	16,021	0	16,021	0	101,758	0	0	0	1,683	08/01/2036	1.A FM
..74928X-AJ-5	RBSSP Resecuritization T-RBSSP 2009-12 8		06/01/2023	PAYDOWN		15,545	16,390	6,971	8,564	0	7,331	0	7,331	0	15,545	0	0	0	350	06/01/2037	1.A FM
..74928Y-BV-8	RBSSP Resecuritization T-RBSSP 2009-12 1		06/27/2023	PAYDOWN		1,932,046	1,932,046	1,574,618	1,697,222	0	234,825	0	234,825	0	1,932,046	0	0	0	37,484	10/25/2035	1.A FM
..74928Z-BB-6	RBSSP Resecuritization T-RBSSP 2009-6 3A		06/27/2023	PAYDOWN		760,565	760,565	510,249	662,794	0	165,451	85,672	79,779	0	760,565	0	0	0	7,662	01/26/2036	1.A FM
..74929F-AK-5	RBSSP Resecuritization T-RBSSP 2010-3 4A		06/01/2023	PAYDOWN		24,920	24,920	24,508	24,822	0	99	0	99	0	24,920	0	0	0	480	12/01/2035	1.A FM
..74930X-BB-2	RBSSP Resecuritization T-RBSSP 2012-1 4B		06/01/2023	PAYDOWN		302,037	302,037	288,446	303,281	0	(23,653)	0	(23,653)	0	302,037	0	0	0	130,753	01/01/2029	1.A FM
..749357-AA-7	RCKT Mortgage Trust 2019-RCKT 2019-1 A1		06/01/2023	PAYDOWN		28,503	28,503	28,944	29,202	0	(699)	0	(699)	0	28,503	0	0	0	498	09/01/2049	1.A
..74938R-AA-3	RCKT Mortgage Trust 2020-RCKT 2020-1 A1		06/01/2023	PAYDOWN		145,992	145,992	139,422	133,962	0	12,030	0	12,030	0	145,992	0	0	0	1,985	02/01/2050	1.A
..749574-AC-3	RFMSI Series 2006-SA2 Tr-RFMSI 2006-SA2		06/01/2023	PAYDOWN		15,574	16,432	11,911	7,940	0	8,227	0	8,227	0	15,574	0	0	0	308	08/01/2036	1.A FM
..74958W-AC-0	RFMSI Series 2007-SA1 Tr-RFMSI 2007-SA1		06/01/2023	PAYDOWN		1,082	1,975	1,120	903	0	688	0	688	0	1,082	0	0	0	47	02/01/2037	1.A FM
..74958Z-AF-1	RFMSI Series 2007-SA2 Tr-RFMSI 2007-SA2		06/01/2023	PAYDOWN		193,092	193,092	176,016	187,954	0	5,139	0	5,139	0	193,092	0	0	0	3,764	08/25/2037	1.A FM
..74958Y-AE-2	RFMSI Series 2007-S4 Tru-RFMSI 2007-S4 A		06/25/2023	PAYDOWN		7,607	16,663	14,262	14,467	0	689	(26)	715	0	7,607	0	0	0	27	04/25/2037	3.C FM
..749607-AC-1	RLI Corp-SENIOR UNSECURED		06/08/2023	STIFEL NICOLAUS		8,943,750	9,000,000	8,974,260	8,997,459	0	1,159	0	1,159	0	8,998,618	0	(54,868)	(54,868)	322,427	09/15/2023	2.B FE
..74968R-AA-3	RMF Proprietary Issuance-PPIT 2019-1 A		06/25/2023	PAYDOWN		156,966	156,966	155,751	156,054	0	912	0	912	0	156,966	0	0	0	1,148	10/25/2063	1.A FE
..74969M-AA-3	RMF Proprietary Issuance-PPIT 2020-1 A		06/25/2023	PAYDOWN		202,609	202,609	202,609	202,609	0	0	0	0	0	202,609	0	0	0	2,014	04/26/2060	1.A FE
..75003@-AA-5	Renewable Energy Alterna Senior Secured		06/30/2023	SINKING PAYMENT		36,816	36,816	36,816	36,816	0	0	0	0	0	36,816	0	0	0	0	09/30/2046	2.C PL
..75086F-AA-3	Rainier Gsa Portfolio I US Govt Lease Ba		06/15/2023	SINKING PAYMENT		63,777	63,777	63,777	63,777	0	0	0	0	0	63,777	0	0	0	0	07/15/2036	1.F
..75115B-AC-3	RALI Series 2006-QA5 Tru-RALI 2006-QA5 2		06/01/2023	PAYDOWN		845	9,248	6,950	7,339	0	(139)	(29)	(110)	0	845	0	0	0	860	07/01/2036	3.B FM
..75115D-AA-3	RALI Series 2006-QS13 Tr-RALI 2006-QS13		06/25/2023	PAYDOWN		3,550	8,022	5,839	6,217	0	718	70	648	0	3,550	0	0	0	134	09/25/2036	1.G FM
..75115L-AA-5	RALI Series 2007-QH7 Tru-RALI 2007-QH7 1		05/25/2023	PAYDOWN		35,122	35,122	32,312	33,752	0	1,700	0	1,700	0	35,122	0	0	0	581	08/25/2037	1.A FM
..75116C-ET-9	RESIDENTIAL ACCREDIT LOA-SERIES 2007-QS6		06/01/2023	PAYDOWN		3,604	5,206	3,110	3,249	0	1,345	0	1,345	0	3,604	0	0	0	44	04/01/2037	1.A FM
..75116F-BH-1	RALI Series 2007-QS9 Tru-RALI 2007-QS9 A		06/01/2023	PAYDOWN		35,895	48,455	46,343	46,749	0	1,166	0	1,166	0	35,895	0	0	0	845	07/01/2037	5.A FM
..75156V-AD-7	RAMP Series 2006-RS3 Tru-RAMP 2006-RS3 A		06/26/2023	PAYDOWN		54,790	54,790	43,104	47,025	0	7,765	0	7,765	0	54,790	0	0	0	1,212	05/25/2036	1.A FM

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Identification	Description	For- eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid- eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor- tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn- ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con- tractual Maturity Date	NAIC Desig- nation, NAIC Desig- nation Modifier and SVO Admini- strative Symbol
..75458*-AB-5	Rayburn Country Electric Senior Secured		06/30/2023	SINKING PAYMENT		23,104	23,104	23,104	0	0	0	0	0	0	23,104	0	0	0	0	12/30/2042	2.B Z
..75971F-AY-9	RENAISSANCE HOME EQUITY -RAMC 2007-3W AF		06/01/2023	PAYDOWN		42,848	42,848	30,850	33,329	0	9,519	0	9,519	0	42,848	0	0	0	0	09/01/2037	1.A FM
..759950-DM-7	Renaissance Home Equity -RAMC 2004-3 AF5		06/01/2023	PAYDOWN		66,443	66,443	58,636	58,000	0	8,443	0	8,443	0	66,443	0	0	0	1,144	11/01/2034	1.A FM
..759950-EM-6	Renaissance Home Equity -RAMC 2004-4 AF5		06/01/2023	PAYDOWN		148,394	148,394	133,972	134,338	0	14,056	0	14,056	0	148,394	0	0	0	2,063	02/01/2035	1.A FM
..760759-AM-2	Republic Services Inc-SENIOR UNSECURED		05/15/2023	MATURITY		4,364,000	4,364,000	4,352,479	4,363,390	0	610	0	610	0	4,364,000	0	0	0	103,645	05/15/2023	2.B FE
..760985-S6-9	RFSC Series 2004-RP1 Tru-RFSC 2004-RP1A		06/26/2023	PAYDOWN		60,699	60,699	60,395	54,130	0	6,569	0	6,569	0	60,699	0	0	0	1,975	11/25/2042	1.A FM
..76110H-HB-5	RALI Series 2004-QA6 Tru-RALI 2004-QA6 N		06/01/2023	PAYDOWN		2,511	4,714	3,763	3,845	0	379	0	379	0	2,511	0	0	0	99	12/01/2034	1.A FM
..76110H-T9-0	RALI Series 2005-QA2 Tru-RALI 2005-QA2 N		06/01/2023	PAYDOWN		80,316	80,316	51,376	59,343	0	20,973	0	20,973	0	80,316	0	0	0	1,336	02/01/2035	1.A FM
..761118-BU-1	RALI Series 2005-QA8 Tru-RALI 2005-QA8 N		06/01/2023	PAYDOWN		8,429	14,056	10,891	11,601	0	1,754	457	1,297	0	8,429	0	0	0	238	07/01/2035	1.A FM
..761118-FL-7	RALI Series 2005-QA9 Tru-RALI 2005-QA9 C		06/01/2023	PAYDOWN		52,449	55,649	53,952	51,080	0	4,349	0	4,349	0	52,449	0	0	0	881	08/01/2035	1.A FM
..761118-FM-5	RESIDENTIAL ACCREDIT LOA-SERIES 2005-QA9		06/01/2023	PAYDOWN		14,856	23,770	18,993	21,503	0	2,932	2,469	463	0	14,856	0	0	0	534	08/01/2035	1.A FM
..761118-GS-1	RALI Series 2005-QS13 Tr-RALI 2005-QS13		06/25/2023	PAYDOWN		14,787	19,668	16,160	16,485	0	2,282	15	2,267	0	14,787	0	0	0	160	09/25/2035	2.C FM
..761118-GT-9	RALI Series 2005-QS13 Tr-RALI 2005-QS13		06/25/2023	PAYDOWN		0	0	924	0	0	0	0	0	0	0	0	0	0	111	09/25/2035	5.C FE
..761118-KH-0	RALI Series 2005-QS15 Tr-RALI 2005-QS15		06/01/2023	PAYDOWN		24,556	25,863	23,890	17,766	0	7,878	0	7,878	0	24,556	0	0	0	611	10/01/2035	1.A FM
..761118-SC-3	RALI Series 2006-QS1 Tru-RALI 2006-QS1 A		06/01/2023	PAYDOWN		53,802	62,333	56,730	57,800	0	3,529	(4)	3,533	0	53,802	0	0	0	1,466	01/01/2036	4.C FM
..761118-UG-1	RALI Series 2006-QS2 Tru-RALI 2006-QS2 1		06/01/2023	PAYDOWN		15,863	20,543	19,716	20,087	0	344	88	256	0	15,863	0	0	0	263	02/01/2036	4.C FM
..761118-UQ-9	RALI Series 2006-QS2 Tru-RALI 2006-QS2 1		06/01/2023	PAYDOWN		1,418	4,181	3,872	3,515	0	447	0	447	0	1,418	0	0	0	80	02/01/2036	3.A FM
..76112B-NM-8	GMACM Mortgage Loan Trus-GMACM 2005-AA1		06/01/2023	PAYDOWN		286,977	290,955	258,654	260,962	0	29,016	(70)	29,086	0	286,977	0	0	0	5,678	05/01/2035	1.A FM
..76971E-AA-2	RMF Buyout Issuance Trus-RBIT 2020-HB1 A		06/25/2023	PAYDOWN		4,523,369	4,523,369	4,523,363	4,539,062	0	(15,693)	0	(15,693)	0	4,523,369	0	0	0	31,008	10/25/2050	1.A FE
..77775*-BV-2	Rosenthal & Rosenthal, I Senior Note		06/30/2023	VARIOUS		0	0	0	0	0	0	0	0	0	0	0	0	0	238,665	01/31/2026	2.B PL
..78368N-BC-2	SACO I Inc-SACO 1999-3 1B1		06/01/2023	PAYDOWN		15,106	15,106	14,707	15,003	0	103	0	103	0	15,106	0	0	0	396	04/01/2039	1.A FM
..78433X-AA-8	Stonepeak 2021-1 ABS-SALTT 2021-1A AA		06/15/2023	PAYDOWN		38,540	38,540	35,933	36,236	0	2,304	0	2,304	0	38,540	0	0	0	348	02/28/2033	1.C FE
..78433X-AC-4	Stonepeak 2021-1 ABS-SALTT 2021-1A B		06/15/2023	PAYDOWN		59,095	59,095	54,397	54,917	0	4,178	0	4,178	0	59,095	0	0	0	784	02/28/2033	2.B FE
..78443C-BN-3	SLM Private Credit Stude-SLMA 2004-B A3		06/15/2023	PAYDOWN		478,922	478,922	380,743	477,392	0	1,530	0	1,530	0	478,922	0	0	0	12,465	03/15/2024	1.A FE
..78444A-AA-6	SIP HoldCo LLC Senior Secured Notes		06/16/2023	SINKING PAYMENT		232,494	232,494	232,494	232,494	0	0	0	0	0	232,494	0	0	0	0	12/15/2046	2.B PL
..78449L-AC-2	SMB 2018-B A2B		06/15/2023	PAYDOWN		92,799	92,799	91,132	91,132	0	1,667	0	1,667	0	92,799	0	0	0	886	01/15/2037	1.A FE
..78449X-AA-0	SMB Private Education Lo-SMB 2020-B A1A		06/15/2023	PAYDOWN		294,946	294,946	289,324	290,332	0	4,614	0	4,614	0	294,946	0	0	0	1,564	07/15/2053	1.A FE
..78449Y-AA-8	SMB Private Education Lo-SMB 2021-B A1		06/15/2023	PAYDOWN		891,884	891,884	813,287	821,941	0	69,943	0	69,943	0	891,884	0	0	0	4,836	07/17/2051	1.A FE
..78473T-AJ-9	STARM Mortgage Loan Trus-STARM 2007-2 4A		06/01/2023	PAYDOWN		771	771	438	494	0	329	52	277	0	771	0	0	0	13	04/01/2037	1.A FM
..78488L-AA-8	SWC Funding LLC 2018-1-SWC 2018-1A A		05/15/2023	PAYDOWN		763,415	763,415	758,042	762,437	0	978	0	978	0	763,415	0	0	0	18,131	08/15/2033	1.G FE
..78518F-AA-5	Saber Midstream LLC Senior Secured Notes		06/30/2023	SINKING PAYMENT		884,278	884,278	882,067	882,268	0	2,010	0	2,010	0	884,278	0	0	0	23,694	03/31/2029	2.C PL
..78573N-AC-6	Sabre GBLB Inc-SECURED		06/13/2023	CA_CASH_CLOSE		403,880	439,000	432,964	433,560	0	968	0	968	0	434,529	0	(30,649)	(30,649)	26,846	04/15/2025	4.C FE
..805564-EM-9	Saxon Asset Securities T-SAST 1999-3 BF1		05/01/2023	PAYDOWN		0	(2,259)	(1,892)	0	0	362	0	362	0	0	0	0	0	0	12/01/2032	1.A FM
..81378E-AA-1	SECURITIZED ASSET BACKED-SERIES 2007-BR4		06/26/2023	PAYDOWN		168,523	168,523	73,779	60,557	0	107,966	0	107,966	0	168,523	0	0	0	1,246	05/25/2037	1.A FM
..81743A-AA-7	SEQUOIA MORTGAGE TRUST 2-SEMT 2019-5 A1		05/01/2023	PAYDOWN		58,093	58,093	59,110	59,234	0	(1,141)	0	(1,141)	0	58,093	0	0	0	1,016	12/01/2049	1.A
..81745A-AB-3	Sequoia Mortgage Trust 2-SEMT 2013-5 A2		06/01/2023	PAYDOWN		77,877	77,877	73,728	74,184	0	3,693	0	3,693	0	77,877	0	0	0	1,250	05/01/2043	1.A
..81745C-AA-1	Sequoia Mortgage Trust 2-SEMT 2013-7 A1		06/01/2023	PAYDOWN		44,609	44,609	40,835	40,835	0	3,773	0	3,773	0	44,609	0	0	0	487	06/01/2043	1.A
..81745J-AA-6	Sequoia Mortgage Trust 2-SEMT 2013-11 A1		06/01/2023	PAYDOWN		11,077	11,077	10,928	10,939	0	138	0	138	0	11,077	0	0	0	194	09/01/2043	1.A
..81745M-AA-9	Sequoia Mortgage Trust 2-SEMT 2013-2 A		06/01/2023	PAYDOWN		47,761	47,761	42,784	42,980	0	4,781	0	4,781	0	47,761	0	0	0	479	02/01/2043	1.A
..81745R-AB-6	Sequoia Mortgage Trust 2-SEMT 2013-3 A2		06/01/2023	PAYDOWN		63,854	63,854	59,038	59,313	0	4,541	0	4,541	0	63,854	0	0	0	864	03/01/2043	1.A
..81748J-AA-3	Sequoia Mortgage Trust 2-SEMT 2019-4 A1		06/01/2023	PAYDOWN		60,522	60,522	61,789	62,597	0	(2,075)	0	(2,075)	0	60,522	0	0	0	941	11/01/2049	1.A
..81748K-AA-0	Sequoia Mortgage Trust 2-SEMT 2020-2 A1		06/01/2023	PAYDOWN		143,001	143,001	146,531	148,786	0	(5,785)	0	(5,785)	0	143,001	0	0	0	2,419	03/01/2050	1.A
..81748M-AA-6	Sequoia Mortgage Trust 2-SEMT 2020-1 A1		06/01/2023	PAYDOWN		45,293	45,293	46,333	46,449	0	(1,156)	0	(1,156)	0	45,293	0	0	0	752	02/01/2050	1.A
..81761T-AA-3	ServiceMaster Funding LL-SERV 2020-1 A2I		04/30/2023	PAYDOWN		81,120	81,120	76,700	77,079	0	4,042	0	4,042	0	81,120	0	0	0	1,154	01/30/2051	2.C FE
..81761T-AC-9	ServiceMaster Funding LL-SERIES 20-1 CLA		04/30/2023	PAYDOWN		135,484	135,484	118,887	118,887	0	16,597	0	16,597	0	135,484	0	0	0	2,261	01/30/2051	2.C FE
..81761T-AE-5	ServiceMaster Funding LL-SERV 2021-1 A2I		04/30/2023	PAYDOWN		352,647	352,647	298,556	300,777	0	51,871	0	51,871	0	352,647	0	0	0	5,052	07/30/2051	2.C FE

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Ident-ification	Description	For-ign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid-eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/(Decrease)	Current Year's (Amor-tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn-ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con-tractual Maturity Date	NAIC Desig-nation, NAIC Desig-nation Modifier and SVO Admini-strative Symbol
.81761T-AG-0	ServiceMaster Funding LL-SERV 2021-1 A21		04/30/2023	PAYDOWN		540,726	540,726	540,726	540,726	0	0	0	0	0	540,726	0	0	0	8,416	07/30/2051	2.C FE
.817743-AA-5	SERVPRO Master Issuer LL-SPRO 2019-1A A2		04/25/2023	PAYDOWN		45,625	45,625	45,908	45,783	0	(158)	0	(158)	0	45,625	0	0	0	886	10/25/2049	2.C FE
.82652R-AB-5	Sierra Timeshare 2021-2 -SRFC 2021-2A B		06/20/2023	PAYDOWN		80,890	80,890	74,520	74,640	0	6,250	0	6,250	0	80,890	0	0	0	459	09/20/2038	1.F FE
.826934-AC-5	Sierra Timeshare 2022-3 -SRFC 2022-3A C		06/20/2023	PAYDOWN		435,448	435,448	435,347	435,346	0	102	0	102	0	435,448	0	0	0	13,695	07/20/2039	2.B FE
.82817*-AA-9	Silver Spring Metro Cent Senior Note Tra		06/05/2023	SINKING PAYMENT		98,994	98,994	98,994	98,994	0	0	0	0	0	98,994	0	0	0	318	01/05/2029	1.B
.82817@-AA-7	Silver Spring Metro Cent Senior Note Tra		06/05/2023	SINKING PAYMENT		47,440	47,440	47,439	47,440	0	0	0	0	0	47,440	0	0	0	51	01/07/2029	1.B
.83416W-AB-9	SOLAR STAR FUNDING LLC-SECURED		06/30/2023	SINKING PAYMENT		86,238	86,238	86,238	86,229	0	9	0	9	0	86,238	0	0	0	1,703	06/30/2035	2.B FE
.83546D-AL-2	Sonic Capital LLC-SONIC 2020-1AW A21W		05/20/2023	PAYDOWN		11,667	11,667	11,871	11,861	0	(194)	0	(194)	0	11,667	0	0	0	116	01/20/2050	1.C FE
.83546D-AM-0	Sonic Capital LLC-SONIC 2020-1AW A21W		06/20/2023	PAYDOWN		43,750	43,750	46,495	45,897	0	(2,147)	0	(2,147)	0	43,750	0	0	0	400	01/20/2050	1.C FE
.83611M-HM-3	Soundview Home Loan Trus-SVHE 2005-B M2		06/01/2023	PAYDOWN		26,558	31,646	17,286	26,817	0	2,726	0	2,726	0	26,558	0	0	0	587	05/01/2035	1.A FM
.83611M-JX-7	Soundview Home Loan Trus-SVHE 2005-OPT4		06/26/2023	PAYDOWN		257,229	257,229	196,780	256,340	0	889	0	889	0	257,229	0	0	0	3,902	12/25/2035	1.A FM
.83612T-AR-3	Soundview Home Loan Trus-SVHE 2007-OPT1		06/25/2023	PAYDOWN		0	0	13,898	1,409	124	(33)	0	91	0	0	0	0	0	210	06/25/2037	6. FE
.84858D-AA-6	SPIRIT AIR 2015-1 PTT A-SECURED		04/01/2023	SINKING PAYMENT		120,714	120,714	120,714	120,756	0	(42)	0	(42)	0	120,714	0	0	0	2,475	04/01/2028	2.B FE
.85208N-AD-2	Sprint Spectrum Co LLC-/FIRST LIEN		06/20/2023	SINKING PAYMENT		1,437,500	1,437,500	1,437,500	1,437,500	0	0	0	0	0	1,437,500	0	0	0	50,892	03/20/2025	1.F FE
.85235*-AA-6	St Louis County Control Trust Certificat		06/15/2023	SINKING PAYMENT		276,456	276,456	276,456	276,456	0	0	0	0	0	276,456	0	0	0	3,493	12/15/2036	1.G
.855541-AC-2	SUNTRUST ADJUSTABLE RATE-SERIES 2007-S1		06/01/2023	PAYDOWN		63,781	63,781	55,315	55,447	0	8,520	186	8,334	0	63,781	0	0	0	1,388	01/01/2037	1.A FM
.85571R-AA-8	Starwood Mortgage Reside-STAR 2022-3 A1		06/01/2023	PAYDOWN		48,886	48,886	48,559	48,576	0	311	0	311	0	48,886	0	0	0	1,536	03/01/2067	1.A FE
.85571R-AB-6	Starwood Mortgage Reside-STAR 2022-3 A2		06/01/2023	PAYDOWN		127,642	127,642	124,725	125,189	0	2,453	0	2,453	0	127,642	0	0	0	2,094	03/01/2067	1.C FE
.85571R-AC-4	Starwood Mortgage Reside-STAR 2022-3 A3		06/01/2023	PAYDOWN		119,204	119,204	116,146	116,632	0	2,572	0	2,572	0	119,204	0	0	0	2,369	03/01/2067	1.F FE
.85573J-AA-4	Starwood Mortgage Reside-STAR 2021-3 A1		06/01/2023	PAYDOWN		102,139	102,139	94,606	95,942	0	6,197	0	6,197	0	102,139	0	0	0	497	06/01/2056	1.A
.85573T-AA-2	Starwood Mortgage Reside-STARWOOD MORTGA		06/01/2023	PAYDOWN		1,096,016	1,096,016	1,095,998	1,096,008	0	9	0	9	0	1,096,016	0	0	0	13,123	12/01/2066	1.A FE
.860630-AD-4	Stifel Financial Corp-SENIOR UNSECURED N		05/24/2023	STIFEL NICOLAUS		10,240,988	10,240,988	10,480,896	10,563,491	0	5,115	0	5,115	0	10,568,606	0	(327,618)	(327,618)	384,882	07/18/2024	2.C FE
.86212V-AA-2	Store Master Funding I-V-STR 2016-1A A1		06/20/2023	PAYDOWN		58,837	58,837	58,806	58,824	0	13	0	13	0	58,837	0	0	0	971	10/20/2046	1.E FE
.86212V-AD-6	Store Master Funding I-V-STR 2018-1A A1		06/20/2023	PAYDOWN		28,575	28,575	28,422	28,430	0	145	0	145	0	28,575	0	0	0	471	10/20/2048	1.A FE
.86212V-AE-4	Store Master Funding I-V-SERIES 18-1A CL		06/20/2023	PAYDOWN		33,125	33,125	33,113	33,117	0	8	0	8	0	33,125	0	0	0	592	10/20/2048	1.A FE
.86213C-AB-1	STORE MASTER FUNDING LLC-SERIES 2015-1A		06/20/2023	PAYDOWN		26,875	26,875	26,739	26,836	0	39	0	39	0	26,875	0	0	0	467	04/20/2045	1.E FE
.863572-LV-3	Structured Asset Securit-SASC 1996-4 A		06/01/2023	PAYDOWN		1,942	1,942	1,820	1,873	0	68	0	68	0	1,942	0	0	0	100	09/01/2031	1.A FM
.863579-C3-0	Structured Adjustable Ra-SARM 2005-21 6A		06/01/2023	PAYDOWN		8,434	8,434	7,405	7,194	0	1,240	0	1,240	0	8,434	0	0	0	165	11/01/2035	1.A FM
.863579-J9-0	Structured Adjustable Ra-SARM 2005-22 1A		06/30/2023	PAYDOWN		16,081	16,062	13,080	13,127	0	2,938	0	2,938	0	16,081	0	0	0	228	12/01/2035	1.A FM
.863579-RP-5	Structured Adjustable Ra-SARM 2005-11 1A		05/01/2023	PAYDOWN		3,747	3,747	3,121	3,199	0	650	102	548	0	3,747	0	0	0	62	05/01/2035	1.A FM
.863579-SU-3	Structured Adjustable Ra-SARM 2005-12 3A		06/01/2023	PAYDOWN		50,744	50,744	38,975	39,322	0	11,422	0	11,422	0	50,744	0	0	0	1,251	06/01/2035	1.A FM
.863579-UL-0	Structured Adjustable Ra-SARM 2005-15 1A		06/01/2023	PAYDOWN		1,694	1,694	1,061	1,062	0	663	5	658	0	1,694	0	0	0	23	07/01/2035	1.A FM
.863579-UU-0	Structured Adjustable Ra-SARM 2005-15 4A		06/01/2023	PAYDOWN		48,524	48,524	42,776	41,899	0	6,625	0	6,625	0	48,524	0	0	0	737	07/01/2035	1.A FM
.863579-VH-8	Structured Adjustable Ra-SARM 2005-17 1A		06/01/2023	PAYDOWN		111,059	111,059	106,305	110,468	0	591	0	591	0	111,059	0	0	0	2,740	08/01/2035	1.A FM
.863579-VW-5	Structured Adjustable Ra-SARM 2005-17 5A		06/25/2023	PAYDOWN		34,298	34,250	23,933	21,292	0	12,973	0	12,973	0	34,298	0	0	0	737	08/25/2035	1.A FM
.863579-XC-7	Structured Adjustable Ra-SARM 2005 - 18		06/01/2023	PAYDOWN		65,020	65,020	44,655	44,365	0	20,655	0	20,655	0	65,020	0	0	0	91	09/01/2035	1.A FM
.863579-XR-4	Structured Adjustable Ra-SARM 2005-18 8A		06/01/2023	PAYDOWN		133,520	133,504	122,658	119,606	0	13,898	0	13,898	0	133,520	0	0	0	416	09/01/2035	1.A FM
.863579-ZL-5	Structured Adjustable Ra-SARM 2005-20 3A		06/01/2023	PAYDOWN		9,543	9,543	8,107	7,712	0	1,831	0	1,831	0	9,543	0	0	0	312	10/01/2035	1.A FM
.86358R-DX-2	Structured Asset Securit-SASC 2001-SB1 A		06/01/2023	PAYDOWN		65,349	74,205	66,512	70,860	0	2,148	0	2,148	0	65,349	0	0	0	1,007	08/01/2031	1.A FM
.86358R-XY-8	Structured Asset Securit-SASC 2002-AL1 A		06/01/2023	PAYDOWN		38,299	63,817	81,023	69,318	0	(380)	0	(380)	0	38,299	0	0	0	809	02/01/2032	6. *
.86358R-XZ-5	Structured Asset Securit-SASC 2002-AL1 A		05/01/2023	PAYDOWN		45,331	91,923	59,349	52,636	0	27,901	1,138	26,763	0	45,331	0	0	0	(248)	02/01/2032	6. *
.86358R-YB-7	Structured Asset Securit-SASC 2002-AL1 A		06/01/2023	PAYDOWN		13,803	14,352	10,128	10,175	2,649	1,344	0	3,993	0	13,803	0	0	0	0	02/01/2032	6. *
.86359A-ME-0	Structured Asset Securit-SASC 2003-AL1 A		06/01/2023	PAYDOWN		18,908	18,908	16,488	17,934	0	974	0	974	0	18,908	0	0	0	317	04/01/2031	6. *
.86359A-MG-5	Structured Asset Securit-SASC 2003-AL1 A		06/01/2023	PAYDOWN		6,408	6,408	4,513	5,845	0	563	0	563	0	6,408	0	0	0	0	04/01/2031	6. *
.86359A-NR-0	Structured Asset Securit-SASC 2003-AL2 A		06/01/2023	PAYDOWN		139,141	139,141	120,752	122,462	0	16,679	0	16,679	0	139,141	0	0	0	1,978	01/01/2031	6. *
.86359A-WT-6	Structured Asset Securit-SASC 2003-AL2 A		06/25/2023	PAYDOWN		26,212	26,212	20,378	21,711	0	4,500	0	4,500	0	26,212	0	0	0	0	01/25/2031	6. *

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Ident-ification	Description	For-ign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid-eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor-tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn-ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con-tractual Maturity Date	NAIC Desig-nation, NAIC Desig-nation Modifier and SVO Admini-strative Symbol
..86359B-4U-2	Structured Asset Securit-SASC 2005-4XS 1 ....	.....	06/01/2023	PAYDOWN	.....	75,581	75,581	70,668	75,581	0	0	0	0	0	75,581	0	0	0	1,962	03/01/2035	1.A FM
..86359B-LE-9	Structured Adjustable Ra-SARM 2004-2 4A1 ....	.....	06/01/2023	PAYDOWN	.....	12,523	12,523	12,069	12,165	0	358	0	358	0	12,523	0	0	0	251	03/01/2034	1.A FM
..86359D-EY-9	STRUCTURED ASSET SECURIT-SASC 2005-RF2 A ....	.....	06/25/2023	PAYDOWN	.....	0	0	32,106	6,480	0	(316)	0	(316)	0	0	0	0	0	482	04/25/2035	5.A FE
..86359F-AB-8	Structured Asset Securit-SASC 2006-S2 A2 ....	.....	06/25/2023	PAYDOWN	.....	5,102	5,102	3,967	2,128	0	2,974	0	2,974	0	5,102	0	0	0	49	06/25/2036	1.A FM
..86359L-NA-3	Structured Asset Mortgag-SAMI 2005-AR6 2 ....	.....	06/26/2023	PAYDOWN	.....	12,535	12,535	8,823	10,528	0	2,007	0	2,007	0	12,535	0	0	0	271	09/25/2045	1.A FM
..86360B-AG-3	Structured Adjustable Ra-SARM 2006-4 4A1 ....	.....	06/01/2023	PAYDOWN	.....	144,411	144,411	107,979	112,278	0	38,087	5,956	32,131	0	144,411	0	0	0	1,788	05/01/2036	1.A FM
..86360B-AJ-7	Structured Adjustable Ra-SARM 2006-4 5A1 ....	.....	06/01/2023	PAYDOWN	.....	13,869	13,805	9,524	10,405	0	4,288	894	3,394	0	13,869	0	0	0	496	05/01/2036	1.A FM
..86744V-AA-9	Helios Issuer LLC-SNVA 2022-B A ....	.....	06/20/2023	PAYDOWN	.....	132,634	132,634	131,715	131,776	0	858	0	858	0	132,634	0	0	0	2,703	08/20/2049	1.G FE
..86744V-AB-7	Helios Issuer LLC-SNVA 2022-B B ....	.....	06/20/2023	PAYDOWN	.....	161,748	161,748	153,492	153,956	0	7,792	0	7,792	0	161,748	0	0	0	3,955	08/20/2049	2.C FE
..86744W-AA-7	Sunnova Helios X Issuer -SNVA 2022-C A ....	.....	06/20/2023	PAYDOWN	.....	218,337	218,337	206,583	206,738	0	11,599	0	11,599	0	218,337	0	0	0	4,901	11/22/2049	1.D FE
..86772R-AA-3	Sunrun Jupiter Issuer 20-SUNRN 2022-1A A ....	.....	04/30/2023	PAYDOWN	.....	72,827	72,827	72,234	72,252	0	575	0	575	0	72,827	0	0	0	1,730	07/30/2057	1.G FE
..86909#-AA-5	Susquehanna (18 Properti Trust Certifica ....	.....	06/23/2023	SINKING PAYMENT	.....	48,460	48,460	48,460	48,460	0	0	0	0	0	48,460	0	0	0	0	12/23/2036	1.G
..869507-AA-1	SUTTONPARK STRUCTURED SE-SERIES 17-1A CL ....	.....	06/15/2023	PAYDOWN	.....	59,342	59,342	59,312	59,319	0	23	0	23	0	59,342	0	0	0	1,040	01/15/2071	1.A FE
..87151Q-AC-0	Symetra Financial Corp-SENIOR UNSECURED ....	.....	06/06/2023	WELLS FARGO SECURITI ...	.....	2,197,575	2,250,000	2,266,898	2,253,587	0	(1,048)	0	(1,048)	0	2,252,539	(54,964)	(54,964)	(54,964)	85,797	07/15/2024	2.A FE
..87165B-AD-5	SYNCHRONY FINANCIAL-SENIOR UNSECURED ....	.....	05/18/2023	VARIOUS	.....	13,159,581	14,000,000	13,986,290	13,997,459	0	304	0	304	0	13,997,764	(838,183)	(838,183)	(838,183)	453,823	08/15/2024	2.C FE
..87165B-AR-4	Synchrony Financial-SENIOR UNSECURED ....	.....	06/23/2023	GOLDMAN	.....	15,288,383	21,156,000	19,635,065	19,742,820	0	66,065	0	66,065	0	19,808,884	(4,520,501)	(4,520,501)	(4,520,501)	403,800	10/28/2031	2.C FE
..872225-AD-9	TBW Mortgage-Backed Trus-TBW 2006-5 A3 ....	.....	06/01/2023	PAYDOWN	.....	443,437	443,437	402,681	406,057	0	37,380	0	37,380	0	443,437	0	0	0	5,631	11/01/2036	1.A FM
..87222E-AB-4	TBW Mortgage-Backed Trus-TBW 2007-1 A2 ....	.....	06/26/2023	PAYDOWN	.....	23,420	23,420	6,001	6,149	0	17,472	201	17,271	0	23,420	0	0	0	113	03/25/2037	1.A FM
..87222E-AC-2	TBW Mortgage-Backed Trus-TBW 2007-1 A3 ....	.....	06/01/2023	PAYDOWN	.....	25,082	25,082	7,795	8,044	0	17,350	312	17,038	0	25,082	0	0	0	144	03/01/2037	1.A FM
..87236Y-AD-0	TD Ameritrade Holding Co-SENIOR UNSECURE ....	.....	04/19/2023	SOUTHWEST SEC.	.....	4,798,450	5,000,000	4,995,844	4,998,987	0	230	0	230	0	4,999,217	(200,767)	(200,767)	(200,767)	100,694	04/01/2025	1.F FE
..87265K-AF-9	TPG Specialty Lending In-SENIOR UNSECURE ....	.....	05/24/2023	SMBC NIKKO SECURITIE ...	.....	4,797,000	5,000,000	4,951,600	4,981,031	0	4,102	0	4,102	0	4,985,133	(188,133)	(188,133)	(188,133)	110,330	11/01/2024	2.C FE
..87267C-AA-6	TRP 2021 LLC-TRP 2021-1 A ....	.....	06/17/2023	PAYDOWN	.....	393,512	393,512	342,274	342,274	0	393,512	0	393,512	0	393,512	0	0	0	3,303	06/19/2051	1.F FE
..87342R-AC-8	TACO BELL FUNDING LLC-SERIES 2016-1A CLA ....	.....	05/25/2023	PAYDOWN	.....	29,625	29,625	29,852	29,669	0	(44)	0	(44)	0	29,625	0	0	0	736	05/25/2046	2.B FE
..87342R-AF-1	Taco Bell Funding LLC-BELL 2018-1AW A2W ....	.....	05/25/2023	PAYDOWN	.....	17,500	17,500	17,500	17,503	0	(3)	0	(3)	0	17,500	0	0	0	602	11/25/2048	1.C FE
..87407R-AA-4	TAL Advantage VII LLC-TAL 2020-1A A ....	.....	06/20/2023	PAYDOWN	.....	307,388	307,388	270,283	235,130	0	36,483	0	36,483	0	307,388	0	0	0	2,626	09/20/2045	1.F FE
..87407R-AC-0	TAL Advantage VII LLC-TAL 2020-1A B ....	.....	06/20/2023	PAYDOWN	.....	111,563	111,563	110,421	110,623	0	940	0	940	0	111,563	0	0	0	1,529	09/20/2045	2.B FE
..87819#-AA-2	TD Bank (Miami, FL) CTL Trust Certificat ....	.....	06/15/2023	SINKING PAYMENT	.....	45,058	45,058	45,058	45,058	0	0	0	0	0	45,058	0	0	0	285	01/15/2038	1.D
..88032G-DP-2	Tenet Healthcare Corp-FIRST LIEN	.....	06/15/2023	EXCHANGE OFFER	.....	2,403,000	2,403,000	2,403,000	2,403,000	0	0	0	0	0	2,403,000	0	0	0	73,592	06/15/2030	3.C FE
..881561-LE-2	Terwin Mortgage Trust Se-TMTS 2004-1HE ....	.....	06/26/2023	PAYDOWN	.....	50,241	50,241	40,256	47,278	0	2,964	0	2,964	0	50,241	0	0	0	1,187	10/25/2035	1.A FM
..881561-LR-3	Terwin Mortgage Trust 20-TMTS 2004-19HE ....	.....	06/26/2023	PAYDOWN	.....	5,969	5,969	4,395	5,511	0	458	0	458	0	5,969	0	0	0	157	10/25/2034	1.A FM
..881561-VY-7	Terwin Mortgage Trust Se-TMTS 2005-12AL ....	.....	06/01/2023	PAYDOWN	.....	27,299	27,299	26,559	26,586	0	714	0	714	0	27,299	0	0	0	566	07/01/2036	1.A FM
..88156E-AB-2	Terwin Mortgage Trust 20-TMTS 2006-17HE ....	.....	06/26/2023	PAYDOWN	.....	70,245	70,245	60,611	73,832	0	(3,587)	0	(3,587)	0	70,245	0	0	0	1,592	01/25/2038	1.A FM
..88157V-AB-3	Terwin Mortgage Trust 20-TMTS 2007-6ALT ....	.....	06/26/2023	PAYDOWN	.....	15,093	15,093	7,848	9,940	0	5,153	0	5,153	0	15,093	0	0	0	86	08/25/2038	1.A FM
..883203-CB-5	Textron Inc-SENIOR UNSECURED ....	.....	06/23/2023	JEFFERIESLLC	.....	17,508,950	20,000,000	19,835,300	19,845,889	0	8,534	0	8,534	0	19,854,423	(2,345,473)	(2,345,473)	(2,345,473)	342,917	06/01/2030	2.B FE
..883203-CC-3	Textron Inc-SENIOR UNSECURED ....	.....	06/30/2023	BAIRD	.....	16,445,820	20,000,000	18,809,200	18,905,618	0	59,837	0	59,837	0	18,965,455	(2,519,635)	(2,519,635)	(2,519,635)	394,722	03/15/2031	2.B FE
..88338Q-AA-8	Theorem Funding Trust 20-THRM 2023-1A A ....	.....	06/15/2023	PAYDOWN	.....	3,057,481	3,057,481	3,057,454	0	0	28	0	28	0	3,057,481	0	0	0	24,227	04/15/2029	1.G FE
..88522G-DX-8	Thornburg Mortgage Secur-TMST 2003-4 M1 ....	.....	06/25/2023	PAYDOWN	.....	15,952	15,952	13,480	14,395	0	1,358	0	1,358	0	15,952	0	0	0	298	09/25/2043	1.A FM
..88522G-GB-3	Thornburg Mortgage Secur-TMST 2004-4 1A ....	.....	06/25/2023	PAYDOWN	.....	6,265	6,265	5,975	6,114	0	152	0	152	0	6,265	0	0	0	132	12/25/2044	1.A FM
..88522G-GK-3	Thornburg Mortgage Secur-TMST 2004-4 5A ....	.....	06/01/2023	PAYDOWN	.....	236,073	236,073	224,565	219,185	0	16,889	0	16,889	0	236,073	0	0	0	3,214	12/01/2044	1.A FM
..88522G-HM-8	Thornburg Mortgage Secur-TMST 2005-2 A1 ....	.....	06/26/2023	PAYDOWN	.....	15,749	15,749	15,759	15,749	0	0	0	0	0	15,749	0	0	0	128	07/25/2045	1.A FM
..88522G-KW-2	Thornburg Mortgage Secur-TMST 2006-2 A2B ....	.....	06/26/2023	PAYDOWN	.....	144,405	144,405	133,619	133,631	0	10,774	0	10,774	0	144,405	0	0	0	1,949	04/25/2036	1.A FM
..89171D-AD-9	Towd Point Mortgage Trus-TPMT 2015-1 A4 ....	.....	06/01/2023	PAYDOWN	.....	1,126,394	1,126,394	1,153,498	1,133,544	0	(7,150)	0	(7,150)	0	1,126,394	0	0	0	18,846	10/01/2053	1.A
..89171U-AG-4	Towd Point Mortgage Trus-TPMT 2015-4 M2 ....	.....	06/01/2023	PAYDOWN	.....	1,733,556	1,733,556	1,713,948	1,727,257	0	6,299	0	6,299	0	1,733,556	0	0	0	27,535	04/01/2055	1.A
..891906-AB-5	Global Payments Inc-SENIOR UNSECURED ....	.....	06/01/2023	MATURITY	.....	9,000,000	9,000,000	8,931,600	8,996,475	0	3,525	0	3,525	0	9,000,000	0	0	0	168,750	06/01/2023	2.C FE
..89441#-AA-4	Traverse City Control Tr Trust Certifica ....	.....	06/15/2023	SINKING PAYMENT	.....	94,311	94,311	95,254	96,022	0	(1,711)	0	(1,711)	0	94,311	0	0	0	1,447	11/15/2039	1.B
..89609M-AA-7	Tribute Rail LLC-TRP 2022-1 A ....	.....	06/17/2023	PAYDOWN	.....	81,502	81,502	80,805	58,206	0	696	0	696	0	81,502	0	0	0	877	05/17/2052	1.F FE

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Ident-ification	Description	For-eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid-eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor-tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn-ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con-tractual Maturity Date	NAIC Design-ation, NAIC Design-ation Modifier and SVO Administrative Symbol
..896239-AB-6	Trimble Inc-SENIOR UNSECURED .....	.....	06/15/2023	MATURITY .....	.....	13,500,000	13,500,000	13,490,440	13,498,904	0	1,096	0	1,096	0	13,500,000	0	0	0	280,125	06/15/2023	2.C FE
..89655Y-AA-4	TRINITY RAIL LEASING L.P-SERIES 2009-1A .....	.....	06/16/2023	PAYDOWN .....	.....	336,193	336,193	343,547	338,836	0	(2,643)	0	(2,643)	0	336,193	0	0	0	9,184	11/16/2039	2.C FE
..89656C-AA-1	Trinity Rail Leasing 201-TRL 2010-1A A .....	.....	06/16/2023	PAYDOWN .....	.....	385,716	385,716	404,151	395,804	0	(10,089)	0	(10,089)	0	385,716	0	0	0	8,228	10/16/2040	1.F FE
..89656R-AA-8	Trinity Rail Leasing 202-TRL 2022-1 A .....	.....	06/21/2023	PAYDOWN .....	.....	66,547	66,547	66,544	66,544	0	2	0	2	0	66,547	0	0	0	1,262	05/20/2052	1.F FE
..89657A-AC-0	Trinity Rail Leasing 201-TRL 2020-1A A .....	.....	06/17/2023	PAYDOWN .....	.....	160,429	160,429	160,390	160,400	0	29	0	29	0	160,429	0	0	0	1,270	10/17/2050	1.F FE
..89657B-AA-2	Trinity Rail Leasing 201-TRL 2019-1A A .....	.....	06/17/2023	PAYDOWN .....	.....	425,073	425,073	401,664	408,129	0	16,944	0	16,944	0	425,073	0	0	0	6,771	04/17/2049	1.F FE
..89657B-AB-0	Trinity Rail Leasing 201-TRL 2019-2A A1 .....	.....	06/17/2023	PAYDOWN .....	.....	506,174	506,174	506,054	506,098	0	76	0	76	0	506,174	0	0	0	6,049	10/18/2049	1.F FE
..89680H-AA-0	Triton Container Finance-TCF 2020-1A A .....	.....	06/20/2023	PAYDOWN .....	.....	200,494	200,494	169,942	171,007	0	29,487	0	29,487	0	200,494	0	0	0	1,293	09/20/2045	1.F FE
..89680H-AB-8	Triton Container Finance-TCF 2020-1A B .....	.....	06/20/2023	PAYDOWN .....	.....	68,000	68,000	62,560	62,847	0	5,153	0	5,153	0	68,000	0	0	0	1,201	09/20/2045	2.B FE
..89683L-AA-8	TRP - TRIP Rail Master F-TRP 2021-2 A .....	.....	06/17/2023	PAYDOWN .....	.....	73,388	73,388	63,628	73,351	0	9,727	0	9,727	0	73,388	0	0	0	661	06/19/2051	1.F FE
..90229P-AA-4	2015 ESA Project Company Senior Secured .....	.....	06/30/2023	SINKING PAYMENT .....	.....	276,562	276,562	276,562	276,562	0	0	0	0	0	276,562	0	0	0	6,175	06/30/2031	2.B PL
..90253@-AA-1	UA (Portland OR) CTL Pas Trust Certifica .....	.....	06/15/2023	SINKING PAYMENT .....	.....	228,374	228,374	230,630	229,783	0	(1,409)	0	(1,409)	0	228,374	0	0	0	4,014	02/15/2032	3.B
..90272*-AA-0	UHC (Senior Note) CTL Pa Trust Certifica .....	.....	06/15/2023	SINKING PAYMENT .....	.....	57,407	57,407	57,407	57,393	0	14	0	14	0	57,407	0	0	0	0	05/15/2033	1.F
..90319#-AA-1	UOA Fayetteville (Univer Senior Secured .....	.....	06/15/2023	SINKING PAYMENT .....	.....	111,396	111,396	112,510	112,437	0	(1,041)	0	(1,041)	0	111,396	0	0	0	3,655	03/15/2041	1.C
..90343@-AA-1	US AIRWAYS 2011-1A PTT-FIRST LIEN .....	.....	04/22/2023	SINKING PAYMENT .....	.....	51,235	51,235	51,235	51,248	0	(13)	0	(13)	0	51,235	0	0	0	1,825	10/22/2023	3.B FE
..90345@-AA-2	US AIRWAYS 2012-1A PTT-FIRST LIEN .....	.....	04/01/2023	SINKING PAYMENT .....	.....	142,332	142,332	142,332	142,389	0	(57)	0	(57)	0	142,332	0	0	0	4,199	10/01/2024	2.A FE
..90346@-AA-1	US AIRWAYS 2013-1A PTT-FIRST LIEN .....	.....	05/15/2023	SINKING PAYMENT .....	.....	131,254	131,254	130,925	131,125	0	129	0	129	0	131,254	0	0	0	2,592	11/15/2025	3.A FE
..90352@-AD-6	ITE Rail Fund Levered LP-SERIES 21-1A CL .....	.....	06/28/2023	PAYDOWN .....	.....	145,301	145,301	145,297	145,296	0	5	0	5	0	145,301	0	0	0	1,344	02/28/2051	1.F FE
..90378@-AA-1	U.S. Department of Agric Trust Certifica .....	.....	06/15/2023	SINKING PAYMENT .....	.....	44,937	44,937	44,937	44,937	0	0	0	0	0	44,937	0	0	0	0	04/15/2038	1.B
..90932P-AA-6	United Airlines 2014-1 C-SECURED NOTE .....	.....	04/11/2023	SINKING PAYMENT .....	.....	160,980	160,980	160,980	161,021	0	(42)	0	(42)	0	160,980	0	0	0	3,220	04/11/2026	2.A FE
..91841@-AA-8	Virginia (Lafayette, IN) Trust Certifica .....	.....	06/15/2023	SINKING PAYMENT .....	.....	75,383	75,383	75,383	75,383	0	0	0	0	0	75,383	0	0	0	551	08/15/2036	1.B
..91845#-AA-2	VZ (Senior Note) CTL Pas Trust Certifica .....	.....	06/15/2023	SINKING PAYMENT .....	.....	97,163	97,163	97,163	97,163	0	(2)	0	(2)	0	97,163	0	0	0	1,548	05/15/2035	2.A
..91854*-AA-4	VZ (Irving TX)(Senior No Trust Certifica .....	.....	06/15/2023	SINKING PAYMENT .....	.....	89,482	89,482	89,482	89,482	0	0	0	0	0	89,482	0	0	0	1,439	08/15/2036	2.A
..91855*-AA-3	VA (Ponce, PR) CTL Trust Certificate .....	.....	06/15/2023	SINKING PAYMENT .....	.....	55,499	55,499	55,499	55,499	0	0	0	0	0	55,499	0	0	0	1,539	08/15/2042	1.B
..91862@-AA-2	Viva Capital 3 LS 2021 L Viva Term Note .....	.....	04/15/2023	VARIOUS .....	.....	19,835,210	19,835,210	18,818,051	18,938,262	0	45,962	0	45,962	0	18,996,393	0	838,817	838,817	376,966	10/15/2031	1.G PL
..919794-AB-3	VALLEY NATIONAL BANCORP-SUBORDINATED NOT .....	.....	06/06/2023	RAYMOND JAMES .....	.....	14,625,000	15,000,000	15,154,995	15,013,815	0	(8,735)	0	(8,735)	0	15,005,080	0	(380,080)	(380,080)	535,990	09/27/2023	2.C FE
..92121K-AA-4	Vantage Data Centers Iss-VDC 2019-1A A2 .....	.....	06/15/2023	PAYDOWN .....	.....	22,500	22,500	22,500	22,500	0	0	0	0	0	22,500	0	0	0	295	07/15/2044	1.G FE
..92257B-AA-0	Velocity Commercial Capi-VCC 2022-3 A .....	.....	06/01/2023	PAYDOWN .....	.....	653,118	653,118	651,855	652,006	0	1,111	0	1,111	0	653,118	0	0	0	14,089	06/01/2052	1.A FE
..92257B-AE-2	Velocity Commercial Capi-VCC 2022-3 M4 .....	.....	04/01/2023	PAYDOWN .....	.....	111,440	111,440	101,836	102,970	0	8,470	0	8,470	0	111,440	0	0	0	3,667	06/01/2052	3.B FE
..92257C-AA-8	Velocity Commercial Capi-VCC 2019-1 A .....	.....	06/01/2023	PAYDOWN .....	.....	70,706	70,706	70,689	70,708	0	(2)	0	(2)	0	70,706	0	0	0	1,145	03/01/2049	1.A FE
..92258@-AA-1	Velocity Commercial Capi-VCC 2022-1 A .....	.....	06/01/2023	PAYDOWN .....	.....	28,407	28,407	28,212	28,252	0	155	0	155	0	28,407	0	0	0	423	02/01/2052	1.A FE
..92258X-AB-9	Velocity Commercial Capi-VCC 2022-1 M1 .....	.....	06/01/2023	PAYDOWN .....	.....	198,031	198,031	196,360	196,669	0	1,362	0	1,362	0	198,031	0	0	0	3,383	02/01/2052	1.D FE
..92259K-AD-2	Velocity Commercial Capi-VCC 2022-4 M1 .....	.....	05/01/2023	PAYDOWN .....	.....	22,871	22,871	22,871	22,871	0	0	0	0	0	22,871	0	0	0	879	08/01/2052	1.D FE
..92259U-AA-6	Velocity Commercial Capi-VCC 2022-2 A .....	.....	06/01/2023	PAYDOWN .....	.....	149,903	149,903	149,876	149,880	0	23	0	23	0	149,903	0	0	0	3,666	04/01/2052	1.A FE
..92259V-AA-4	Velocity Commercial Capi-VCC 2023-1 A .....	.....	06/01/2023	PAYDOWN .....	.....	426,093	426,093	425,994	0	99	0	99	99	0	426,093	0	0	0	11,912	01/01/2053	1.A FE
..92343V-EU-4	Verizon Communications I-SENIOR UNSECURE .....	.....	06/21/2023	SUNTRUST CAPITAL MAR .....	.....	4,766,304	5,103,000	5,108,919	5,107,243	0	(232)	0	(232)	0	5,107,011	0	(340,707)	(340,707)	113,854	12/03/2029	2.A FE
..92537M-AA-8	Verus Securitization Tru-VERUS 2019-INV3 .....	.....	06/01/2023	PAYDOWN .....	.....	1,164,931	1,164,931	1,151,826	1,156,022	0	8,910	0	8,910	0	1,164,931	0	0	0	12,988	11/01/2059	1.A FE
..92538K-AB-9	Verus Securitization Tru-VERUS 2021-5 A2 .....	.....	06/01/2023	PAYDOWN .....	.....	169,374	169,374	141,956	0	27,417	0	27,417	0	169,374	0	0	0	695	09/01/2066	1.C FE	
..92538Q-AA-8	Verus Securitization Tru-VERUS 2021-7 A1 .....	.....	06/01/2023	PAYDOWN .....	.....	288,795	288,795	266,864	268,722	0	20,073	0	20,073	0	288,795	0	0	0	2,592	10/01/2066	1.A FE
..92539A-AA-2	Verus Securitization Tru-VERUS 2022-6 A1 .....	.....	06/01/2023	PAYDOWN .....	.....	174,477	174,477	172,866	173,022	0	1,455	0	1,455	0	174,477	0	0	0	3,890	06/01/2067	1.A FE
..92539A-AB-0	Verus Securitization Tru-VERUS 2022-6 A2 .....	.....	06/01/2023	PAYDOWN .....	.....	177,576	177,576	173,441	173,818	0	3,758	0	3,758	0	177,576	0	0	0	3,963	06/01/2067	1.C FE
..92539B-AB-8	Verus Securitization Tru-VERUS 2023-1 A2 .....	.....	06/01/2023	PAYDOWN .....	.....	194,269	194,269	194,266	0	3	0	3	3	0	194,269	0	0	0	4,694	12/01/2067	1.C FE
..92539G-AB-7																					

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Ident-ification	Description	For-ign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid-eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor-tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn-ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con-tractual Maturity Date	NAIC Desig-nation, NAIC Desig-nation Modifier and SVO Admini-strative Symbol
..92539N-AA-4	Verus Securitization Tru-VERUS 2022-7 A1	.....	06/01/2023	PAYDOWN	.....	139,873	139,873	139,871	139,873	0	0	0	0	0	139,873	0	0	0	3,099	07/01/2067	1.A FE
..92539N-AB-2	Verus Securitization Tru-VERUS 2022-7 A2	.....	06/01/2023	PAYDOWN	.....	160,854	160,854	158,836	159,012	0	1,842	0	1,842	0	160,854	0	0	0	3,701	07/01/2067	1.B FE
..928668-AR-3	Volkswagen Group of Amer-SENIOR UNSECURE	.....	05/30/2023	VARIOUS	.....	11,915,720	12,000,000	11,841,640	11,969,498	0	14,440	0	14,440	0	11,983,938	0	(68,218)	(68,218)	278,139	11/13/2023	2.A FE
..92868K-AC-7	Volkswagen Auto Loan Enh-VALET 2021-1 A3	.....	06/20/2023	PAYDOWN	.....	48,026	48,026	46,064	0	0	1,962	0	1,962	0	48,026	0	0	0	41	06/22/2026	1.A FE
..92890P-AE-4	WFRBS Commercial Mortgag-WFRBS 2013-C14	.....	06/01/2023	PAYDOWN	.....	29,000,000	29,000,000	27,956,875	28,948,863	0	51,137	0	51,137	0	29,000,000	0	0	0	481,524	06/01/2046	1.A
..929227-AT-0	WaMu Mortgage Pass-Throu-WAMU 2003-S4 2A	.....	06/01/2023	PAYDOWN	.....	15,086	15,086	15,147	15,109	0	(23)	0	(23)	0	15,086	0	0	0	308	06/01/2033	1.A FM
..929227-R5-7	WaMu Mortgage Pass-Throu-WAMU 2003-AR5 A	.....	06/01/2023	PAYDOWN	.....	109,624	109,624	89,618	96,502	0	13,122	0	13,122	0	109,624	0	0	0	1,799	06/01/2033	1.A FM
..92922F-3N-6	WaMu Mortgage Pass-Throu-WAMU 2005-AR12	.....	06/01/2023	PAYDOWN	.....	25,865	25,865	24,611	25,122	0	743	0	743	0	25,865	0	0	0	490	10/01/2035	1.A FM
..92922F-3Q-9	WaMu Mortgage Pass-Throu-WAMU 2005-AR12	.....	06/01/2023	PAYDOWN	.....	1,382	1,382	1,345	1,376	0	6	0	6	0	1,382	0	0	0	27	09/01/2035	1.C FM
..92922F-7C-6	WaMu Mortgage Pass-Throu-WAMU 2005-AR16	.....	06/01/2023	PAYDOWN	.....	1,425	1,425	1,230	1,215	0	235	0	235	0	1,425	0	0	0	35	12/01/2035	1.A FM
..92922F-8T-8	WaMu Mortgage Pass-Throu-WAMU 2005-AR18	.....	06/01/2023	PAYDOWN	.....	14,101	14,101	13,660	14,002	0	99	0	99	0	14,101	0	0	0	273	01/01/2036	1.A FM
..92922F-GY-8	WaMu Mortgage Pass-Throu-WAMU 2003-S11 3	.....	06/25/2023	PAYDOWN	.....	1,698	1,698	1,702	1,714	0	(16)	0	(16)	0	1,698	0	0	0	52	11/25/2033	1.A FM
..92922F-J5-8	WaMu Mortgage Pass-Throu-WAMU 2005-AR6 2	.....	06/25/2023	PAYDOWN	.....	32,270	32,270	26,834	29,143	0	3,127	0	3,127	0	32,270	0	0	0	701	04/25/2045	1.A FM
..92925C-CC-4	WaMu Mortgage Pass-Throu-WAMU 2006-AR1 1	.....	06/01/2023	PAYDOWN	.....	18,371	18,371	14,835	14,686	0	3,685	0	3,685	0	18,371	0	0	0	266	01/01/2046	1.A FM
..92925G-AD-5	WaMu Mortgage Pass-Throu-WAMU 2006-AR16	.....	06/01/2023	PAYDOWN	.....	17,809	16,754	15,764	16,994	0	(228)	0	(228)	0	17,809	0	0	0	277	12/01/2036	3.C FM
..92925J-AF-7	WaMu Mortgage Pass-Throu-WAMU 2007-HY1 2	.....	06/01/2023	PAYDOWN	.....	109,030	108,147	96,811	106,560	0	1,436	0	1,436	0	109,030	0	0	0	1,858	02/01/2037	1.F FM
..92925V-AP-5	WaMu Mortgage Pass-Throu-WAMU 2007-HY1 5	.....	06/01/2023	PAYDOWN	.....	11,074	11,567	10,075	10,490	0	1,013	0	1,013	0	11,074	0	0	0	194	02/01/2037	1.A FM
..92927X-AC-8	WAMU MORTGAGE PASS-TTHOU-SERIES 2007-HY6	.....	06/01/2023	PAYDOWN	.....	26,204	27,548	23,803	25,559	0	1,772	0	1,772	0	26,204	0	0	0	608	06/01/2037	1.A FM
..92938E-AM-5	WFRBS Commercial Mortgag-WFRBS 2013-C16	.....	06/01/2023	PAYDOWN	.....	3,253,770	3,253,770	3,286,119	3,255,155	0	(1,385)	0	(1,385)	0	3,253,770	0	0	0	63,602	09/01/2046	1.A
..92977Y-BW-0	Wachovia Mortgage Loan T-WMLT 2005-B 2A4	.....	06/01/2023	PAYDOWN	.....	5,256	5,229	4,852	4,932	0	299	0	299	0	5,256	0	0	0	38	10/01/2035	1.A FM
..92979D-AC-9	Wachovia Mortgage Loan T-WMLT 2007-A 2A1	.....	06/01/2023	PAYDOWN	.....	45,194	45,194	40,219	41,094	0	5,352	1,242	4,110	0	45,194	0	0	0	791	03/01/2037	1.A FM
..929818-AA-6	WEC 99J-58 LLC Senior Secured Note	.....	06/15/2023	SINKING PAYMENT	.....	31,236	31,236	31,236	31,772	0	(536)	0	(536)	0	31,236	0	0	0	443	09/15/2030	2.B
..929828-AA-5	Wec 2000B-CSF-11 LLC Senior Secured Note	.....	06/15/2023	SINKING PAYMENT	.....	32,123	32,123	32,807	32,675	0	(552)	0	(552)	0	32,123	0	0	0	569	09/15/2030	2.B
..92983*-AA-6	WEC 99J-4 LLC Senior Secured Note	.....	06/15/2023	SINKING PAYMENT	.....	19,190	19,190	19,598	19,547	0	(357)	0	(357)	0	19,190	0	0	0	340	09/15/2034	2.B
..92990G-AD-5	WaMu Mortgage Pass-Throu-WAMU 2007-HY5 2	.....	06/01/2023	PAYDOWN	.....	20,841	20,841	19,945	20,640	0	201	0	201	0	20,841	0	0	0	340	05/01/2037	1.F FM
..92990G-AG-8	WaMu Mortgage Pass-Throu-WAMU 2007-HY5 2	.....	06/01/2023	PAYDOWN	.....	304,674	310,431	240,462	274,576	0	34,377	0	34,377	0	304,674	0	0	0	3,421	05/01/2037	1.A FM
..92990G-AJ-2	WaMu Mortgage Pass-Throu-WAMU 2007-HY5 3	.....	06/01/2023	PAYDOWN	.....	12,368	10,521	9,567	9,904	0	813	0	813	0	12,368	0	0	0	154	05/01/2037	1.A FM
..933636-AA-0	WaMu Mortgage Pass-Throu-WAMU 2007-HY4 1	.....	06/01/2023	PAYDOWN	.....	25,814	27,356	24,332	26,918	0	268	0	268	0	25,814	0	0	0	197	04/01/2037	1.A FM
..933636-AG-7	WaMu Mortgage Pass-Throu-WAMU 2007-HY4 3	.....	06/01/2023	PAYDOWN	.....	265,683	266,793	252,633	263,442	0	3,042	0	3,042	0	265,683	0	0	0	4,803	04/01/2037	3.B FM
..933636-AL-6	WAMU MORTGAGE PASS-TTHOU-SERIES 2007-HY4	.....	06/01/2023	PAYDOWN	.....	55,840	58,014	55,587	58,418	0	(540)	0	(540)	0	55,840	0	0	0	13	11/01/2036	3.A FM
..933636-AA-6	WaMu Mortgage Pass-Throu-WAMU 2006-AR19	.....	06/01/2023	PAYDOWN	.....	43,817	38,123	36,850	37,261	0	1,189	0	1,189	0	43,817	0	0	0	293	01/01/2047	1.B FM
..93363E-AB-1	WaMu Mortgage Pass-Throu-WAMU 2006-AR10	.....	06/01/2023	PAYDOWN	.....	5,206	31,677	30,363	30,947	0	(421)	0	(421)	0	5,206	0	0	0	484	09/01/2036	3.C FM
..93363N-AB-1	WaMu Mortgage Pass-Throu-WAMU 2006-AR12	.....	06/01/2023	PAYDOWN	.....	6,701	6,856	6,481	6,912	0	(64)	0	(64)	0	6,701	0	0	0	92	10/01/2036	3.A FM
..93363P-AA-8	WaMu Mortgage Pass-Throu-WAMU 2006-AR14	.....	06/01/2023	PAYDOWN	.....	12,039	9,947	9,256	9,467	0	653	0	653	0	12,039	0	0	0	(72)	11/01/2036	1.A FM
..93363P-AC-4	WaMu Mortgage Pass-Throu-WAMU 2006-AR14	.....	06/01/2023	PAYDOWN	.....	175,691	109,662	102,988	111,981	0	(11,522)	0	(11,522)	0	175,691	0	0	0	(1,160)	11/01/2036	2.C FM
..93363P-AD-2	WaMu Mortgage Pass-Throu-WAMU 2006-AR14	.....	06/01/2023	PAYDOWN	.....	1,094	1,693	1,549	1,611	0	19	0	19	0	1,094	0	0	0	7	11/01/2036	1.A FM
..93364F-AH-4	WaMu Mortgage Pass-Throu-WAMU 2007-HY7 3	.....	06/01/2023	PAYDOWN	.....	19,701	19,762	19,957	20,497	0	(748)	0	(748)	0	19,701	0	0	0	259	07/25/2036	1.A FM
..939336-TX-1	Washington Mutual MSC Mo-WAMMS 2003-MS7	.....	06/01/2023	PAYDOWN	.....	1	1	1	1	0	0	0	0	0	1	0	0	0	0	03/01/2033	1.A FM
..939336-X9-9	WaMu Mortgage Pass-Throu-WAMU 2005-AR1 A	.....	06/25/2023	PAYDOWN	.....	46,273	46,273	38,729	42,146	0	7,814	3,687	4,127	0	46,273	0	0	0	877	01/25/2045	1.A FM
..93934F-KP-6	Washington Mutual Mortga-WMALT 2006-1 3A	.....	06/01/2023	PAYDOWN	.....	12,612	13,026	13,064	13,694	0	(695)	0	(695)	0	12,612	0	0	0	109	02/01/2036	4.B FM
..93934F-MD-1	Washington Mutual Mortga-WMALT 2006-2 2C	.....	06/01/2023	PAYDOWN	.....	2,256	12,092	7,934	8,093	0	803	0	803	0	2,256	0	0	0	444	03/01/2036	3.A FM
..93934N-AC-9	Washington Mutual Mortga-WMALT 2006-5 1A	.....	06/01/2023	PAYDOWN	.....	5,303	5,873	5,137	5,358	0	450	0	450	0	5,303	0	0	0	128	07/01/2036	4.B FM
..93934N-AR-6	Washington Mutual Mortga-WMALT 2006-5 2C	.....	06/25/2023	PAYDOWN	.....	1,895	2,303	1,819	1,147	0	1,077	0	1,077	0	1,895	0	0	0	72	07/25/2036	1.A FM
..93936N-AA-1	Washington Mutual Mortga-WMALT 2007-4 1A	.....	06/01/2023	PAYDOWN	.....	5,281	5,281	5,457	5,395	0	(115)	0	(115)	0	5,281	0	0	0	103	06/01/2037	2.C FM
..94353W-AA-3	WAVE 2017-1 TRUST-WIAV 2017-1A A	.....	06/15/2023	PAYDOWN	.....	178,510	178,510	178,509	178,513	0	(3)	0	(3)	0	178,510	0	0	0	3,146	11/15/2042	3.B FE
..94354K-AA-8	WAVE 2019-1 LLC-WAAV 2019-1 A	.....	06/15/2023	PAYDOWN	.....	178,623	178,623	178,615	178,620	0	0	0	0	0	178,623	0	0	0	2,639	09/15/2044	2.A FE

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Identification	Description	For- eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid- eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor- tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn- ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con- tractual Maturity Date	NAIC Desig- nation, NAIC Desig- nation Modifier and SVO Admini- strative Symbol
..94945P-AA-3	Welk Resorts 2017-A LLC-WLKRG 2017-AA A		04/15/2023	PAYDOWN		1,602,046	1,602,046	1,601,883	1,601,578	0	467	0	467	0	1,602,046	0	0	0	11,294	06/15/2033	1.F FE
..94984D-AC-8	Wells Fargo Mortgage Bac-WFMB 2006-AR13		06/30/2023	PAYDOWN		0	0	0	0	0	0	0	0	0	0	0	0	0	5	09/01/2036	1.A FM
..94985A-AA-7	Wells Fargo Mortgage Bac-WFMB 2006-AR15		06/01/2023	PAYDOWN		10,217	10,752	10,019	10,619	0	(29)	0	(29)	0	10,109	0	108	108	231	10/01/2036	3.B FM
..94986C-AA-2	Wells Fargo Mortgage Bac-WFMB 2007-AR4		06/01/2023	PAYDOWN		1,775	3,688	3,097	3,356	0	155	(14)	169	0	1,775	0	0	0	116	08/01/2037	1.A FM
..94986M-AA-0	Wells Fargo Mortgage Bac-WFMB 2007-AR10		06/01/2023	PAYDOWN		47,473	47,852	48,121	46,463	0	557	0	557	0	47,473	0	0	0	1,028	01/01/2038	2.A FM
..94986M-AF-9	Wells Fargo Mortgage Bac-WFMB 2007-AR10		06/01/2023	PAYDOWN		10,029	16,120	13,307	14,156	0	(327)	0	(327)	0	8,825	0	1,204	1,204	408	01/01/2038	1.A FM
..94989Y-AY-9	Wells Fargo Commercial M-WFCM 2016-C32 A		06/30/2023	PAYDOWN		0	0	0	0	0	0	0	0	0	0	0	0	0	185	01/01/2059	1.A
..95002F-AA-2	Wells Fargo Mortgage Bac-WFMB 2019-4 A1		06/01/2023	PAYDOWN		12,983	12,983	13,214	13,329	0	(347)	0	(347)	0	12,983	0	0	0	218	09/01/2049	1.A
..95002K-AA-1	Wells Fargo Mortgage Bac-WFMB 2020-1 A1		05/01/2023	PAYDOWN		82,097	82,097	83,072	83,611	0	(1,513)	0	(1,513)	0	82,097	0	0	0	1,042	12/01/2049	1.A
..95058X-AE-8	Wendy's Funding LLC-WEN 2018-1A A211		06/15/2023	PAYDOWN		20,000	20,000	19,123	19,459	0	541	0	541	0	20,000	0	0	0	388	03/15/2048	2.B FE
..95058X-AG-3	Wendy's Funding LLC-WEN 2019-1A A21		06/15/2023	PAYDOWN		62,500	62,500	62,500	62,500	0	0	0	0	0	62,500	0	0	0	1,182	06/15/2049	2.B FE
..95058X-AL-2	Wendy's Funding LLC-WEN 2021-1A A211		06/15/2023	PAYDOWN		15,000	15,000	15,000	15,000	0	0	0	0	0	15,000	0	0	0	208	06/15/2051	2.B FE
..95763P-EF-4	Western Alliance Bank-SUBORDINATED		05/02/2023	OPPENHEIMER AND CO		9,555,000	12,000,000	12,000,000	12,000,000	0	0	0	0	0	12,000,000	0	(2,445,000)	(2,445,000)	266,875	06/01/2030	3.A PL
..959802-AX-7	Western Union Co/The-SENIOR UNSECURED		06/06/2023	BARCLAYS CAPITAL INC		9,997,550	10,000,000	9,992,000	9,999,080	0	847	0	847	0	9,999,926	0	(2,376)	(2,376)	207,188	06/09/2023	2.B FE
..96034L-AA-9	Westgate Resorts 2020-1-NESTR 2020-1A A		06/01/2023	PAYDOWN		408,588	408,588	408,051	408,510	0	78	0	78	0	408,588	0	0	0	4,595	03/01/2034	1.A FE
..96038F-AA-8	Westin (St Louis MO) Lea Trust Certifica		06/30/2023	SINKING PAYMENT		0	0	0	0	0	0	0	0	0	0	0	0	0	28	07/15/2047	1.D PL
..96042B-AA-4	Westkin Portfolio (LAS & Trust Certifica		06/15/2023	SINKING PAYMENT		84,261	84,261	85,103	85,007	0	(746)	0	(746)	0	84,261	0	0	0	2,126	11/15/2038	1.D PL
..96928*-CQ-8	William Blair & Company, Trust Certificat		06/15/2023	SINKING PAYMENT		40,415	40,415	40,415	40,415	0	0	0	0	0	40,415	0	0	0	1,122	06/15/2033	2.B
..96928*-CR-6	William Blair & Company, Trust Certificat		06/15/2023	SINKING PAYMENT		49,482	49,482	49,482	49,482	0	0	0	0	0	49,482	0	0	0	1,373	05/15/2034	2.B
..96928*-CX-3	William Blair & Company, Trust Certifica		06/15/2023	SINKING PAYMENT		103,489	103,489	104,532	104,105	0	(616)	0	(616)	0	103,489	0	0	0	2,671	01/15/2035	1.F
..96928*-DA-2	William Blair & Company, Trust Certifica		06/15/2023	SINKING PAYMENT		202,494	202,494	204,676	203,525	0	(1,031)	0	(1,031)	0	202,494	0	0	0	4,527	08/15/2031	1.B
..96928*-DJ-3	William Blair & Company, Trust Certifica		06/15/2023	SINKING PAYMENT		142,353	142,353	142,353	142,354	0	0	0	0	0	142,353	0	0	0	3,116	09/15/2031	1.B
..96928*-DZ-7	William Blair & Company, Trust Certifica		06/15/2023	SINKING PAYMENT		192,614	192,614	194,385	193,367	0	(753)	0	(753)	0	192,614	0	0	0	4,497	10/15/2029	1.F
..96928*-EN-3	William Blair & Company, Trust Certifica		06/15/2023	SINKING PAYMENT		118,964	118,964	120,245	119,656	0	(691)	0	(691)	0	118,964	0	0	0	2,533	02/15/2034	1.B
..96928*-EZ-6	William Blair & Company, Trust Certifica		06/15/2023	SINKING PAYMENT		131,462	131,462	131,462	131,463	0	0	0	0	0	131,462	0	0	0	0	09/15/2033	4.A
..96928*-FH-5	William Blair & Company, Trust Certifica		06/15/2023	SINKING PAYMENT		355,324	355,324	355,324	355,324	0	0	0	0	0	355,324	0	0	0	20,134	04/15/2025	2.A
..96928*-FK-8	William Blair & Company, Trust Certifica		06/15/2023	SINKING PAYMENT		122,309	122,309	122,309	122,316	0	(7)	0	(7)	0	122,309	0	0	0	2,420	11/15/2032	1.D
..96928*-FQ-5	William Blair & Company, Trust Certifica		06/15/2023	SINKING PAYMENT		134,261	134,261	134,261	134,261	0	0	0	0	0	134,261	0	0	0	1,796	09/15/2033	1.B
..96928*-FV-4	William Blair & Company, Trust Certifica		06/15/2023	SINKING PAYMENT		60,389	60,389	60,389	60,389	0	0	0	0	0	60,389	0	0	0	1,030	09/15/2044	1.E
..96928*-FX-0	William Blair & Company, Trust Certifica		06/15/2023	SINKING PAYMENT		224,150	224,150	224,150	224,150	0	0	0	0	0	224,150	0	0	0	3,747	02/15/2036	1.B
..96928*-FY-8	William Blair & Company, Trust Certifica		06/15/2023	SINKING PAYMENT		84,026	84,026	84,026	84,026	0	0	0	0	0	84,026	0	0	0	635	01/15/2043	2.B
..96928B-AA-3	William Blair & Company Trust Certificat		06/15/2023	VARIOUS		262,344	262,344	262,344	262,344	0	0	0	0	0	262,344	0	0	0	3,498	06/15/2023	1.B
..96950F-AL-8	Williams Cos Inc/The-SENIOR UNSECURED		05/30/2023	JP MORGAN SECURITIES		12,925,510	13,000,000	12,921,480	12,991,439	0	4,111	0	4,111	0	12,995,551	0	(70,041)	(70,041)	318,500	11/15/2023	2.B FE
..96950F-AM-6	Williams Cos Inc/The-SENIOR UNSECURED		05/24/2023	BARCLAYS CAPITAL INC		4,949,400	5,000,000	4,989,550	4,998,479	0	401	0	401	0	4,998,880	0	(49,480)	(49,480)	156,472	03/04/2024	2.B FE
..97063Q-AA-0	Willis Engine Structured-SERIES 17-A CLA		06/15/2023	PAYDOWN		334,852	334,852	334,567	334,700	0	152	0	152	0	334,852	0	0	0	6,533	08/15/2042	2.B FE
..97064E-AA-6	Willis Engine Structured-WESTF 2018-A A		06/15/2023	PAYDOWN		122,527	122,527	122,521	122,528	0	(1)	0	(1)	0	122,527	0	0	0	2,297	09/15/2043	2.A FE
..97064F-AA-3	Willis Engine Structured-WESTF 2020-A A		06/15/2023	PAYDOWN		151,201	151,201	151,199	151,201	0	0	0	0	0	151,201	0	0	0	2,034	03/15/2045	1.F FE
..974153-AB-4	Wingstop Funding LLC-WISTOP 2020-1A A2		06/05/2023	PAYDOWN		26,250	26,250	26,250	26,250	0	0	0	0	0	26,250	0	0	0	373	12/05/2050	2.B FE
..97652P-AL-5	WinWater Mortgage Loan T-WIN 2014-1 A11		06/01/2023	PAYDOWN		6,301	6,301	6,261	6,258	0	43	0	43	0	6,301	0	0	0	92	06/01/2044	1.A
..97988Q-AQ-7	Woodmont 2017-2 Trust-WDMNT 2017-2A BR		05/18/2023	CITIGROUP GLOBAL MAR		4,777,500	5,000,000	5,000,000	5,000,000	0	0	0	0	0	5,000,000	0	(222,500)	(222,500)	201,545	04/20/2033	1.C FE
..98920M-AA-0	ZAXBY'S FUNDING LLC-ZAXBY 2021-1A A2		04/30/2023	PAYDOWN		65,003	65,003	60,311	60,663	0	4,340	0	4,340	0	65,003	0	0	0	1,052	07/30/2051	2.B FE
..67256K-AB-0	Prop 2017-1 Ltd-ABS SSNR 5.30 03/15/42		06/15/2023	PAYDOWN		10,693	10,693	10,687	10,675	0	18	0	18	0	10,693	0	0	0	173	03/15/2042	2.B FE
..68538F-AA-1	Stripes 2013 Aircraft 1 Note		04/20/2023	MATURITY		348,706	348,706	351,503	348,692	0	14	0	14	0	348,706	0	0	0	0	04/20/2023	4.A PL
..U6203B-AB-0	MPT Operating Partnershi-SENIOR UNSECURE		06/13/2023	HSBC SECURITIES INC		579,479	644,940	602,247	632,914	0	1,905	0	1,905	(28,968)	605,852	31,206	(57,579)	(26,373)	26,333	03/24/2025	3.A FE
..009088-AA-3	AIR CANADA 2015-2AA PTT-FIRST LIEN	A	06/15/2023	SINKING PAYMENT		168,775	168,775	168,775	168,805	0	(30)	0	(30)	0	168,775	0	0	0	3,165	12/15/2027	1.G FE
..009088-AB-1	Air Canada 2015-2 Class -2ND LIEN	A	06/15/2023	SINKING PAYMENT		108,448	108,448	108,449	108,472	0	(24)	0	(24)	0	108,448	0	0	0	2,237	12/15/2027	2.B FE

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Ident-ification	Description	For-ign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid-eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/(Decrease)	Current Year's (Amor-tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn-ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con-tractual Maturity	NAIC Desig-nation, NAIC Desig-nation Modifier and SVO Admini-strative Symbol
..009089-AA-1	AIR CANADA 2013-1A PTT-FIRST LIEN	A.....	05/15/2023	SINKING PAYMENT		71,541	71,541	71,541	71,557	0	(15)	0	(15)	0	71,541	0	0	0	1,476	05/15/2025	2.C FE
..009090-AA-9	AIR CANADA 2015-1A PTT-FIRST LIEN	A.....	06/30/2023	SINKING PAYMENT		325,682	325,682	325,682	325,745	0	(63)	0	(63)	0	325,682	0	0	0	5,862	03/15/2027	1.F FE
..06368B-GS-1	Bank of Montreal-SUBORDINATED	A.....	06/23/2023	VARIOUS		6,180,600	7,000,000	6,507,130	6,652,103	0	13,719	0	13,719	0	6,665,822	0	(485,222)	(485,222)	141,134	12/15/2032	2.A FE
..064159-HB-5	BANK OF NOVA SCOTIA-SUBORDINATED	A.....	04/14/2023	VARIOUS		523,804	534,000	544,039	542,284	0	(747)	0	(747)	0	541,537	0	(17,733)	(17,733)	7,587	12/16/2025	2.A FE
..11271R-AA-7	Brookfield Finance Inc-SENIOR UNSECURED	A.....	05/24/2023	BARCLAYS CAPITAL INC		6,384,365	6,500,000	6,483,230	6,496,653	0	1,007	0	1,007	0	6,497,660	0	(113,295)	(113,295)	169,722	04/01/2024	1.G FE
..125491-AN-0	CI Financial Corp-SENIOR UNSECURED	A.....	06/30/2023	STIFEL NICOLAUS		17,007,393	22,575,000	22,625,110	22,616,817	0	(2,370)	0	(2,370)	0	22,614,447	0	(5,607,054)	(5,607,054)	388,240	12/17/2030	2.B FE
..136385-AV-3	Canadian Natural Resourc-SENIOR UNSECURE	A.....	05/24/2023	BARCLAYS CAPITAL INC		3,526,097	3,620,000	3,412,865	3,566,214	0	9,905	0	9,905	0	3,576,119	0	(50,022)	(50,022)	115,689	02/01/2025	2.A FE
..29250N-AF-2	Enbridge Inc-SENIOR UNSECURED	A.....	06/06/2023	VARIOUS		10,424,902	10,489,000	9,947,180	10,429,351	0	33,330	0	33,330	0	10,462,680	0	(37,778)	(37,778)	283,596	10/01/2023	2.A FE
..335934-AL-9	First Quantum Minerals L-SENIOR UNSECURE	A.....	05/31/2023	CALL 100		1,400,000	1,400,000	1,450,750	1,407,690	0	14,831	0	14,831	0	1,422,520	0	(22,520)	(22,520)	69,732	04/01/2025	4.A FE
..878742-BG-9	Teck Resources Ltd-SENIOR UNSECURED	A.....	06/21/2023	GOLDMAN		9,118,300	10,000,000	10,502,000	10,450,688	0	(26,493)	0	(26,493)	0	10,424,195	0	(1,305,895)	(1,305,895)	366,167	07/15/2030	2.C FE
..884903-BQ-7	Thomson Reuters Corp-SENIOR UNSECURED	A.....	05/30/2023	VARIOUS		4,956,050	5,000,000	4,969,050	4,996,593	0	1,619	0	1,619	0	4,998,213	0	(42,163)	(42,163)	111,304	11/23/2023	2.B FE
..000823-AN-4	ABPCI Direct Lending Fun-ABPCI 2017-1A B	D.....	05/18/2023	BMO CAPITAL MARKETS		4,075,240	4,250,000	4,250,000	4,250,000	0	0	0	0	0	4,250,000	0	(174,760)	(174,760)	171,313	04/20/2032	1.C FE
..000825-AA-7	ACAM 2019-FL1 Ltd-ACAM 2019-FL1 A	D.....	06/16/2023	PAYDOWN		1,106,047	1,106,047	1,106,047	1,106,047	0	0	0	0	0	1,106,047	0	0	0	40,221	11/17/2034	1.A FE
..001406-AA-5	AIM Aviation Finance Ltd-DCAL 2015-1A A1	D.....	04/27/2023	VARIOUS		1,134,642	1,791,688	1,273,443	1,790,497	0	516,103	516,561	(458)	0	1,789,233	0	(654,591)	(654,591)	49,940	02/15/2040	4.C FE
..00176C-AQ-4	AMMC CLO XII Ltd-AMMC 2013-12A BR	D.....	05/18/2023	RBC CAPITAL MARKETS		1,113,005	1,140,000	1,140,000	1,140,000	0	0	0	0	0	1,140,000	0	(26,995)	(26,995)	38,269	11/10/2030	1.C FE
..00176C-AS-0	AMMC CLO XII Ltd-AMMC 2013-12A CR	D.....	05/09/2023	RBC CAPITAL MARKETS		5,928,294	6,272,000	6,189,500	6,280,497	0	(3,072)	0	(3,072)	0	6,277,424	0	(349,130)	(349,130)	210,126	11/10/2030	1.F FE
..00176D-AJ-8	AMMC CLO XIII Ltd-AMMC 2013-13A A2LR	D.....	05/18/2023	MIZUHO SECURITIES		1,213,375	1,225,000	1,225,000	1,225,000	0	0	0	0	0	1,225,000	0	(11,625)	(11,625)	45,458	07/24/2029	1.A FE
..00178L-AC-3	AMMC CLO 21 LTD-AMMC 2017-21A B	D.....	05/18/2023	RBC CAPITAL MARKETS		1,790,565	1,836,100	1,836,100	1,836,100	0	0	0	0	0	1,836,100	0	(45,535)	(45,535)	65,407	11/02/2030	1.C FE
..00652X-AB-4	Adani Transmission Ltd-FIRST LIEN	D.....	05/21/2023	SINKING PAYMENT		33,360	33,360	30,417	30,525	0	2,835	0	2,835	0	33,360	0	0	0	709	05/21/2036	2.C FE
..00928Q-AR-2	Aircastle Ltd-SENIOR UNSECURED	D.....	05/24/2023	STIFEL NICOLAUS		5,947,500	6,000,000	5,989,860	5,998,229	0	806	0	806	0	5,999,035	0	(51,535)	(51,535)	176,733	09/25/2023	2.C FE
..01448Q-AA-8	ALESKO Preferred Funding-ALESC 4A A1	D.....	05/02/2023	PAYDOWN		226,098	226,098	212,610	220,243	0	5,854	0	5,854	0	226,098	0	0	0	2,797	07/30/2034	1.C FE
..01448T-AA-2	ALESKO Preferred Funding-ALESC 5A A1	D.....	06/23/2023	PAYDOWN		105,434	105,434	90,110	103,055	0	2,379	0	2,379	0	105,434	0	0	0	2,854	12/23/2034	1.A FE
..014495-AB-1	ALESKO Preferred Funding-ALESC 13A A1	D.....	06/23/2023	PAYDOWN		185,407	185,407	142,763	148,083	0	37,324	0	37,324	0	185,407	0	0	0	4,869	09/23/2037	1.B FE
..01449W-AA-4	ALESKO Preferred Funding-ALESC 10A A1	D.....	06/23/2023	PAYDOWN		3,352,031	3,352,031	2,982,110	3,053,499	0	298,531	0	298,531	0	3,352,031	0	0	0	88,374	09/23/2036	1.A FE
..01450A-AA-8	ALESKO Preferred Funding-ALESC 11A A1A	D.....	06/23/2023	PAYDOWN		235,714	235,714	177,375	175,301	0	60,413	0	60,413	0	235,714	0	0	0	6,203	12/23/2036	1.A FE
..01450B-AA-6	ALESKO Preferred Funding-ALESC 15A A1	D.....	06/23/2023	PAYDOWN		356,585	356,585	326,369	334,457	0	22,128	0	22,128	0	356,585	0	0	0	9,293	12/23/2037	1.C FE
..01749W-AG-8	Allegro CLO Ltd-ALLEG 2022-1A D	D.....	05/03/2023	BAIRD		4,587,500	5,000,000	5,000,000	5,000,000	0	0	0	0	0	5,000,000	0	(412,500)	(412,500)	316,746	07/20/2035	2.C FE
..03329K-BG-7	Anchorage Capital CLO 8 -ANCHC 2016-8A D	D.....	04/26/2023	SG COWEN SECURITIES		7,659,455	8,350,000	8,350,000	8,350,000	0	0	0	0	0	8,350,000	0	(690,545)	(690,545)	347,531	10/27/2034	2.B FE
..03330Y-AG-5	Anchorage Capital CLO 20-ANCHC 2021-20A	D.....	05/09/2023	CITIGROUP GLOBAL MAR		6,658,750	7,000,000	7,000,000	7,000,000	0	0	0	0	0	7,000,000	0	(341,250)	(341,250)	276,202	01/20/2035	1.E FE
..03331Q-AA-4	Anchorage Capital CLO 20-ANCHC 2021-20A	D.....	04/25/2023	BOFAMILSEC		9,277,700	10,000,000	10,000,000	10,000,000	0	0	0	0	0	10,000,000	0	(722,300)	(722,300)	430,448	01/20/2035	2.B FE
..03665L-AA-1	Antares CLO 2018-3 LTD-ANTR 2018-3A A1	D.....	04/20/2023	PAYDOWN		281,247	281,247	281,247	282,849	0	(1,601)	0	(1,601)	0	281,247	0	0	0	8,491	01/20/2031	1.A FE
..03880W-AC-2	Arbor Realty Collateral-i-AROLO 2020-FL1	D.....	06/15/2023	PAYDOWN		6,500,000	6,500,000	6,516,250	6,513,760	0	(13,760)	0	(13,760)	0	6,500,000	0	0	0	200,888	02/15/2035	1.A FE
..04019H-AN-3	Ares LXIV CLO Ltd-ARES 2022-64A D	D.....	04/26/2023	GOLDMAN		7,448,400	8,000,000	8,000,000	8,000,000	0	0	0	0	0	8,000,000	0	(551,600)	(551,600)	546,612	04/15/2035	2.C FE
..052528-AH-9	Australia & New Zealand -SUBORDINATED	D.....	05/24/2023	STIFEL NICOLAUS		8,878,500	9,000,000	8,987,760	8,998,104	0	464	0	464	0	8,998,567	0	(120,067)	(120,067)	277,875	03/19/2024	2.A FE
..05492K-AA-7	BDS 2019-FL4 LTD-BDS 2019-FL4 A	D.....	04/17/2023	PAYDOWN		93,686	93,686	85,254	93,686	0	0	0	0	0	93,686	0	0	0	3,615	08/15/2036	1.A FE
..05492K-AE-9	BDS 2019-FL4 LTD-BDS 2019-FL4 B	D.....	05/17/2023	PAYDOWN		9,000,000	9,000,000	9,000,000	9,000,000	0	0	0	0	0	9,000,000	0	0	0	289,437	08/15/2036	1.C FE
..05689H-AS-8	Bain Capital Credit CLO -BCC 2017-2A CR2	D.....	05/09/2023	MORGAN		5,355,563	5,625,000	5,625,000	5,625,000	0	0	0	0	0	5,625,0						

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Ident-ification	Description	For- eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid- eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor- tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn- ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con- tractual Maturity Date	NAIC Desig- nation, NAIC Desig- nation Modifier and SVO Admini- strative Symbol
15673N-AA-1	Cerberus Loan Funding XX-CERB 2018-1A A	D	06/13/2023	PAYDOWN		21,000,000	21,000,000	21,000,000	21,084,745	0	(84,745)	0	(84,745)	0	21,000,000	0	0	0	840,604	04/15/2030	1.A FE
15673N-AE-3	Cerberus Loan Funding XX-CERB 2018-1A B	D	06/13/2023	PAYDOWN		5,000,000	5,000,000	5,000,000	5,032,698	0	(32,698)	0	(32,698)	0	5,000,000	0	0	0	156,264	04/15/2030	1.A FE
20039F-AA-7	Cometa Energia SA de CV-SECURED	D	04/24/2023	SINKING PAYMENT		36,144	36,144	36,903	36,871	0	(727)	0	(727)	0	36,144	0	0	0	1,152	04/24/2035	2.C FE
21684A-AA-4	COOPERATIEVE RABOBANK UA-SUB NOTE	D	05/30/2023	VARIOUS		8,935,788	9,000,000	8,926,740	8,991,666	0	3,683	0	3,683	0	8,995,350	0	(59,562)	(59,562)	199,858	12/01/2023	2.A FE
225401-AF-5	Credit Suisse Group AG-SENIOR UNSECURED	D	06/21/2023	BARCLAYS CAPITAL INC		14,442,560	16,000,000	16,014,370	16,008,094	0	(727)	0	(727)	0	16,007,367	0	(1,564,807)	(1,564,807)	586,368	01/12/2029	2.B FE
25255D-AE-0	Diameter Capital CLO 1 L-DQLO 2021-1A A2	D	04/24/2023	BOFAMILSEC		7,432,194	7,700,000	7,700,000	7,700,000	0	0	0	0	0	7,700,000	0	(267,806)	(267,806)	256,184	07/15/2036	1.C FE
26827E-AC-9	ECAF I Ltd-ECAF 2015-1A A2	D	06/30/2023	VARIOUS		5,711,139	9,416,107	4,723,119	9,186,668	0	292,113	4,470,196	(4,178,083)	0	5,008,585	0	702,554	702,554	257,501	06/15/2040	5.B FE
26829D-AE-5	Man GLG US CLO-GLGU 2018-1A SUB	D	06/30/2023	DIRECT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	291,131	04/22/2030	6. *
26874R-AJ-7	Eni SpA-SENIOR UNSECURED	D	06/30/2023	GOLDMAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	212,500	05/09/2029	1.G FE
28851Q-AE-3	Ellington Clo I Ltd-EQLO 2017-1A AR	D	04/17/2023	PAYDOWN		4,188,376	4,188,376	4,188,376	4,188,376	0	0	0	0	0	4,188,376	0	0	0	159,624	10/15/2029	1.A FE
28852E-AA-7	Ellington Clo II Ltd-EQLO 2017-2A A	D	05/15/2023	PAYDOWN		1,916,005	1,916,005	1,916,005	1,916,005	0	0	0	0	0	1,916,005	0	0	0	61,968	02/15/2029	1.A FE
28853R-AN-9	Ellington CLO IV Ltd-EQLO 2019-4A BR	D	05/18/2023	BOFAMILSEC		3,969,640	4,000,000	4,000,000	4,000,000	0	0	0	0	0	4,000,000	0	(30,360)	(30,360)	158,301	04/15/2029	1.A FE
29002U-AG-5	ELM16 2022-3A D-ELM16 2022-3A D	D	04/25/2023	NATIXIS CAP MKT		4,836,550	5,000,000	5,000,000	5,000,000	0	0	0	0	0	5,000,000	0	(163,450)	(163,450)	208,039	04/20/2034	2.C FE
30260L-AA-3	FEL Energy VI Sarl-SECURED	D	06/01/2023	SINKING PAYMENT		11,311	11,311	10,180	10,204	0	1,107	0	1,107	0	11,311	0	0	0	325	12/01/2040	2.C FE
33829W-AJ-8	522 Funding CLO 2019-5 L-MORGN 2019-5A	D	05/10/2023	VARIOUS		12,028,709	13,550,000	13,550,000	13,550,000	0	0	0	0	0	13,550,001	0	(1,521,292)	(1,521,292)	765,024	04/15/2035	2.C FE
33835N-AE-1	ASSURANT CLO LTD-MORGN 2018-3A CR	D	05/09/2023	JP MORGAN SECURITIES		4,793,000	5,000,000	5,000,000	5,000,000	0	0	0	0	0	5,000,000	0	(207,000)	(207,000)	187,419	10/20/2031	1.F FE
33838E-AU-1	FLEXTRONICS INTL LTD SR NT	D	05/24/2023	JANE		4,890,000	5,000,000	4,980,650	4,988,568	0	1,746	0	1,746	0	4,990,314	0	(100,314)	(100,314)	106,215	06/15/2025	2.C FE
34960U-AS-4	Fortress Credit Opportun-FCO 2015-6A A1T	D	05/02/2023	VARIOUS		36,440,865	36,719,817	36,668,283	36,748,924	0	(29,107)	0	(29,107)	0	36,719,817	0	(278,952)	(278,952)	1,191,467	07/10/2030	1.A FE
34962U-AC-2	Fortress Credit Opportun-FCO 2021-15A AT	D	05/02/2023	JEFFERIESLLC		14,601,000	15,000,000	15,000,000	15,000,000	0	0	0	0	0	15,000,000	0	(399,000)	(399,000)	490,798	04/25/2033	1.A FE
36655L-AB-1	Garrison Funding 2018-2 -GRMML 2018-2RA	D	05/22/2023	PAYDOWN		2,296,168	2,296,168	2,296,168	2,296,168	0	0	0	0	0	2,296,168	0	0	0	73,992	11/20/2029	1.A FE
38136Z-AL-6	GoldenTree Credit Opport-GTCOP 2012-1A A	D	06/15/2023	PAYDOWN		5,503,448	5,503,448	5,503,316	5,503,448	0	0	0	0	0	5,503,448	0	0	0	63,345	06/15/2034	1.A FE
38138T-AG-6	Goldentree Loan Managem-GLM 2021-10A C	D	05/09/2023	BOFAMILSEC		3,672,477	3,850,000	3,850,000	3,850,000	0	0	0	0	0	3,850,001	0	(177,524)	(177,524)	142,142	07/20/2034	1.F FE
38174Y-AC-9	Golub Capital Partners C-GOCAP 2015-24A	D	05/18/2023	CITIGROUP GLOBAL MAR		2,442,750	2,500,000	2,500,000	2,500,000	0	0	0	0	0	2,500,000	0	(57,250)	(57,250)	91,518	11/05/2029	1.C FE
38175C-AA-0	Golub Capital Partners C-GOCAP 2014-21A	D	04/25/2023	PAYDOWN		430,268	430,268	429,981	430,268	0	0	0	0	0	430,268	0	0	0	13,172	01/25/2031	1.A FE
38175J-AA-5	Golub Capital Partners C-GOCAP 2013-17A	D	04/25/2023	PAYDOWN		365,545	365,545	365,545	365,545	0	0	0	0	0	365,545	0	0	0	11,524	10/25/2030	1.A FE
38175W-AC-2	Golub Capital Partners C-GOCAP 2016-31A	D	05/02/2023	CITIGROUP GLOBAL MAR		15,643,200	16,000,000	16,000,000	16,053,858	0	(28,656)	0	(28,656)	0	16,025,202	0	(382,002)	(382,002)	499,648	08/05/2030	1.A FE
38176P-AC-6	Golub Capital Partners C-GOCAP 2019-44A	D	05/02/2023	BNP PARIBAS		5,889,000	6,000,000	5,707,500	5,860,383	0	8,719	0	8,719	0	5,869,102	0	19,898	19,898	268,924	06/21/2031	1.A FE
38178D-AJ-6	Golub Capital Partners C-GOBSL 2020-50A	D	04/25/2023	CITIGROUP GLOBAL MAR		2,732,190	3,000,000	3,000,000	3,000,000	0	0	0	0	0	3,000,000	0	(267,810)	(267,810)	122,461	04/20/2035	2.C FE
38178E-AC-9	Golub Capital Partners C-GOCAP 2013-16A	D	05/02/2023	JP MORGAN SECURITIES		12,480,000	13,000,000	13,000,000	13,000,000	0	0	0	0	0	13,000,000	0	(520,000)	(520,000)	442,602	07/25/2033	1.A FE
38218J-AA-4	Goodgreen 2022-1-GOODG 2022-1A A	D	06/15/2023	PAYDOWN		344,102	344,102	343,986	344,102	0	0	0	0	0	344,102	0	0	0	0	10/15/2056	1.A FE
38218J-AC-0	Goodgreen 2022-1-GOODG 2022-1A C	D	04/15/2023	PAYDOWN		126,751	126,751	126,392	126,751	0	0	0	0	0	126,751	0	0	0	0	10/15/2056	2.B FE
38411H-AA-3	GRACIE POINT INTERNATIONAL-GPIF 2022-1A A	D	06/01/2023	PAYDOWN		4,130,423	4,130,423	4,111,547	4,113,765	0	16,657	0	16,657	0	4,130,423	0	0	0	114,067	04/01/2024	1.C FE
390556-AL-2	Great Lakes CLO 2014-1 L-GRTLK 2014-1A A	D	04/17/2023	PAYDOWN		1,872,344	1,872,344	1,872,344	1,881,022	0	(8,678)	0	(8,678)	0	1,872,344	0	0	0	57,285	10/15/2029	1.A FE
40170F-AA-4	Guggenheim MM CLO 2018-1-GPIM 2018-1A A1	D	04/17/2023	PAYDOWN		213,095	213,095	213,095	213,336	0	(241)	0	(241)	0	213,095	0	0	0	3,081	01/15/2031	1.A FE
40170F-AJ-5	Guggenheim MM CLO 2018-1-GPIM 2018-1A A2	D	04/15/2023	PAYDOWN		68,190	68,190	68,190	68,195	0	(5)	0	(5)	0	68,190	0	0	0	1,551	01/15/2031	1.A FE
43133A-AA-5	Hildene TruPS Financials-HITR 2018-1A A1	D	04/10/2023	PAYDOWN		2,411,215	2,411,215	2,362,991	2,400,963	0	10,252	0	10,252	0	2,411,215	0	0	0	69,305	10/10/2038	1.B FE
440405-AE-8	HORZN 2018-1 A	C	06/15/2023	PAYDOWN		168,980	168,980	168,976	168,983	0	(3)	0	(3)	0	168,980	0	0	0	3,498	12/15/2038	2.C FE
44040H-AA-0	Horizon Aircraft Finance-HORZN 2019-1 A	D	06/15/2023	PAYDOWN		60,065	60,065	60,065	60,066	0	(1)	0	(1)	0	60,065	0	0	0	900	07/15/2039	2.B FE
44931B-AC-1	IGC US CLO 2015-1 Ltd-IGC 2015-1A SUB	D	05/22/2023	EXCHANGE OFFER		6,515,086	7,868,000	6,515,086	0	0	0	0	0	0	6,515,086	0	0	0	0		

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Ident-ification	Description	For- eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid- eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor- tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn- ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con- tractual Maturity Date	NAIC Desig- nation, NAIC Desig- nation Modifier and SVO Admini- strative Symbol
.55312H-AA-7	MMcapS Funding XVII Ltd-MMCAP 17A A1	D.....	06/01/2023	PAYDOWN		5,728	5,728	5,459	5,687	0	.41	0	.41	0	5,728	0	0	0	151	12/01/2035	1.A FE
.55446M-AA-5	MACH 1 Cayman 2019-1 Ltd	D.....	06/15/2023	PAYDOWN		90,786	90,786	90,783	90,785	0	.1	0	.1	0	90,786	0	0	0	1,482	10/15/2039	2.A FE
.558189-AG-1	Madison Park Funding LII-MDPK 2022-53A D	D.....	05/11/2023	VARIOUS		14,098,225	15,250,000	15,250,000	15,250,000	0	0	0	0	0	15,250,000	0	(1,151,775)	(1,151,775)	621,624	04/21/2035	2.C FE
.55820R-AL-1	Madison Park Funding XLV-MDPK 2020-45A B	D.....	04/24/2023	CITIGROUP GLOBAL MAR		5,812,500	6,000,000	6,000,000	6,000,000	0	0	0	0	0	6,000,000	0	(187,500)	(187,500)	196,440	07/15/2034	1.C FE
.55820R-AQ-5	Madison Park Funding XXV-MDPK 2017-25A C	D.....	05/11/2023	VARIOUS		8,224,475	8,635,000	8,552,968	8,591,583	0	(29,017)	0	(29,017)	0	8,562,567	0	(338,092)	(338,092)	384,119	04/25/2029	2.C FE
.56577G-AA-7	Maranon Loan Funding 202-MNON 2020-1A A	D.....	05/02/2023	WELLS FARGO		12,866,100	13,000,000	13,000,000	13,000,000	0	0	0	0	0	13,000,000	0	(133,900)	(133,900)	467,812	01/15/2034	1.A FE
.56577L-AA-6	Maranon Loan Funding 202-MNON 2021-1RA	D.....	05/02/2023	JP MORGAN SECURITIES		8,308,750	8,500,000	8,500,000	8,500,000	0	0	0	0	0	8,500,000	0	(191,250)	(191,250)	249,600	04/15/2034	1.A FE
.592838-AA-4	Mexico Generadora de Ene-SECURED	D.....	06/06/2023	VARIOUS		50,624	50,624	51,353	51,316	0	(1,026)	0	(1,026)	0	50,273	0	351	351	0	12/06/2032	2.B FE
.59801M-AE-8	Midocean Credit Clo VIII-MIDO 2018-8A B	D.....	05/18/2023	MIZUHO SECURITIES		5,299,800	5,500,000	5,500,000	5,500,000	0	0	0	0	0	5,500,000	0	(200,200)	(200,200)	179,180	02/20/2031	1.C FE
.60688U-AB-2	Mizuho Financial Group C-SUBORDINATED	D.....	05/30/2023	SMBC NIKKO SECURITIE		6,906,910	7,000,000	6,982,780	6,997,338	0	761	0	761	0	6,998,099	0	(91,189)	(91,189)	216,328	03/27/2024	2.B FE
.61033C-AL-0	Monroe Capital MML CLO V-MCMML 2018-2A A	D.....	05/22/2023	PAYDOWN		1,726,809	1,726,809	1,726,809	1,726,487	0	322	0	322	0	1,726,809	0	0	0	19,772	11/22/2030	1.A FE
.61034H-AA-2	Monroe Capital MML CLO V-MCMML 2018-1A A	D.....	04/15/2023	PAYDOWN		470,128	470,128	470,128	472,808	0	(2,680)	0	(2,680)	0	470,128	0	0	0	6,643	04/15/2030	1.A FE
.63859W-AF-6	Nationwide Building Soci-SUBORDINATED	D.....	06/30/2023	MORGAN		19,182,009	22,000,000	21,197,720	21,400,112	0	24,803	0	24,803	0	21,424,915	0	(2,242,906)	(2,242,906)	643,271	10/18/2032	2.A FE
.64131T-AU-8	Neuberger Berman CLO XVI-NEUB 2017-16SA	D.....	04/26/2023	MIZUHO SECURITIES		8,008,428	8,815,000	8,531,157	8,588,406	0	(25,395)	0	(25,395)	0	8,563,011	0	(554,583)	(554,583)	179,200	04/15/2034	2.C FE
.65130P-AW-0	Newfleet CLO 2016-1 Ltd-NEUFL 2016-1A A2	D.....	04/20/2023	PAYDOWN		722,247	722,247	722,247	722,231	0	.17	0	.17	0	722,247	0	0	0	13,968	04/20/2028	1.A FE
.67108B-BS-3	OZLM Funding II Ltd-OZLMF 2012-2A A2RR	D.....	05/02/2023	BNP PARIBAS		9,782,000	10,000,000	10,000,000	10,000,000	0	0	0	0	0	10,000,000	0	(218,000)	(218,000)	484,068	07/30/2031	1.C FE
.67110N-AP-0	OHA Credit Partners XIII-OAKC 2016-13A B	D.....	04/24/2023	JP MORGAN SECURITIES		4,861,500	5,000,000	5,000,000	5,000,000	0	0	0	0	0	5,000,000	0	(138,500)	(138,500)	162,506	10/25/2034	1.C FE
.67110N-AT-2	OHA Credit Partners XIII-OAKC 2016-13A C	D.....	05/09/2023	BAIRD		4,096,575	4,250,000	4,250,000	4,250,000	0	0	0	0	0	4,250,000	0	(153,425)	(153,425)	159,997	10/25/2034	1.F FE
.67402L-AL-0	Oaktree CLO Ltd-OAKCL 2022-1A D	D.....	05/04/2023	BAIRD		6,988,500	7,500,000	7,425,000	7,425,000	0	75,000	0	75,000	0	7,500,000	0	(511,500)	(511,500)	549,425	05/15/2033	2.C FE
.675930-AJ-0	Octagon 59 Ltd-OCT59 2022-1A D	D.....	05/04/2023	JP MORGAN SECURITIES		4,677,750	5,000,000	5,000,000	5,000,000	0	0	0	0	0	5,000,000	0	(322,250)	(322,250)	352,749	05/15/2035	2.C FE
.69120L-AA-1	Owl Rock Technology Fina-ORTF 2020-1A A	D.....	04/17/2023	PAYDOWN		240,172	240,172	238,971	240,172	0	0	0	0	0	240,172	0	0	0	4,314	01/15/2031	1.F FE
.70469Q-AL-3	Peaks CLO 1 Ltd-PEAKS 2014-1A A2R	D.....	04/25/2023	PAYDOWN		1,128,737	1,128,737	1,059,755	1,109,601	0	19,135	0	19,135	0	1,128,737	0	0	0	34,398	07/25/2030	1.A FE
.70469J-AN-4	Peaks CLO 2 Ltd-PEAKS 2017-2A A1AR	D.....	04/20/2023	PAYDOWN		555,278	555,278	510,856	541,312	0	13,966	0	13,966	0	555,278	0	0	0	17,747	07/20/2031	1.A FE
.72353P-AA-4	Pioneer Aircraft Finance-SERIES 19-1 CLA	D.....	06/15/2023	PAYDOWN		351,070	351,070	351,068	351,065	0	.5	0	.5	0	351,070	0	0	0	5,351	06/15/2044	2.C FE
.74042H-AB-3	Preferred Term Securitie-SECURED	D.....	06/30/2023	PAYDOWN		23,785	23,785	20,234	23,785	0	0	0	0	0	23,785	0	0	0	309	12/22/2035	1.B FE
.74951P-DQ-8	RESI Finance LP 2005-A-RESIF 2005-A B3	D.....	06/12/2023	PAYDOWN		28,121	28,121	12,466	2,272	10,308	15,541	0	25,849	0	28,121	0	0	0	639	03/10/2037	1.A FM
.77679R-AB-2	Rotor Engines Securitiza-ROTOR 2011-1A A	D.....	06/15/2023	PAYDOWN		1,515,012	1,515,012	1,484,712	1,492,498	0	22,514	0	22,514	0	1,515,012	0	0	0	0	06/15/2046	5.A FE
.78484T-AD-4	SMBC Aviation Capital Fi-SENIOR UNSECURE	D.....	05/24/2023	SMBC NIKKO SECURITIE		14,947,650	15,000,000	14,979,600	14,997,436	0	1,338	0	1,338	0	14,998,774	0	(51,124)	(51,124)	534,531	07/15/2023	2.A FE
.80306A-AA-8	SAPPHIRE AVIATION FINANC-SAPA 2018-1A A	D.....	04/27/2023	VARIOUS		3,112,356	3,831,360	3,857,123	3,844,342	0	(301)	0	(301)	0	3,844,041	0	(731,685)	(731,685)	61,449	03/15/2040	3.B FE
.80349B-BD-8	Saratoga Investment Corp-SARAT 2013-1A A	D.....	05/02/2023	BNP PARIBAS		35,695,500	37,000,000	37,000,000	37,000,000	0	0	0	0	0	37,000,000	0	(1,304,500)	(1,304,500)	1,253,803	04/20/2033	1.A FE
.83438J-JA-4	Soloso CDO 2007-1 Ltd-SERIES 2007-1A CLA	D.....	04/07/2023	PAYDOWN		104,696	104,696	96,451	98,390	0	6,306	0	6,306	0	104,696	0	0	0	3,103	10/07/2037	1.E FE
.85325A-AL-4	Standard Chartered PLC-SUBORDINATED	D.....	05/31/2023	AMHERST SECURITIES		22,770,000	23,000,000	23,481,510	23,061,820	0	(24,869)	0	(24,869)	0	23,036,951	0	(266,951)	(266,951)	1,016,600	01/26/2024	2.B FE
.85572R-AA-7	Start Ltd/Bermuda-STARR 2018-1 A	D.....	06/15/2023	PAYDOWN		1,009,474	1,009,474	1,006,378	1,007,698	0	1,776	0	1,776	0	1,009,474	0	0	0	18,153	05/15/2043	2.A FE
.85573L-AA-9	START Ireland-STARR 2019-1 A	D.....	06/15/2023	PAYDOWN		95,060	95,060	95,056	95,059	0	.1	0	.1	0	95,060	0	0	0	1,619	03/15/2044	2.B FE
.86268H-AA-6	Strata CLO I Ltd-STRTA 2018-1A A	D.....	04/17/2023	PAYDOWN		6,401,587	6,401,587	6,401,587	6,447,469	0	(45,881)	0	(45,881)	0	6,401,587	0	0	0	194,889	01/15/2031	1.A FE
.865622-BE-3	SUMITOMO MITSUI BANKING-SR UNSECURED	D.....	05/30/2023	SMBC NIKKO SECURITIE		189,524	15,000,000	14,980,350	14,998,582	0	566	0	566	0	222,272	0	(32,748)	(32,748)	513,500	07/19/2023	1.E FE
.86562M-AA-8	SUMITOMO MITSUI FINANCIA-SUBORDINATED	D.....	05/24/2023	SMBC NIKKO SECURITIE		3,942,040	4,000,000	4,000,000	4,000,000	0	0	0	0	0	4,000,000	0	(57,960)	(57,960)	115,336	04/02/2024	2.B FE
.87067V-AA-6	Sweihan PV Power Co PJSC-SECURED	D.....	06/30/2023	SINKING PAYMENT		(519)	(519)	(497)	(498)	0	(33)	0	(33)	0	(519)	0	0	0	(11)	01/31/2049	2.A FE
.87244C-AJ-5	TIAA Churchill I Middle Ma-CHMIL 2016-1A A	D.....	04/20/2023																		

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Identification	Description	Foreign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consideration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amortization)/ Accretion	Current Year's Other Than Temporary Impairment Recognized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Contractual Maturity Date	NAIC Designation, NAIC Designation Modifier and SVO Administrative Symbol
..89820X-AA-6	TruPS Financials Note Se-TFINS 2020-2A A	D	06/30/2023	PAYDOWN		0	0	0	0	0	0	0	0	0	0	0	0	0	12	07/15/2041	1.C FE
..89821J-AA-6	TruPS Financials Note Se-TFINS 2019-1A A	D	05/02/2023	PAYDOWN		2,035,176	2,035,176	2,035,176	2,035,176	0	0	0	0	0	2,035,176	0	0	0	68,393	02/02/2039	1.C FE
..89822P-AA-1	TruPS Financials Note Se-2020-1A A1	D	04/15/2023	PAYDOWN		154,685	154,685	154,685	154,685	0	0	0	0	0	154,685	0	0	0	(12,142)	04/15/2040	1.C FE
..903329-AC-4	US Capital Funding I Ltd-USCAP FLOAT 05/	D	05/01/2023	SINKING PAYMENT		3,850,000	3,850,000	3,720,844	3,762,728	0	87,272	0	87,272	0	3,850,000	0	0	0	106,530	05/01/2034	1.C FE
..90342W-AA-5	US Capital Funding V Ltd-USCAP 2006-5A A	D	06/30/2023	PAYDOWN		0	0	0	0	0	(23,432)	0	(23,432)	0	0	0	0	0	130	10/10/2040	1.C FE
..913318-AJ-0	Unity-Peace Park CLO Ltd-UNPPK 2022-1A D	D	05/04/2023	BOFAMILSEC		4,662,650	5,000,000	5,000,000	5,000,000	0	0	0	0	0	5,000,000	0	(337,350)	(337,350)	331,238	04/20/2035	2.C FE
..92769V-AJ-8	Virgin Media Finance PLC-SENIOR UNSECURE	D	04/27/2023	BNP PARIBAS		841,600	1,000,000	917,090	923,293	0	2,622	0	2,622	0	925,915	0	(84,315)	(84,315)	39,722	07/15/2030	4.B FE
..92838*-AA-3	Vista Malta Finance P.L. Pass Through Ce	D	04/05/2023	SINKING PAYMENT		2,562,694	2,562,694	2,562,694	2,562,694	0	0	0	0	0	2,562,694	0	0	0	110,691	04/05/2032	2.A PL
..92842B-AA-5	Vista Malta Finance P.L. Pass Through Ce	D	04/05/2023	SINKING PAYMENT		554,838	554,838	554,838	554,838	0	0	0	0	0	554,838	0	0	0	33,236	04/05/2031	3.B PL
..92917J-AG-2	Voya CLO 2018-2 Ltd-VOYA 2018-2A B2	D	06/30/2023	DIRECT		1	1	1	1	0	0	0	0	0	1	0	0	0	0	07/15/2031	1.C FE
..92917J-AL-1	Voya CLO 2018-2 Ltd-VOYA 2018-2A C2	D	06/30/2023	DIRECT		1	1	1	1	0	0	0	0	0	1	0	0	0	0	07/15/2031	1.F FE
..92918Q-AE-0	Voya CLO Ltd-VOYA 2021-1A B	D	04/24/2023	CITIGROUP GLOBAL MAR		10,278,528	10,650,000	10,650,000	10,650,000	0	0	0	0	0	10,650,000	0	(371,472)	(371,472)	345,856	07/15/2034	1.C FE
..95023A-AC-4	Wellfleet CLO Ltd-WELF 2021-2A B	D	04/24/2023	BARCLAYS CAPITAL INC		5,382,021	5,650,000	5,650,000	5,650,000	0	0	0	0	0	5,650,001	0	(267,980)	(267,980)	187,979	07/15/2034	1.C FE
..97314E-AJ-5	THL Credit Wind River 20-WINDER 2019-2A	D	05/04/2023	GOLDMAN		3,881,250	4,500,000	4,500,000	4,500,000	0	0	0	0	0	4,500,000	0	(618,750)	(618,750)	193,656	01/15/2035	2.C FE
..97316D-AC-0	Wind River CLO Ltd-WINDR 2021-3A B1	D	04/24/2023	BARCLAYS CAPITAL INC		14,342,550	15,000,000	15,000,000	15,000,000	0	0	0	0	0	15,000,000	0	(657,450)	(657,450)	489,214	07/20/2033	1.C FE
..97316D-AG-1	Wind River CLO Ltd-WINDR 2021-3A C	D	05/09/2023	RBC CAPITAL MARKETS		4,701,000	5,000,000	5,000,000	5,000,000	0	0	0	0	0	5,000,000	0	(299,000)	(299,000)	190,239	07/20/2033	1.F FE
..98878C-AA-4	Z Capital Credit Partner-ZCOP 2018-1A A1	D	04/17/2023	PAYDOWN		3,179,042	3,179,042	3,179,042	3,179,042	0	0	0	0	0	3,179,042	0	0	0	99,675	01/16/2031	1.A FE
..98878C-AC-0	Z Capital Credit Partner-ZCOP 2018-1A A2	D	04/17/2023	PAYDOWN		847,745	847,745	833,969	847,745	0	0	0	0	0	847,745	0	0	0	25,680	01/16/2031	1.A FE
..98844P-AB-3	Zephyrus Capital Aviation-ZCAP 2018-1 A	C	06/15/2023	PAYDOWN		304,152	304,152	301,551	304,152	0	2,601	0	2,601	0	304,152	0	0	0	3,973	10/15/2038	2.C FE
..16527F-AB-0	Motion Finco Sarl-SECURED	B	06/07/2023	CALL 101.75		217,603	213,860	199,995	210,036	0	721	0	721	(9,401)	201,357	9,041	7,205	16,246	8,530	05/15/2025	2.A FE
..P4900*-AA-4	Gran Americas Usme Provi Senior Secured	D	05/31/2023	SINKING PAYMENT		136,299	136,299	136,299	136,299	0	0	0	0	0	136,299	0	0	0	1,729	03/31/2031	2.B PL
..P4900*-AB-2	Gran Americas Usme Provi Senior Secured	D	05/31/2023	SINKING PAYMENT		12,121	12,121	12,121	12,121	0	0	0	0	0	12,121	0	0	0	0	03/31/2031	2.B PL
..Y5008*-AA-2	Knausen Holding LLC Senior Secured Notes	D	04/15/2023	SINKING PAYMENT		752,400	752,400	752,400	752,400	0	0	0	0	0	752,400	0	0	0	35,795	07/15/2027	2.B PL
..72303#-AA-7			05/18/2023	CorpBond		695,911	0	0	0	0	0	0	0	0	695,911	0	0	0	0		1.E PL
..83416W-AA-1	Solar Star Funding LLC	B	06/30/2023	CorpBond		63,653	0	0	0	0	0	0	0	0	63,653	0	0	0	0		2.B FE
..581557-BE-4	McKesson Corp	A	06/30/2023	CorpBond		8,296,783	0	0	0	0	0	0	0	0	8,505,464	0	(208,681)	(208,681)	0		2.A FE
1109999999. Subtotal - Bonds - Industrial and Miscellaneous (Unaffiliated)						2,126,321,420	2,254,280,325	2,218,218,397	2,219,598,749	17,396	2,181,958	1,839,421	359,933	(38,369)	2,224,817,597	40,247	(98,536,424)	(98,496,177)	67,442,857	XXX	XXX
..21871X-AN-9	Corebridge Financial Inc-CRBG 6 7/8 12/1		05/31/2023	EXCHANGE OFFER		34,927,466	35,047,000	34,930,240	34,926,848	0	618	0	618	0	34,927,466	0	0	0	1,111,039	12/15/2052	2.C FE
..369604-BQ-5	General Electric Co-GE FLOAT PERP		06/30/2023	CALL 100		0	0	0	0	0	0	0	0	0	0	0	0	0	295,771	01/01/9999	3.A FE
..45685E-AG-1	Voya Financial Inc-JUNIOR SUBORDINATED B		05/15/2023	CALL 100		10,000,000	10,000,000	9,962,500	0	0	1,095	0	1,095	0	9,963,595	0	36,405	36,405	282,500	05/15/2053	2.C FE
..74251V-AL-6	PRINCIPAL FINANCIAL GROU-JR SUBORDINATED		04/07/2023	CALL 100		8,000,000	8,000,000	7,930,000	0	(92)	0	(92)	(92)	0	7,929,908	0	70,092	70,092	89,619	05/15/2055	2.B FE
..744320-BJ-0	Prudential Financial Inc-PRU 5 1/8 03/01		06/22/2023	BOFAMILSEC		11,961,600	13,440,000	13,440,000	13,440,000	0	0	0	0	0	13,440,000	0	(1,478,400)	(1,478,400)	914,573	03/01/2052	2.B FE
..744320-BK-7	Prudential Financial Inc-PRU 6 09/01/52		06/28/2023	BOFAMILSEC		19,368,468	20,221,000	20,243,065	20,242,314	0	(804)	0	(804)	0	20,241,511	0	(873,043)	(873,043)	1,046,729	09/01/2052	2.B FE
..759351-7Q-3	Reinsurance Group of Ame-SUBORDINATED		06/30/2023	CALL 25		50,000	200,000	5,000,000	4,147,583	0	33,969	0	33,969	0	4,181,551	0	(4,131,551)	(4,131,551)	0	09/15/2042	2.B FE
..857477-BA-0	State Street Corp-STT 5 5/8 PERP		04/06/2023	SUMRIDGE PARTNERS LL		1,880,000	2,000,000	1,560,000	1,567,966	0	(160)	0	(160)	0	1,567,806	0	312,194	312,194	92,500	01/01/9999	2.A FE
1309999999. Subtotal - Bonds - Hybrid Securities						86,187,534	88,908,000	93,065,805	74,324,711	0	34,626	0	34,626	0	92,251,837	0	(6,064,303)	(6,064,303)	3,832,731	XXX	XXX
..06760W-AC-0	Barings Middle Market CL-BMM 2021-1A A1	D	05/10/2023	WELLS FARGO		38,860,000	40,000,000	40,000,000	40,000,000	0	0	0	0	0	40,000,000	0	(1,140,000)	(1,140,000)	1,363,909	07/20/2033	1.A
..06763C-AE-7	Babson CLO Ltd/Cayman Is-BABSN LP-2A D	D	04/20/2023	PAYDOWN		2,962,730	2,962,730	2,962,730	2,962,730	0	0	0	0	0	2,962,730	0	0	0	33,331	01/20/2034	2.C
1509999999. Subtotal - Bonds - Parent, Subsidiaries and Affiliates						41,822,730	42,962,730	42,962,730	42,962,730	0	0	0	0	0	42,962,730	0	(1,140,000)	(1,140,000)	1,397,240	XXX	XXX
..00177#-AA-1	AMF Levered II, LLC - Revolver		06/07/2023	CA_CASH_CLOSE		390,000	390,000	390,000	0	0	0	0	0	0	390,000	0	0	0	4,248	03/26/2031	1.C PL
..00216C-AF-0	AQ SUNSHINE INC. - TERM LOAN B		06/30/2023	CA_CASH_CLOSE		981	981	981	981	0	0	0	0	0	981	0	0	0	0	04/15/2025	3.B PL
..00216C-AH-6	AQ SUNSHINE INC. - TRANCHE C TERM LOAN		06/30/2023	CA_CASH_CLOSE		469	469	469	469	0	0	0	0	0	469	0	0	0	0	04/15/2025	5.B GI
..00221*-AB-9	ASC Communications LLC 2022 Term Loan		04/25/2023	CA_CASH_CLOSE		11,709	11,709	11,521	11,521	0	0	0	0	0	11,520	0	189	189	273	07/15/2027	4.B Z
..00228*-AA-4	AMERICAN TECHNOLOGIES LLC - TERM LOAN		06/30/2023	CA_CASH_CLOSE		5,569	5,569	5,569	5,569	0	0	0	0	0	5,569	0	0	0	0	07/31/2026	1.F PL
..00228*-AB-2	ATI RESTORATION LLC - INITIAL DOTL		06/30/2023	CA_CASH_CLOSE		1,939	1,939	1,939	1,939	0	0	0	0	0	1,939	0	0	0	0	07/31/2026	1.F PL
..00233*-AA-5	ASF Cosmos LP/Term Loan USD 08/22 (CS Pa		06/30/2023	CA_CASH_CLOSE		2,223,120	2,223,120	2,223,120	0	0	0	0	0	0	2,223,120	0	0	0	0	12/31/2027	4.C Z
..00452#-AA-7	Accommodations Plus Technologies LLC/Ter		06/30/2023	CA_CASH_CLOSE		12,557	12,557	12,557	12,557	0	0	0	0	0	12,557	0	0	0	925	05/11/2024	4.B PL
..00453B-AB-6	Accurus Aerospace Corporation - 2022 A-1		06/30/2023	CA_CASH_CLOSE		9,997	9,997	9,847	9,847	0	0	0	0	0	9,847	0	150	150	0	04/05/2028	5.A

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Ident-ification	Description	For-ign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid-eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/(Decrease)	Current Year's (Amor-tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn-ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con-tractual Maturity Date	NAIC Desig-nation, NAIC Desig-nation Modifier and SVO Admini-strative Symbol
..00777Y-AD-8	Adviser Investments - 2022 1st Lien Term .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	1,095	1,095	1,073	1,073	0	0	0	0	0	1,073	0	22	22	0	08/31/2028	4.B PL
..00797*-AA-5	Aero Operating LLC/Term Loan 1/20 .....	.....	04/03/2023	CA_CASH_CLOSE .....	.....	1,113	1,113	1,113	1,113	0	0	0	0	0	1,113	0	0	0	0	02/07/2026	3.A PL
..00797*-AB-3	Aero Operating LLC/Delayed Draw Term Loa .....	.....	04/03/2023	CA_CASH_CLOSE .....	.....	319	319	319	319	0	0	0	0	0	319	0	0	0	0	02/07/2026	3.A PL
..00843@-AA-7	AffiniPay Midco, LLC/Term Loan 2/20 .....	.....	04/03/2023	CA_CASH_CLOSE .....	.....	1,883	1,883	1,883	1,883	0	0	0	0	0	1,883	0	0	0	91	03/02/2026	3.A PL
..00843@-AB-5	AFFINIPAY MIDCO LLC - INCREMENTAL TERM .....	.....	04/03/2023	CA_CASH_CLOSE .....	.....	189	189	189	189	0	0	0	0	0	189	0	0	0	9	03/02/2026	3.A PL
..00843@-AC-3	AFFINIPAY MIDCO LLC - 2ND AMENDMENT TL .....	.....	04/03/2023	CA_CASH_CLOSE .....	.....	469	469	469	469	0	0	0	0	0	469	0	0	0	23	03/02/2026	3.A PL
..00910#-AG-0	Air Comm Corporation LLC - 2021 Incremen .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	12,500	12,500	12,500	12,500	0	0	0	0	0	12,500	0	0	0	646	06/01/2027	4.B PL
..01370#-AA-4	Alcam Corporation/First Lien Term Loan .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	0	0	0	0	0	0	0	0	0	0	0	0	0	17,566	07/14/2025	5.A FE
..02124T-AA-1	Qatar Airways Senior Term Loa .....	.....	05/15/2023	CA_CASH_CLOSE .....	.....	568,106	568,106	565,840	565,840	0	0	0	0	0	565,840	0	2,266	2,266	7,500	05/06/2031	1.D PL
..03233*-AA-1	Amtech Software - Term Loan .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	6,818	6,818	6,818	6,818	0	0	0	0	0	6,818	0	0	0	226	11/02/2027	5.A
..03272*-AA-3	ANAQUA PARENT HOLDINGS INC. - TERM LOAN .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	744	744	744	744	0	0	0	0	0	744	0	0	0	0	04/10/2026	3.B PL
..03272*-AB-1	ANAQUA PARENT HOLDINGS INC. - DELAYED D .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	20	20	20	20	0	0	0	0	0	20	0	0	0	3	04/10/2026	4.A Z
..04250#-AC-9	ARMSTRONG TRANS GROUP LLC / MAXFR8 LLC T .....	.....	05/12/2023	CA_CASH_CLOSE .....	.....	77,000	77,000	75,268	75,268	0	0	0	0	0	75,267	0	1,733	1,733	0	06/18/2024	4.C
..05464#-AA-2	Axiom Merger Sub Inc./Facility B Term Lo .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	3,516	3,516	3,389	3,439	0	0	0	0	0	3,439	0	77	77	173	04/10/2024	3.B PL
..06683@-AA-7	BANYAN SOFTWARE HOLDINGS LLC - TERM LOA .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	1,050	1,050	1,050	1,050	0	0	0	0	0	1,050	0	0	0	10	10/30/2026	3.B PL
..06683@-AB-5	BANYAN SOFTWARE HOLDINGS LLC - DELAYED .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	600	600	600	600	0	0	0	0	0	600	0	0	0	5	10/30/2026	3.B PL
..07363*-AD-8	BEACON MOBILITY CORP AMEND NO 4 DDTL .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	0	0	0	0	0	0	0	0	0	0	0	0	0	184	05/22/2024	4.C Z
..08890@-AA-2	Beyond Risk - Term Loan .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	8,001	8,001	7,841	7,853	0	(6)	0	(6)	0	7,847	0	154	154	119	10/08/2027	4.C
..08890@-AB-0	Beyond Risk - Delayed Draw Term Loan .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	4,369	4,369	4,369	4,369	0	0	0	0	0	4,369	0	0	0	95	10/08/2027	4.C
..09173@-AA-8	Bitly - Term Loan B .....	.....	06/23/2023	CA_CASH_CLOSE .....	.....	424,888	424,888	418,515	418,655	0	0	0	0	0	418,655	0	6,233	6,233	18,001	11/22/2026	4.C
..00000-00-0	Fortis Payment Systems LLC - 2022 Term L .....	.....	05/16/2023	CA_CASH_CLOSE .....	.....	11,024	11,024	10,749	10,749	0	0	0	0	0	10,748	0	276	276	0	05/31/2026	4.C Z
..10483*-AC-9	BRAGG LIVE FOOD PRODUCTS LLC - TERM LOAN .....	.....	05/08/2023	CA_CASH_CLOSE .....	.....	105,923	105,923	105,923	105,923	0	0	0	0	0	105,923	0	0	0	6,259	12/29/2025	2.C PL
..10947U-AC-2	BrightSign - Term Loan .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	5,580	5,580	5,524	5,526	0	0	0	0	0	5,526	0	54	54	296	10/14/2027	3.A PL
..12464@-AA-0	CAI Software - Term Loan .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	9,873	9,873	9,676	9,676	0	0	0	0	0	9,676	0	197	197	548	12/10/2028	5.A
..12721#-AA-7	CVP Holdco, Inc./Delayed Draw Term Loan .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	1,292	1,292	1,292	1,292	0	0	0	0	0	1,292	0	0	0	76	10/31/2025	3.B PL
..12721#-AB-5	CVP Holdco Inc./Term Loan 10/19 .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	1,877	1,877	1,877	1,877	0	0	0	0	0	1,877	0	0	0	314	10/31/2025	3.B PL
..12721#-AC-3	CVP HOLDCO INC. - DELAYED DRAW TERM LOA .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	1,112	1,112	1,112	1,112	0	0	0	0	0	1,112	0	0	0	0	10/31/2025	3.B PL
..12756@-AA-7	Cogency Global - Term Loan .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	11,122	11,122	10,900	10,900	0	0	0	0	0	10,900	0	222	222	57	02/14/2028	4.C
..12758#-AB-1	CMFT RE Lending Sub MM, LLC - Term Loan .....	.....	06/23/2023	CA_CASH_CLOSE .....	.....	275,000	275,000	275,000	275,000	0	0	0	0	0	275,000	0	0	0	2,807	10/13/2027	1.F PL
..14318*-AA-6	CARLYLE SECURED LENDING III SPV, - Senio .....	.....	04/03/2023	CA_CASH_CLOSE .....	.....	2,400,000	2,400,000	2,400,000	2,400,000	0	0	0	0	0	2,400,000	0	0	0	2,961	09/30/2030	1.F Z
..14886M-AM-3	Checkout Holding Corp-CHKOUT TL EXIT 1L .....	.....	06/30/2023	MATURITY .....	.....	156,595	156,595	153,463	153,463	0	0	0	0	0	153,463	0	3,132	3,132	0	06/30/2026	4.C Z
..00000-00-0	RCC REAL ESTATE SPE 9 LLC -Series 2022-1 .....	.....	06/20/2023	CA_CASH_CLOSE .....	.....	117,062	117,062	117,062	117,062	0	0	0	0	0	117,062	0	0	0	6,628	12/22/2027	1.F Z
..15644G-B*-4	CENTRIC BRANDS INC. - REVOLVING LOAN (FI .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	73,021	73,021	73,021	73,021	0	0	0	0	0	73,021	0	0	0	0	10/09/2024	4.A PL
..15674@-AA-9	Cerberus SWIC II .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	(9,485,000)	(9,485,000)	(9,484,235)	(138,679)	0	0	0	0	0	(9,484,443)	0	(557)	(557)	0	10/20/2026	1.D
..16117L-BW-8	Charter Communications O-CHTR TL B1 1L U .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	10,204	10,204	8,674	9,180	0	0	0	0	0	9,179	0	1,025	1,025	112	04/30/2025	2.C FE
..18539#-AA-6	Cleaver-Brooks Inc - 2022 Term Loan .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	23,426	23,426	22,958	22,958	0	0	0	0	0	22,957	0	469	469	0	07/14/2028	4.C Z
..19076*-AA-7	COBALT BUYER SUB INC. - CLOSING DATE TE .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	0	0	0	0	0	0	0	0	0	0	0	0	0	39	10/02/2028	3.A PL
..19076*-AB-5	COBALT BUYER SUB INC. - DELAYED DRAW TE .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	0	0	0	0	0	0	0	0	0	0	0	0	0	12	10/02/2028	3.A PL
..21079#-AA-6	CONTINENTAL ACQUISITION HOLDINGS INC. - .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	1,526	1,526	1,526	1,526	0	0	0	0	0	1,526	0	0	0	0	01/20/2027	3.A PL
..21079#-AB-4	CONTINENTAL ACQUISITION HOLDINGS INC. - .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	551	551	551	551	0	0	0	0	0	551	0	0	0	0	01/20/2027	3.A PL
..21257@-AC-8	Convey Health Solutions Inc./Term Loan .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	3,454	3,454	3,454	3,454	0	0	0	0	0	3,454	0	0	0	250	09/04/2026	2.C PL
..23344U-AC-4	DS Admiral Bidco LLC-DSADBI TL 1L USD .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	11,250	11,250	11,250	11,250	0	0	0	0	0	11,250	0	0	0	638	03/16/2028	3.A PL
..23345U-AB-5	Disa Holdings Corp. - Delayed Draw Term .....	.....	04/03/2023	CA_CASH_CLOSE .....	.....	116	116	116	116	0	0	0	0	0	116	0	0	0	0	09/09/2028	3.A PL
..23345U-AD-1	Disa Holdings Corp. - Term Loan A .....	.....	04/03/2023	CA_CASH_CLOSE .....	.....	1,066	1,066	1,034	1,034	0	0	0	0	0	1,034	0	32	32	0	09/09/2028	3.A PL
..23363#-AB-5	DRS Holdings III Inc./Term Loan 11/19 .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	1,720	1,720	1,720	1,720	0	0	0	0	0	1,720	0	0	0	79	11/01/2025	4.A PL
..23363#-AC-3	DRS HOLDINGS III INC. - 2021 TERM LOAN .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	1,193	1,193	1,193	1,193	0	0	0	0	0	1,193	0	0	0	114	11/01/2025	3.A PL

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Identification	Description	For- eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid- eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor- tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn- ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con- tractual Maturity Date	NAIC Desig- nation, NAIC Desig- nation Modifier and SVO Admini- strative Symbol
..24360#-AC-6	DECOPAC INC. - TERM B LOAN		06/30/2023	CA_CASH_CLOSE		2,121	2,121	2,121	2,121	0	0	0	0	0	2,121	0	0	0	13	05/15/2028	3.B PL
..24823#-AA-1	DENALI HOLDCO LLC		06/30/2023	CA_CASH_CLOSE		937	937	937	937	0	0	0	0	0	937	0	0	0	0	09/15/2027	2.B PL
..25403#-AN-6	DILIGENT CORPORATION (FKA DIAMOND MERGER		06/30/2023	CA_CASH_CLOSE		7,050	7,050	7,050	7,050	0	0	0	0	0	7,050	0	0	0	0	08/04/2025	3.C PL
..25403#-AT-3	DILIGENT CORPORATION (FKA DIAMOND MERGER		06/30/2023	CA_CASH_CLOSE		469	469	464	465	0	0	0	0	0	465	0	4	4	172	08/04/2025	3.C PL
..25403#-AU-0	DILIGENT CORPORATION (FKA DIAMOND MERGER		06/30/2023	CA_CASH_CLOSE		938	938	938	938	0	0	0	0	0	938	0	0	0	20	08/04/2025	3.C PL
..26745L-AC-2	Dwyer Instruments Inc - Term Loan		06/30/2023	CA_CASH_CLOSE		3,376	3,376	3,309	3,309	0	0	0	0	0	3,308	0	68	68	0	07/01/2027	5.A
..26869#-AA-1	Standard Elevator Systems - Term Loan		06/30/2023	CA_CASH_CLOSE		12,373	12,373	12,125	12,128	0	0	0	0	0	12,129	0	244	244	294	12/02/2027	5.B GI
..26869#-AB-9	Standard Elevator Systems - Delayed Draw		06/30/2023	CA_CASH_CLOSE		8,129	8,129	8,129	8,129	0	0	0	0	0	8,129	0	0	0	255	12/02/2027	5.B GI
..26887#-AA-9	EP WEALTH ADVISORS LLC - TERM LOAN		06/30/2023	CA_CASH_CLOSE		1,275	1,275	1,275	1,275	0	0	0	0	0	1,275	0	0	0	105	09/04/2026	1.F PL
..26887#-AB-7	EP WEALTH ADVISORS LLC - DELAYED DRAW T		06/30/2023	CA_CASH_CLOSE		1,329	1,329	1,329	1,329	0	0	0	0	0	1,329	0	0	0	0	09/04/2026	1.F PL
..26888#-AA-0	EPS Nass Parent Inc. - Term Loan		06/30/2023	CA_CASH_CLOSE		1,142	1,142	1,142	1,142	0	0	0	0	0	1,142	0	0	0	51	04/19/2028	2.C PL
..28619#-AA-2	ELEMICA PARENT INC. - DELAYED DRAW TERM		06/30/2023	CA_CASH_CLOSE		0	0	0	0	0	0	0	0	0	0	0	0	0	16	09/18/2025	3.B PL
..28619#-AC-8	ELEMICA PARENT INC. - AMENDMENT NO. 1 T		06/30/2023	CA_CASH_CLOSE		0	0	0	0	0	0	0	0	0	0	0	0	0	9	09/18/2025	3.B PL
..28622#-AA-5	ELEVATION SERVICES PARENT HOLDINGS LLC		06/30/2023	CA_CASH_CLOSE		901	901	901	901	0	0	0	0	0	901	0	0	0	45	12/18/2026	3.A PL
..28622#-AB-3	ELEVATION SERVICES PARENT HOLDINGS LLC		06/30/2023	CA_CASH_CLOSE		1,205	1,205	1,205	1,205	0	0	0	0	0	1,205	0	0	0	75	12/18/2026	3.A PL
..29251#-AB-9	Encina Business Credit SPV LLC Revolving		06/21/2023	CA_CASH_CLOSE		18,080,000	18,080,000	18,080,000	7,680,000	0	0	0	0	0	18,080,000	0	0	0	0	07/07/2028	2.B PL
..29427#-AA-2	Goldcup 17308 AB/USD Term Loan 10/18		06/30/2023	CA_CASH_CLOSE		3,672	3,672	3,589	3,633	0	0	0	0	0	3,633	0	39	39	156	04/09/2026	3.B PL
..29643#-AA-0	EShipping LLC - Term Loan		06/30/2023	CA_CASH_CLOSE		186,724	186,724	182,989	183,081	0	0	0	0	0	183,082	0	3,642	3,642	0	11/05/2027	4.C
..29668#-AA-6	ESSENTIAL SERVICES HOLDING CORPORATION -		06/30/2023	CA_CASH_CLOSE		13,100	13,100	13,100	13,100	0	0	0	0	0	13,100	0	0	0	663	11/16/2026	3.B PL
..29668#-AB-4	ESSENTIAL SERVICES HOLDING CORPORATION -		06/30/2023	CA_CASH_CLOSE		6,982	6,982	6,982	6,982	0	0	0	0	0	6,982	0	0	0	352	11/16/2026	3.B PL
..29668#-AC-2	ESSENTIAL SERVICES HOLDING CORPORATION -		06/30/2023	CA_CASH_CLOSE		5,204	5,204	5,204	5,204	0	0	0	0	0	5,204	0	0	0	704	11/16/2026	3.B PL
..30301#-AA-1	FS CREIT FINANCE MM-1 LLC - Secured Term		06/30/2023	CA_CASH_CLOSE		0	0	0	(807,281)	0	0	0	0	0	0	0	0	0	0	09/20/2029	1.F PL
..30319#-AA-1	FSS Buyer LLC Initial Term Loan		06/30/2023	CA_CASH_CLOSE		18,633	18,633	18,260	18,278	0	0	0	0	0	18,278	0	355	355	632	08/31/2028	4.C
..32013#-AA-2	FIRST EAGLE DIRECT LENDING V-B, LLC - Se		05/09/2023	CA_CASH_CLOSE		3,072,464	3,072,464	3,072,464	3,072,464	0	0	0	0	0	3,072,464	0	0	0	0	06/16/2029	1.D PL
..35042#-AC-6	FOUNDATION CONSUMER BRANDS LLC - TERM L		04/19/2023	CA_CASH_CLOSE		2,115	2,115	2,115	2,115	0	0	0	0	0	2,115	0	0	0	0	10/01/2026	2.C PL
..35042#-AA-2	Foundation Finance Trust - Fixed Class A		06/15/2023	CA_CASH_CLOSE		7,567,068	7,567,068	7,544,292	7,544,292	0	0	0	0	0	7,544,292	0	22,776	22,776	0	10/15/2042	1.D PL
..36457W-AD-3	GALWAY BORROWER LLC - CLOSING DATE TERM		06/30/2023	CA_CASH_CLOSE		929	929	929	929	0	0	0	0	0	929	0	0	0	0	09/29/2028	4.A PL
..38870#-AG-8	GraphPad Software Inc. ProteinMetrics In		06/30/2023	CA_CASH_CLOSE		8,152	8,152	8,071	8,072	0	0	0	0	0	8,072	0	80	80	444	04/27/2027	5.A
..40348#-AB-9	Gutter Buyer, Inc. - Term Loan Tranche A		06/30/2023	CA_CASH_CLOSE		12,976	12,976	20,644	20,458	0	0	0	0	0	20,457	0	(7,481)	(7,481)	0	03/08/2025	3.A PL
..40406#-AD-4	HAI Acquisition Corporation/Term Loan 10		05/12/2023	CA_CASH_CLOSE		3,375,000	3,375,000	3,290,193	3,337,542	0	0	0	0	0	3,337,542	0	37,458	37,458	170,425	11/03/2025	2.C PL
..40481#-AA-8	HH - STELLA INC. - INITIAL TERM LOAN		06/30/2023	CA_CASH_CLOSE		1,204	1,204	1,204	1,204	0	0	0	0	0	1,204	0	0	0	0	04/24/2028	3.A PL
..40481#-AB-6	HH - STELLA INC. - DELAYED DRAW TERM LO		06/30/2023	CA_CASH_CLOSE		138	138	138	138	0	0	0	0	0	138	0	0	0	2	04/24/2028	3.A PL
..40489#-AA-2	HPS Mezzanine Partners 2019, L.P., MP 20		05/19/2023	CA_CASH_CLOSE		4,839,024	4,839,024	4,839,024	4,839,024	0	0	0	0	0	4,839,024	0	0	0	1,457	07/15/2030	1.F PL
..40490#-AB-7	HTI Technology & Industries - 2022 Term L		06/30/2023	CA_CASH_CLOSE		0	0	0	0	0	0	0	0	0	0	0	0	0	1	07/07/2025	4.C Z
..40490#-AB-7	HTI Technology & Industries - 2022 Delay		06/30/2023	CA_CASH_CLOSE		295	295	4	4	0	0	0	0	0	4	0	291	291	0	07/07/2025	4.C Z
..41902#-AA-9	Sigma Electric Manufacturing Corporation		06/30/2023	CA_CASH_CLOSE		82,320	82,320	80,667	81,760	0	0	0	0	0	81,760	0	560	560	1,624	10/31/2023	3.A PL
..41902#-AA-9	Sigma Electric Manufacturing Corporation		06/30/2023	CA_CASH_CLOSE		5,735	5,735	5,678	5,710	0	0	0	0	0	5,710	0	25	25	0	10/31/2023	3.A PL
..42258#-AA-7	HEAVY CONSTR SYS SPECIALISTS LLC INITIAL		06/30/2023	CA_CASH_CLOSE		11,404	11,404	11,175	11,180	0	0	0	0	0	11,180	0	224	224	189	11/16/2028	5.A
..42981#-AA-9	HIGH STREET BUYER INC. - DELAYED DRAW T		06/30/2023	CA_CASH_CLOSE		939	939	939	939	0	0	0	0	0	939	0	0	0	0	04/14/2028	3.B PL
..42983#-AA-7	HIGH STREET BUYER INC. - TERM LOAN B		06/30/2023	CA_CASH_CLOSE		700	700	700	700	0	0	0	0	0	700	0	0	0	11	04/14/2028	3.B PL
..42983#-AB-5	HIGH STREET BUYER INC. - DELAYED DRAW T		06/30/2023	CA_CASH_CLOSE		405	405	405	405	0	0	0	0	0	405	0	0	0	7	04/14/2028	3.B PL
..42983#-AC-3	HIGH STREET BUYER INC. - DELAYED DRAW T		06/30/2023	CA_CASH_CLOSE		921	921	921	921	0	0	0	0	0	921	0	0	0	0	04/14/2028	3.B PL
..44961#-AB-1	Implus Footcare LLC/Initial Term Loan 0		06/30/2023	CA_CASH_CLOSE		2,209	2,209	2,209	2,209	0	0	0	0	0	2,209	0	0	0	56	04/30/2024	3.C PL
..45054#-AA-6	ITI Intermodal - Term Loan		06/30/2023	CA_CASH_CLOSE		3,237	3,237	3,168	3,168	0	0	0	0	0	3,168	0	69	69	100	12/20/2027	2.C PL
..45054#-AE-8	ITI Intermodal Inc. - 2023 Columbia Dela		06/30/2023	CA_CASH_CLOSE		499	499	499	0	0	0	0	0	0	499	0	0	0	0	12/21/2027	4.C Z
..45321#-AA-5	Implus Footcare LLC/Spenco Incremental		06/30/2023	CA_CASH_CLOSE		344	344	343	344	0	0	0	0	0	344	0	0	0	0	04/30/2024	3.C PL

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Ident-ification	Description	For-eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid-eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/(Decrease)	Current Year's (Amor-tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn-ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con-tractual Maturity Date	NAIC Desig-nation, NAIC Desig-nation Modifier and SVO Admini-strative Symbol
..45763F-AN-8	Inmar Inc-INMARI TL 1L USD .....	.....	06/21/2023	CA_CASH_CLOSE .....	.....	2,474,129	2,474,129	2,350,422	2,416,992	0	0	0	0	0	2,416,993	0	57,136	57,136	0	05/01/2024	4.C FE
..46139Z-MM-8	Invesco Private Credit Opportunities Hol .....	.....	04/17/2023	CA_CASH_CLOSE .....	.....	2,000,000	2,000,000	2,000,000	2,000,000	0	0	0	0	0	2,000,000	0	0	0	5,455	09/23/2032	1.F Z
..47231#-MQ-8	JEFFERIES DIRECT LENDING OFFSHORE FUND I .....	.....	05/12/2023	CA_CASH_CLOSE .....	.....	231,843	231,843	231,843	231,843	0	0	0	0	0	231,843	0	0	0	0	06/17/2031	2.B Z
..47231#-MR-6	JEFFERIES DIRECT LENDING OFFSHORE FUND I .....	.....	05/12/2023	CA_CASH_CLOSE .....	.....	120,843	120,843	120,843	120,843	0	0	0	0	0	120,843	0	0	0	0	06/17/2031	2.B Z
..47231#-MS-4	JEFFERIES DIRECT LENDING OFFSHORE FUND I .....	.....	05/12/2023	CA_CASH_CLOSE .....	.....	437,451	437,451	437,451	437,451	0	0	0	0	0	437,451	0	0	0	0	06/17/2031	3.B Z
..47235#-AA-2	JEFFERIES DIRECT LENDING FUND II SPE LLC .....	.....	05/12/2023	CA_CASH_CLOSE .....	.....	1,212,269	1,212,269	1,212,269	1,212,269	0	0	0	0	0	1,212,269	0	0	0	0	06/17/2031	2.C PL
..47236#-AA-3	JEFFERIES DIRECT LENDING FD II C SPE LLC .....	.....	05/12/2023	CA_CASH_CLOSE .....	.....	240,229	240,229	240,229	240,229	0	0	0	0	0	240,229	0	0	0	2	06/17/2031	2.B Z
..48240#-AA-5	K2 Insurance Services LLC/Term Loan 7/1 .....	.....	05/01/2023	CA_CASH_CLOSE .....	.....	4,653,775	4,653,775	4,530,826	4,592,200	0	0	0	0	0	4,592,200	0	61,575	61,575	188,968	07/01/2026	2.B Z
..48773#-AA-8	Kellermeyer Bergensons Services LLC/Ter .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	1,800	1,800	1,782	1,787	0	0	0	0	0	1,787	0	13	13	48	11/07/2026	4.A PL
..48773#-AB-6	Kellermeyer Bergensons Services LLC/202 .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	396	396	396	396	0	0	0	0	0	396	0	0	0	11	11/07/2026	4.A PL
..48773#-AC-4	KELLERMAYER BERGENSONS SERVICES LLC - 2 .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	23,590	23,590	23,590	23,590	0	0	0	0	0	23,590	0	0	0	0	11/07/2026	4.A PL
..48773#-AD-2	KELLERMAYER BERGENSONS SERVICES LLC - A .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	10,181	10,181	9,977	9,995	0	0	0	0	0	9,995	0	186	186	271	11/07/2026	4.A PL
..48881#-AB-5	Kene Acquisition Inc./Term Loan 8/19 .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	3,081	3,081	3,003	3,030	0	0	0	0	0	3,030	0	51	51	137	08/10/2026	3.B PL
..49375#-AA-0	DistroKid Senior Term Loa .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	17,414	17,414	17,065	17,080	0	0	0	0	0	17,080	0	334	334	923	09/30/2027	3.B GI
..000000-00-0	Technosylva - Tranche A Term Loan .....	.....	05/31/2023	CA_CASH_CLOSE .....	.....	1,494	1,494	1,464	1,464	0	0	0	0	0	1,464	0	30	30	0	09/15/2028	4.C Z
..50050#-AC-6	KONA BUYER LLC 2022 INCREMENTAL TERM LN .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	166,667	166,667	163,333	163,333	0	0	0	0	0	163,334	0	3,333	3,333	4,078	12/11/2027	4.B Z
..50541#-AA-5	Laboratories Bidco LLC/Term Loan 9/19 .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	1,133	1,133	1,133	1,133	0	0	0	0	0	1,133	0	0	0	129	07/23/2027	3.B PL
..50541#-AB-3	Laboratories Bidco LLC/Second Amendment .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	180	180	180	180	0	0	0	0	0	180	0	0	0	20	07/23/2027	3.B PL
..50541#-AC-1	LABORATORIES BIDCO LLC - THIRD AMENDMENT .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	1,151	1,151	1,151	1,151	0	0	0	0	0	1,151	0	0	0	132	07/23/2027	3.B PL
..50541#-AD-9	LABORATORIES BIDCO LLC - TL .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	5,445	5,445	5,445	5,445	0	0	0	0	0	5,445	0	0	0	504	07/23/2027	3.B PL
..50541#-AE-7	LABORATORIES BIDCO LLC - DELAYED DRAW TE .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	0	0	0	0	0	0	0	0	0	0	0	0	0	9	07/23/2027	3.B Z
..51206#-AA-9	LAKERS BUYER INC. - TERM LOAN .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	1,177	1,177	1,177	1,177	0	0	0	0	0	1,177	0	0	0	58	03/22/2027	3.B PL
..51206#-AB-7	LAKERS BUYER INC. - INITIAL DELAYED DRA .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	1,110	1,110	1,110	1,110	0	0	0	0	0	1,110	0	0	0	13	03/22/2027	3.B PL
..51272*-AA-1	LeadsOnline - Term Loan .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	0	0	0	0	0	0	0	0	0	0	0	0	0	127	02/07/2028	5.B GI
..53173#-AA-4	LIDO ADVISORS LLC - INITIAL TERM LOAN .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	1,117	1,117	1,117	1,117	0	0	0	0	0	1,117	0	0	0	65	06/15/2027	2.C PL
..53173#-AB-2	LIDO ADVISORS LLC - DELAYED DRAW TERM L .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	254	254	254	254	0	0	0	0	0	254	0	0	0	8	06/15/2027	4.B Z
..53186*-AB-1	LIFE EXTENSION INSTITUTE INC RESTATEMENT .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	0	0	0	0	0	0	0	0	0	0	0	0	0	156	02/19/2024	5.A
..55183*-AC-7	Lynx Franchising LLC - 2021-09 Increment .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	14,757	14,757	14,462	14,462	0	0	0	0	0	14,462	0	295	295	263	12/23/2026	4.C
..55371*-AU-9	MRI Software LLC/Term Loan 2/20 .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	3,524	3,524	3,524	3,524	0	0	0	0	0	3,524	0	0	0	0	02/10/2026	4.A PL
..56629#-AA-9	MARCO NE YELLOWSTONE BUYER INC. - TERM LO .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	816	816	800	801	0	0	0	0	0	801	0	15	15	0	06/23/2028	3.C PL
..56629#-AA-9	MARCO NE YELLOWSTONE BUYER INC. - DELAYED .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	0	0	0	0	0	0	0	0	0	0	0	0	0	11	06/23/2028	3.B PL
..57233#-AB-1	Marshall Excelsior - Term Loan .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	1,144	1,144	1,124	1,124	0	0	0	0	0	1,124	0	20	20	59	02/18/2028	4.C
..57780#-AA-2	MAVERICK ACQUISITION INC. - TERM LOAN .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	780	780	780	780	0	0	0	0	0	780	0	0	0	0	06/01/2027	4.C PL
..57810J-AC-2	Amynta Agency Borrower I-MAYAGE TL B 1L .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	0	0	0	0	0	0	0	0	0	0	0	0	0	40,681	02/28/2025	4.C FE
..59509#-AA-6	Micromeritics Instrument Corp./Term Loan .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	691	691	691	691	0	0	0	0	0	691	0	0	0	14	12/18/2025	2.B PL
..60510M-#-5	Mission Lane Credit Card Master Trust - .....	.....	05/24/2023	CA_CASH_CLOSE .....	.....	4,400,000	4,400,000	4,400,000	1,466,667	0	0	0	0	0	4,400,000	0	0	0	0	10/15/2027	2.B PL
..60510M-#-8	Mission Lane Credit Card Master Trust - .....	.....	05/24/2023	CA_CASH_CLOSE .....	.....	2,200,000	2,200,000	2,200,000	733,333	0	0	0	0	0	2,200,000	0	0	0	0	10/15/2027	3.A PL
..60937#-AA-8	MONICA HOLDCO (US) INC. - TERM LOAN .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	3,958	3,958	3,958	3,958	0	0	0	0	0	3,958	0	0	0	0	01/07/2028	2.C PL
..62900*-AA-9	NCWS INTERMEDIATE INC. - DELAYED DRAW T .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	216	216	216	216	0	0	0	0	0	216	0	0	0	2	12/29/2026	3.A PL
..62900*-AB-7	NCWS INTERMEDIATE INC. - CLOSING DATE T .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	722	722	722	722	0	0	0	0	0	722	0	0	0	54	12/29/2026	3.A PL
..62907#-AA-0	NEFCO Holding Company, LLC - Term Loan .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	2,615	2,615	2,563	2,563	0	0	0	0	0	2,563	0	52	52	0	08/05/2028	4.C Z
..62907#-AB-8	NEFCO Holding Company, LLC - Delayed Dra .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	198	198	198	198	0	0	0	0	0	198	0	0	0	0	08/05/2028	4.C Z
..62907#-AC-6	NEFCO Holding Company, LLC - Delayed Dra .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	6	6	6	6	0	0	0	0	0	6	0	0	0	0	08/05/2028	4.C Z
..62907#-AD-4	NEFCO Holding Company, LLC - Delayed Dra .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	476	476	476	476	0	0	0	0	0	476	0	0	0	0	08/05/2028	4.C Z
..62931*-AA-2	NMC Skincare Intermediate Holdings II L .....	.....	06/30/2023	CA_CASH_CLOSE .....	.....	2,917	2,917	2,849	2,885	0	0	0	0	0	2,884	0	33	33	141	10/31/2024	3.B PL

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Identification	Description	For- eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid- eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor- tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn- ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con- tractual Maturity Date	NAIC Desig- nation, NAIC Desig- nation Modifier and SVO Admini- strative Symbol
..62931*-AC-8	NMC Skincare Intermediate Holdings II L		06/30/2023	CA_CASH_CLOSE		973	973	973	973	0	0	0	0	0	973	0	0	0	47	10/31/2024	3.B PL
..63086*-AA-3	Narda-MITEQ - Incremental Term Loan		06/30/2023	CA_CASH_CLOSE		2,076	2,076	2,039	2,040	0	0	0	0	0	2,040	0	36	36	53	12/06/2027	5.B GI
..64027*-AA-3	NELIPAK HOLDINGS US TL L+425 07/02/2026		06/30/2023	CA_CASH_CLOSE		3,145	3,145	3,082	3,105	0	0	0	0	0	3,104	0	41	41	139	07/02/2026	3.A PL
..64027*-AB-1	NELIPAK HOLDING INC TL L+425 07/02/2026		06/30/2023	CA_CASH_CLOSE		469	469	459	463	6	0	0	6	0	463	0	6	6	31	07/02/2026	3.A PL
..65658*-AA-2	NORTH HAVEN FALCON BUYER LLC - TERM LOA		06/30/2023	CA_CASH_CLOSE		1,410	1,410	1,410	1,410	0	0	0	0	0	1,410	0	0	0	0	05/19/2027	3.B PL
..65658*-AB-0	NORTH HAVEN FALCON BUYER LLC - DELAYED		06/30/2023	CA_CASH_CLOSE		117	117	117	117	0	0	0	0	0	117	0	0	0	2	05/19/2027	3.B PL
..65716*-AB-4	NORTH AMERICAN SCIENCE ASSOCIATES INC.		06/30/2023	CA_CASH_CLOSE		305	305	305	305	0	0	0	0	0	305	0	0	0	9	09/15/2027	2.C PL
..65716*-AA-4	NORTH AMERICAN SCIENCE ASSOCIATES INC.		06/30/2023	CA_CASH_CLOSE		963	963	963	963	0	0	0	0	0	963	0	0	0	44	09/15/2027	2.C PL
..65716*-AB-2	NORTH AMERICAN SCIENCE ASSOCIATES INC.		06/30/2023	CA_CASH_CLOSE		280	280	280	280	0	0	0	0	0	280	0	0	0	0	09/15/2027	2.C PL
..66703*-AA-9	Northstar Recycling - Senior Term Loan		06/30/2023	CA_CASH_CLOSE		6,464	6,464	6,335	6,340	0	0	0	0	0	6,340	0	124	124	0	10/01/2027	4.C
..67096*-AA-0	OMH-HealthEdge Holdings LLC/Term Loan 9		06/30/2023	CA_CASH_CLOSE		1,722	1,722	1,722	1,722	0	0	0	0	0	1,722	0	0	0	76	10/24/2025	2.A PL
..67096*-AC-6	OMH-HEALTHEDGE HOLDINGS LLC - FIRST AME ...		06/30/2023	CA_CASH_CLOSE		999	999	999	999	0	0	0	0	0	999	0	0	0	44	10/24/2025	2.A PL
..67102*-AA-4	ORCC FINANCING II LLC		04/17/2023	CA_CASH_CLOSE		80,000,000	80,000,000	80,000,000	80,000,000	0	0	0	0	0	80,000,000	0	0	0	2,404,646	10/10/2026	1.C
..67116*-AA-4	OSP HAMILTON PURCHASER LLC INITIAL TERM		06/30/2023	CA_CASH_CLOSE		10,992	10,992	10,772	10,773	0	0	0	0	0	10,773	0	219	219	283	12/27/2027	5.B GI
..67117*-AA-7	OA BUYER INC INITIAL TERM LN		06/30/2023	CA_CASH_CLOSE		9,361	9,361	9,174	9,174	0	0	0	0	0	9,174	0	187	187	317	12/20/2028	4.C
..68687*-AA-3	ORO Funding I LLC - Term Loan		06/15/2023	CA_CASH_CLOSE		927,137	927,137	927,137	927,137	0	0	0	0	0	927,137	0	0	0	18,321	05/25/2029	1.E PL
..69429*-AA-4	PDQ (PDQ TOPCO LP) First Lien Term		06/30/2023	CA_CASH_CLOSE		22,187	22,187	22,187	22,187	0	0	0	0	0	22,187	0	0	0	529	08/27/2027	5.A
..69429*-AB-2	PDQ (PDQ TOPCO LP) DDTL		06/30/2023	CA_CASH_CLOSE		15,193	15,193	15,193	15,193	0	0	0	0	0	15,193	0	0	0	362	08/27/2027	5.A
..70216*-AA-1	PARTNERS GROUP PRIVATE EQUITY II, LLC -		06/20/2023	CA_CASH_CLOSE		15,750,000	15,750,000	15,750,000	15,750,000	0	0	0	0	0	15,750,000	0	0	0	200,142	06/09/2032	1.F PL
..70466*-AA-6	Polymer Solutions Group Holdings LLC - T		06/30/2023	CA_CASH_CLOSE		17,524	17,524	17,524	17,524	0	0	0	0	0	17,524	0	0	0	333	07/01/2023	3.B Z
..70559*-AA-4	Pegasus Global Enterprise Holdings LLC/		06/30/2023	CA_CASH_CLOSE		4,139	4,139	4,032	4,078	0	0	0	0	0	4,078	0	61	61	382	05/29/2025	3.A PL
..70559*-AB-2	Pegasus Global Enterprise Holdings LLC/		06/30/2023	CA_CASH_CLOSE		1,190	1,190	1,190	1,190	0	0	0	0	0	1,190	0	0	0	87	05/29/2025	3.A PL
..70559*-AD-8	Pegasus Global Enterprise Holdings LLC		06/30/2023	CA_CASH_CLOSE		0	0	0	0	0	0	0	0	0	0	0	0	0	32	05/29/2025	3.A PL
..70559*-AE-6	PEGASUS GLOBAL ENTERPRISE HOLDINGS LLC		06/30/2023	CA_CASH_CLOSE		1,120	1,120	1,120	1,120	0	0	0	0	0	1,120	0	0	0	86	05/29/2025	3.A PL
..70559*-AF-3	PEGASUS GLOBAL ENTERPRISE HOLDINGS LLC		06/30/2023	CA_CASH_CLOSE		519	519	519	519	0	0	0	0	0	519	0	0	0	25	05/29/2025	3.A Z
..71517*-AD-1	PES Holdings LLC-PHIENE PIK-TERM C-EXIT		06/30/2023	MATURITY		1,977,949	1,977,949	89,585	0	0	0	1,534,345	(1,534,345)	0	77,766	0	1,900,183	1,900,183	0	06/30/2023	6. *
..71667*-AA-3	Petroleum Service Group LLC/Delayed Draw		06/30/2023	CA_CASH_CLOSE		273	273	273	273	0	0	0	0	0	273	0	0	0	0	07/23/2025	3.B PL
..71667*-AB-1	Petroleum Service Group LLC/Term Loan 7/		06/30/2023	CA_CASH_CLOSE		13,702	13,702	13,397	13,521	0	0	0	0	0	13,521	0	181	181	0	07/23/2025	3.B PL
..73103*-AA-9	Polara - Term Loan		06/30/2023	CA_CASH_CLOSE		3,634	3,634	3,561	3,562	0	0	0	0	0	3,562	0	72	72	86	12/03/2027	5.B GI
..73103*-AB-7	Polara - 2022 Incremental Term Loan		06/30/2023	CA_CASH_CLOSE		3,342	3,342	3,275	3,275	0	0	0	0	0	3,275	0	67	67	79	12/03/2027	5.B GI
..74140*-AA-0	Project Potter Buyer LLC - Term Loan		06/30/2023	CA_CASH_CLOSE		6,838	6,838	6,838	6,838	0	0	0	0	0	6,838	0	0	0	238	04/17/2027	4.C Z
..74140*-AB-8	PROJECT POTTER BUYER LLC - 2020 INCREME		06/30/2023	CA_CASH_CLOSE		1,503	1,503	1,503	1,503	0	0	0	0	0	1,503	0	0	0	52	04/23/2027	3.C Z
..74140*-AC-6	PROJECT POTTER BUYER LLC - TERM LOAN		06/30/2023	CA_CASH_CLOSE		1,708	1,708	1,708	1,708	0	0	0	0	0	1,708	0	0	0	59	04/23/2027	3.C Z
..74140*-AD-4	PROJECT POTTER BUYER LLC - DELAYED DRAW		06/30/2023	CA_CASH_CLOSE		579	579	579	579	0	0	0	0	0	579	0	0	0	20	04/23/2027	3.C Z
..74142K-AF-6	Pretium Packaging, LLC First lien term		06/30/2023	CA_CASH_CLOSE		1,480	1,480	1,472	1,472	0	0	0	0	0	1,473	0	7	7	16	10/02/2028	5.A FE
..74273J-AE-3	Pro Mach Inc. First Lien Term		06/30/2023	CA_CASH_CLOSE		5,187	5,187	5,187	5,187	0	0	0	0	0	5,187	0	0	0	0	08/31/2028	4.C FE
..74309*-AA-7	PRODUCTION RESOURCE GROUP L.L.C. - DELA		06/30/2023	CA_CASH_CLOSE		6,567	6,567	6,567	6,567	0	0	0	0	0	6,567	0	0	0	0	08/21/2024	4.C PL
..74309*-AB-5	PRG 9/20 Last Out		06/30/2023	CA_CASH_CLOSE		2,761	2,761	2,761	2,761	0	0	0	0	0	2,761	0	0	0	0	08/21/2024	4.C PL
..74309*-AC-3	PRODUCTION RESOURCE GROUP L.L.C. - DELA		06/30/2023	CA_CASH_CLOSE		359	359	359	359	0	0	0	0	0	359	0	0	0	0	08/21/2024	5.B GI
..74719*-AA-1	Pyramid Management Advisors LLC/Term Lo		06/30/2023	CA_CASH_CLOSE		1,463,284	1,463,284	1,463,284	1,461,453	0	0	0	0	0	1,463,284	0	0	0	64,329	07/15/2023	3.C PL
..74719*-AB-9	Pyramid Management Advisors LLC/Delayed		06/30/2023	CA_CASH_CLOSE		552,062	552,062	552,062	551,369	0	0	0	0	0	552,062	0	0	0	22,147	07/15/2023	3.C PL
..74923*-AB-3	RoadOne Intermodal Logistics - Term Loan		06/30/2023	CA_CASH_CLOSE		3,062	3,062	2,960	0	0	0	0	0	0	2,960	0	102	102	0	12/30/2028	4.C Z
..74923*-AC-1	R1 HLDGS LLC DELAYED DRAW TERM LN		06/30/2023	CA_CASH_CLOSE		239	239	239	239	0	0	0	0	0	239	0	0	0	0	12/30/2028	4.C Z
..75000*-AE-8	RSC Acquisition Inc./Term Loan 10/19		06/30/2023	CA_CASH_CLOSE		1,611	1,611	1,611	1,611	0	0	0	0	0	1,611	0	0	0	76	10/30/2026	3.C PL
..75046T-AB-0	Radius Aerospace Inc-RADAER TL 1L USD		06/30/2023	CA_CASH_CLOSE		892	892	877	884	0	0	0	0	0	884	0	8	8	45	03/29/2025	3.B Z
..75279*-AA-4	RANDYS HLDGS INC INITIAL TERM LN		06/30/2023	CA_CASH_CLOSE		4,137	4,137	4,013	4,013	0	0	0	0	0	4,013	0	124	124	0	10/31/2028	3.B PL

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Ident- ification	Description	For- eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid- eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor- tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn- ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con- tractual Maturity Date	NAIC Desig- nation, NAIC Desig- nation Modifier and SVO Admini- strative Symbol
..75645@-AA-9	Red Cedar Holdings BLP Cl A Ln		05/25/2023	CA_CASH_CLOSE		3,467,100	3,467,100	3,467,100	3,467,100	0	0	0	0	0	3,467,100	0	0	0	60,386	08/10/2030	1.0 Z
..75734@-AB-9	Reddy Ice Holdings Inc./Term Loan 7/19		06/30/2023	CA_CASH_CLOSE		11,843	11,843	11,465	11,622	0	0	0	0	0	11,622	0	221	221	629	07/01/2025	2.B Z
..75988*-AA-6	RENOVATION ACQUISITION INC TERM LOAN		06/30/2023	CA_CASH_CLOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	315	11/15/2027	4.C
..7602@-AA-4	REPAIRIFY INC. - INITIAL TERM LOAN		06/30/2023	CA_CASH_CLOSE		938	938	938	938	0	0	0	0	0	938	0	0	0	0	06/14/2027	1.6 PL
..78013#-AA-5	ROYAL BUYER LLC INITIAL TERM LN		06/30/2023	CA_CASH_CLOSE		4,550	4,550	4,459	4,459	0	0	0	0	0	4,459	0	91	91	0	08/31/2028	4.C Z
..78029#-AB-5	RMA Companies - Term Loan		06/30/2023	CA_CASH_CLOSE		4,300	4,300	4,214	4,214	0	0	0	0	0	4,214	0	86	86	30	12/30/2026	2.B PL
..78432@-AB-8	SFE Intermediate HoldCo LLC/Incremental		06/30/2023	CA_CASH_CLOSE		909	909	891	901	0	0	0	0	0	901	0	8	8	36	07/31/2024	2.B PL
..78472Z-MM-6	SPV FACILITY I LLC - Senior Secured Revo		06/01/2023	CA_CASH_CLOSE		150,000	150,000	150,000	0	0	0	0	0	0	150,000	0	0	0	0	03/31/2033	1.F Z
..78488C-AH-3	Seallworld Parks & Entertainment Inc. - 2		06/30/2023	CA_CASH_CLOSE		7,500	7,500	7,425	7,429	0	0	0	0	0	7,429	0	71	71	188	08/25/2028	3.C FE
..78494*-AA-7	SPC RECEIVABLES FDG II TR SEC'D REV LN FA		06/20/2023	CA_CASH_CLOSE		13,938,335	13,938,335	13,938,335	13,938,335	0	0	0	0	0	13,938,335	0	0	0	0	10/19/2029	1.6 PL
..78642#-AA-4	SAFE HOME SECURITY INC. - TERM LOAN		04/03/2023	CA_CASH_CLOSE		1,440	1,440	1,440	1,440	0	0	0	0	0	1,440	0	0	0	82	08/04/2024	2.C PL
..78642#-AB-2	SAFE HOME SECURITY INC. - DELAYED DRAW T		04/03/2023	CA_CASH_CLOSE		113	113	113	113	0	0	0	0	0	113	0	0	0	1	08/04/2024	2.C PL
..79400@-AA-6	Saldon Holdings Inc./First Amendment Te		06/30/2023	CA_CASH_CLOSE		3,338	3,338	3,304	3,318	0	0	0	0	0	3,319	0	19	19	192	03/13/2025	3.B PL
..79400@-AB-4	Saldon Holdings Inc./Term Loan 3/19		06/30/2023	CA_CASH_CLOSE		26,080	26,080	25,428	25,732	0	0	0	0	0	25,732	0	348	348	1,591	03/13/2025	3.B PL
..79400@-AC-2	SALDON HOLDINGS INC. - SECOND AMENMENT		06/30/2023	CA_CASH_CLOSE		1,814	1,814	1,814	1,814	0	0	0	0	0	1,814	0	0	0	115	03/13/2025	5.B GI
..80586#-AB-6	Scaled Agile Inc. - 2021 Unitranche Term		06/30/2023	CA_CASH_CLOSE		8,565	8,565	8,567	8,567	0	(1)	0	(1)	0	8,566	0	174	174	0	12/16/2028	2.B PL
..82565#-AA-9	SHUR-OO ACQUISITION INC. - TERM LOAN		06/30/2023	CA_CASH_CLOSE		8,437	8,437	8,437	8,437	0	0	0	0	0	8,437	0	0	0	0	06/30/2027	4.C
..83176*-AA-2	Smartling Inc. - Term Loan		06/30/2023	CA_CASH_CLOSE		7,586	7,586	7,586	7,586	0	0	0	0	0	7,586	0	0	0	131	11/08/2027	5.B GI
..000000-00-0	Atreides Funding Trust - Pass-Through In		06/20/2023	CA_CASH_CLOSE		2,674,416	2,674,416	2,674,416	2,674,416	0	0	0	0	0	2,674,416	0	0	0	386	11/18/2083	1.F Z
..83425*-AA-1	SOLO BUYER LP INITIAL TERM LN		06/30/2023	CA_CASH_CLOSE		5,652	5,652	5,510	5,510	0	0	0	0	0	5,511	0	141	141	(28)	12/01/2029	5.B GI
..84724#-AA-3	Sparus Holdings LLC - 1st Lien Term Loan		06/30/2023	CA_CASH_CLOSE		3,226	3,226	3,153	3,153	0	0	0	0	0	3,153	0	73	73	0	03/19/2027	4.C Z
..84724#-AB-1	Sparus Holdings LLC - Delayed Draw Term		06/30/2023	CA_CASH_CLOSE		509	509	509	509	0	0	0	0	0	509	0	0	0	0	03/19/2027	4.C Z
..84724@-AA-5	Spatial Business Systems - Senior Term L		06/30/2023	CA_CASH_CLOSE		2,539	2,539	2,476	2,476	0	0	0	0	0	2,476	0	63	63	0	09/30/2028	4.C Z
..84967#-AA-9	SPRING INSURANCE SOLUTIONS LLC - INITIA		06/30/2023	CA_CASH_CLOSE		1,108	1,108	1,108	1,108	0	0	0	0	0	1,108	0	0	0	0	11/24/2025	3.A PL
..84967#-AB-7	SPRING INSURANCE SOLUTIONS LLC - DELAYE		06/30/2023	CA_CASH_CLOSE		188	188	188	188	0	0	0	0	0	188	0	0	0	0	11/24/2025	3.A PL
..85789#-AA-2	STEALTH HOLDING LLC - U.S. INITIAL TERM		04/03/2023	CA_CASH_CLOSE		575	575	575	575	0	0	0	0	0	575	0	0	0	0	03/02/2026	3.C PL
..86662#-AA-2	SUN ACQUIRER CORP		06/30/2023	CA_CASH_CLOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	150	09/08/2028	3.B PL
..86662#-AB-0	SUN ACQUIRER CORP		06/30/2023	CA_CASH_CLOSE		1,733	1,733	1,733	1,733	0	0	0	0	0	1,733	0	0	0	49	09/08/2028	3.B PL
..86738*-AA-6	Sunk Rock Foundry Partners LP/Term Loan		06/30/2023	CA_CASH_CLOSE		31,641	31,641	31,005	31,426	0	0	0	0	0	31,426	0	215	215	836	10/31/2023	3.A PL
..86822@-AA-1	SUPERJET BUYER LLC INITIAL TERM LN		06/30/2023	CA_CASH_CLOSE		11,587	11,587	11,356	11,356	0	0	0	0	0	11,355	0	232	232	607	12/30/2027	5.A
..87300*-AB-1	THG Acquisition LLC - 2019 Term Loan		06/30/2023	CA_CASH_CLOSE		1,063	1,063	1,063	1,063	0	0	0	0	0	1,063	0	0	0	74	12/02/2026	4.C
..87300*-AC-8	THG ACQUISITION LLC Delayed Draw Term Ln		06/30/2023	CA_CASH_CLOSE		298	298	298	298	0	0	0	0	0	298	0	0	0	19	12/02/2026	4.C
..87300*-AD-6	THG Acquisition LLC - 2020 Term Loan		06/30/2023	CA_CASH_CLOSE		875	875	875	875	0	0	0	0	0	875	0	0	0	61	12/02/2026	3.A PL
..87300*-AE-4	THG Acquisition LLC - 2020 Delayed Draw		06/30/2023	CA_CASH_CLOSE		2,920	2,920	2,920	2,920	0	0	0	0	0	2,920	0	0	0	179	12/02/2026	3.A PL
..87304@-AA-6	SECOND AMENDMENT INCREMENTAL TERM LOAN -		06/30/2023	CA_CASH_CLOSE		753	753	753	753	0	0	0	0	0	753	0	0	0	17	08/30/2026	3.B PL
..87304@-AB-4	TOP HAWKER INTERMEDIATE LLC - DELAYED DR		06/30/2023	CA_CASH_CLOSE		836	836	836	836	0	0	0	0	0	836	0	0	0	34	08/28/2026	3.B PL
..87326#-AC-4	TA/WEG HOLDINGS LLC - AUGUST 2021 DELAY		04/03/2023	CA_CASH_CLOSE		130	130	130	130	0	0	0	0	0	130	0	0	0	0	10/04/2027	3.A PL
..87583F-AN-8	Tank Holding Corp. - 2022 Term Loan		06/30/2023	CA_CASH_CLOSE		11,846	11,846	11,579	11,579	0	0	0	0	0	11,579	0	267	267	0	03/31/2028	4.B PL
..88033#-AA-0	Tencarva Machinery Company - Senior Term		06/30/2023	CA_CASH_CLOSE		12,476	12,476	12,240	12,241	0	0	0	0	0	12,241	0	235	235	307	12/20/2027	5.A
..88033#-AB-8	Tencarva Machinery Company		06/30/2023	CA_CASH_CLOSE		2,015	2,015	2,015	2,015	0	0	0	0	0	2,015	0	0	0	50	12/20/2027	4.C Z
..88084@-AB-8	TerSera Therapeutics LLC/First Amendment		04/04/2023	CA_CASH_CLOSE		157,467	157,467	155,499	156,655	0	0	0	0	0	156,655	0	812	812	0	03/30/2025	3.C Z
..88084@-AC-6	TerSera Therapeutics LLC/Second Amendmen		04/04/2023	CA_CASH_CLOSE		150,360	150,360	148,481	149,815	0	0	0	0	0	149,815	0	545	545	0	03/30/2025	3.C Z
..88084@-AD-4	TerSera Therapeutics LLC/First Amendment		04/04/2023	CA_CASH_CLOSE		158,289	158,289	158,289	158,289	0	0	0	0	0	158,289	0	0	0	0	03/30/2025	3.C Z
..88084@-AE-2	TerSera Therapeutics LLC/Third Amendment		04/04/2023	CA_CASH_CLOSE		59,305	59,305	57,398	58,709	0	0	0	0	0	58,709	0	596	596	0	03/30/2025	3.C Z
..88167#-AA-8	Tetragon Financial Group (Delaware) LLC		06/08/2023	CA_CASH_CLOSE		10,000,000	10,000,000	10,000,000	10,000,000	0	0	0	0	0	10,000,000	0	0	0	18,349	07/15/2032	1.F PL
..88233F-AK-6	Vistra Operations Co LLC-VST TL B3 1L US		06/30/2023	CA_CASH_CLOSE		0	0	0	0	0	0	0	0	0	0	0	0	0	142	12/31/2025	2.C FE

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Ident- ification	Description	For- eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid- eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor- tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn- ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con- tractual Maturity Date	NAIC Desig- nation, NAIC Desig- nation Modifier and SVO Admini- strative Symbol
..88430@-AA-1	36TH STREET CAPITAL LLC TERM LOAN CLASS		04/17/2023	CA_CASH_CLOSE		2,072,040	2,072,040	2,072,040	2,072,040	0	0	0	0	0	2,072,040	0	0	0	4,917	03/01/2027	1.F Z
..88732@-AA-4	TIMECLOCK PLUS LLC - DELAYED DRAW TERM		06/30/2023	CA_CASH_CLOSE		840	840	840	840	0	0	0	0	0	840	0	0	0	34	08/28/2026	4.C PL
..88732@-AC-0	TimeClock Plus LLC/Term Loan 8/19		06/30/2023	CA_CASH_CLOSE		4,014	4,014	3,934	3,960	0	0	0	0	0	3,960	0	54	54	291	08/28/2026	4.C PL
..89617*-AB-4	Trident Maritime Systems Inc. - 2021 Ter		06/30/2023	CA_CASH_CLOSE		4,683	4,683	4,613	4,613	0	0	0	0	0	4,613	0	70	70	264	02/26/2027	4.B
..89989@-AH-7	TURBO BUYER INC AMEND NO 5 - Delayed Dra		06/30/2023	CA_CASH_CLOSE		525	525	525	525	0	0	0	0	0	525	0	0	0	0	12/02/2025	4.B PL
..90139@-AA-1	Twin Brook Capital Funding XIII WSPV, LL		06/13/2023	CA_CASH_CLOSE		1,009,104	1,009,104	1,009,104	1,009,104	0	0	0	0	0	1,009,104	0	0	0	24,592	10/18/2028	1.E PL
..90140*-AA-0	Twin Brook Capital Funding XIV WSPV, LLC		06/13/2023	CA_CASH_CLOSE		867,111	867,111	867,111	867,111	0	0	0	0	0	867,111	0	0	0	24,228	10/18/2028	1.E PL
..90380@-AA-7	US SALT INVESTORS LLC - INITIAL TERM LO		06/30/2023	CA_CASH_CLOSE		16,875	16,875	16,875	16,875	0	0	0	0	0	16,875	0	0	0	1,396	07/19/2028	3.A PL
..90385P-AC-4	Ultimus Group Midco LLC-/ULTGRP TL 1L US		06/30/2023	CA_CASH_CLOSE		2,894	2,894	2,836	2,860	0	0	0	0	0	2,860	0	34	34	60	02/01/2026	4.B PL
..91831Z-MO-1	VPC LEGAL FINANCE FUND HOLDINGS - Secure		06/12/2023	CA_CASH_CLOSE		285,714	285,714	285,714	285,714	0	0	0	0	0	285,714	0	0	0	15,170	10/14/2030	1.F Z
..91839*-AE-6	VPROP OPERATING LLC - TRANCHE A		06/30/2023	VARIOUS		0	0	0	0	0	0	0	0	0	0	0	0	0	102	11/06/2024	5.A PL
..91839*-AF-3	VPROP OPERATING LLC - TRANCHE B LOAN		06/30/2023	PIK NOTE BUY UP		0	0	0	0	0	0	0	0	0	0	0	0	0	40	11/06/2024	5.A PL
..91839*-AG-1	VPROP OPERATING LLC - TRANCHE C LOAN		06/30/2023	PIK NOTE BUY UP		0	0	0	0	0	0	0	0	0	0	0	0	0	260	11/06/2024	5.A PL
..928432*-A*4	Visual Edge Technology Inc./Term Loan 0		05/31/2023	MATURITY		8,572	8,572	8,572	8,572	0	0	0	0	0	8,572	0	0	0	0	05/31/2023	4.B Z
..928432-A@-2	Visual Edge Technology Inc./Delayed Dra		05/31/2023	MATURITY		9,546	9,546	9,546	9,546	0	0	0	0	0	9,546	0	0	0	0	05/31/2023	4.B Z
..92943H-AB-5	W.R. Grace & Co. TL B		06/30/2023	CA_CASH_CLOSE		872	872	870	870	0	0	0	0	0	870	0	2	2	0	09/22/2028	4.A FE
..92974*-AA-7	WSHP FC ACQUISITION 2A TL L+625 03/30/20		06/30/2023	CA_CASH_CLOSE		3,329	3,329	3,329	3,329	0	0	0	0	0	3,329	0	0	0	0	03/28/2024	3.B PL
..92974*-AB-5	WSHP FC ACQUISITION LLC - SECOND AMENDME		06/30/2023	CA_CASH_CLOSE		1,727	1,727	1,727	1,727	0	0	0	0	0	1,727	0	0	0	0	03/28/2024	3.B PL
..92974*-AC-3	WSHP FC Acquisition LLC/Third Amendment		06/30/2023	CA_CASH_CLOSE		996	996	996	996	0	0	0	0	0	996	0	0	0	0	03/30/2027	3.B PL
..92974*-AD-1	WSHP FC ACQUISITION 1A TL L+650 03/30/20		06/30/2023	CA_CASH_CLOSE		417	417	403	411	0	0	0	0	0	411	0	6	6	0	03/28/2024	3.B PL
..92974*-AE-9	WSHP FC ACQUISITION 1A DDTL L+625 03/30/		06/30/2023	CA_CASH_CLOSE		522	522	522	522	0	0	0	0	0	522	0	0	0	0	03/28/2024	3.B PL
..93000@-AA-9	WVEC Holdings II Corp - Term Loan		06/30/2023	CA_CASH_CLOSE		4,503	4,503	4,391	4,391	0	0	0	0	0	4,390	0	113	113	0	10/03/2028	4.C Z
..93279@-AA-3	WALNUT PARENT INC. - INITIAL TERM LOAN		05/31/2023	CA_CASH_CLOSE		1,409	1,409	1,409	1,409	0	0	0	0	0	1,409	0	0	0	88	11/09/2027	3.B PL
..94184@-AA-5	WATERMILL EXPRESS LLC - TERM LOAN FACIL		06/30/2023	CA_CASH_CLOSE		856	856	856	856	0	0	0	0	0	856	0	0	0	40	04/20/2027	3.B PL
..94184@-AB-3	WATERMILL EXPRESS LLC - DELAYED DRAW TE		06/30/2023	CA_CASH_CLOSE		82	82	82	82	0	0	0	0	0	82	0	0	0	2	04/20/2027	3.B PL
..94979@-AA-6	WELLNESS ACQUISITIONCO INC. - TERM LOAN		06/30/2023	CA_CASH_CLOSE		1,072	1,072	1,072	1,072	0	0	0	0	0	1,072	0	0	0	71	01/20/2027	2.C PL
..96525Z-MN-3	WHITEHORSE LIQUIDITY PARTNERS V-R LP, -C		06/15/2023	CA_CASH_CLOSE		986,216	986,216	986,216	986,216	0	0	0	0	0	986,216	0	0	0	34,841	12/15/2032	1.F Z
..96811*-AA-5	Wildcat BuyerCo Inc./Term Loan 2/20		06/30/2023	CA_CASH_CLOSE		615	615	615	615	0	0	0	0	0	615	0	0	0	0	02/27/2026	2.C PL
..96811*-AB-3	Wildcat BuyerCo Inc./Delayed Draw Term		06/30/2023	CA_CASH_CLOSE		322	322	322	322	0	0	0	0	0	322	0	0	0	0	02/27/2026	2.C PL
..97383*-AA-1	WINEBOW HOLDINGS INC. (VINTNER GROUP I		06/30/2023	CA_CASH_CLOSE		938	938	938	938	0	0	0	0	0	938	0	0	0	66	07/01/2025	3.C PL
..97959@-AA-3	Woodland Foods Inc - Term Loan		06/30/2023	CA_CASH_CLOSE		0	0	0	0	0	0	0	0	0	0	0	0	0	114	12/02/2027	4.C
..98415D-A@-3	XIFIN Inc./Term Loan 02/20		06/30/2023	CA_CASH_CLOSE		813	813	813	813	0	0	0	0	0	813	0	0	0	66	02/06/2026	3.A PL
..98876*-AA-3	ZB Holdco LLC - Term Loan		06/30/2023	CA_CASH_CLOSE		1,199	1,199	1,175	1,175	0	0	0	0	0	1,175	0	24	24	0	02/09/2028	5.B GI
..98876*-AB-1	ZB Holdco LLC - Delayed Draw Term Loan		06/30/2023	CA_CASH_CLOSE		599	599	599	599	0	0	0	0	0	599	0	0	0	0	02/09/2028	4.C Z
..000000-00-0	ATL II MRO Holdings Inc. - Senior Term L		06/30/2023	CA_CASH_CLOSE		3,183	3,183	3,103	3,103	0	0	0	0	0	3,103	0	80	80	0	11/01/2029	4.C Z
..000000-00-0	Applied Aerospace Structures Corp. - Ter		06/30/2023	CA_CASH_CLOSE		5,242	5,242	5,085	5,085	0	0	0	0	0	5,085	0	157	157	0	11/22/2028	4.C Z
..000000-00-0	Technosylva - Tranche A Term Loan		05/31/2023	CA_CASH_CLOSE		99	99	97	97	0	0	0	0	0	97	0	2	2	0	12/14/2028	4.C Z
..000000-00-0	Cogency Global - Incremental Term Loan		06/30/2023	CA_CASH_CLOSE		1,223	1,223	1,186	0	0	0	0	0	0	1,186	0	37	37	58	02/14/2028	4.C Z
..000000-00-0	SBP Holding LP - Term Loan		05/31/2023	CA_CASH_CLOSE		5,081	5,081	4,903	0	0	0	0	0	0	4,903	0	178	178	0	01/31/2028	4.C Z
..000000-00-0	Conrex ML Portfolio 2019-01 - Term Loan		06/16/2023	CA_CASH_CLOSE		1,129,761	1,129,761	1,129,761	1,129,761	0	0	0	0	0	1,129,761	0	0	0	0	11/15/2024	2.A Z
..C9300@-AA-9	STEALTH HOLDING LLC - CANADIAN INITIAL T		04/03/2023	CA_CASH_CLOSE		703	703	703	703	0	0	0	0	0	703	0	0	0	0	03/02/2026	3.C PL
..G4217@-AA-8	HL Private Assets Holdings LP - Term Loa		06/30/2023	CA_CASH_CLOSE		0	0	0	0	0	0	0	0	0	0	0	0	0	300,547	03/12/2030	1.F Z
..G9341J-AN-0	Veritas US Inc. - 2021 USD Term Loan B		06/30/2023	CA_CASH_CLOSE		3,015	3,015	3,000	3,000	0	0	0	0	0	3,000	0	15	15	0	09/01/2025	4.C FE
..C4921@-AA-9	Keats 506, Limited Partnership-Term Loan		06/30/2023	BANK LOANS BARINGS		5,237,000	5,000,000	5,000,000	5,000,000	0	0	0	0	0	5,000,000	0	237,000	237,000	0	06/29/2026	1.G PL
..C8655*-AA-6	Syntax Systems Ltd - Senior Term Loan	A	06/30/2023	CA_CASH_CLOSE		3,373	3,373	3,339	3,339	0	0	0	0	0	3,339	0	34	34	121	10/29/2028	4.C
..C9379@-AA-9	RTI Surgical	C	06/30/2023	CA_CASH_CLOSE		0	0	0	0	0	0	0	0	0	0	0	0	0	398	07/20/2026	3.B PL

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE D - PART 4

Show All Long-Term Bonds and Stock Sold, Redeemed or Otherwise Disposed of During the Current Quarter

1	2	3	4	5	6	7	8	9	10	Change In Book/Adjusted Carrying Value					16	17	18	19	20	21	22
										11	12	13	14	15							
CUSIP Identification	Description	For- eign	Disposal Date	Name of Purchaser	Number of Shares of Stock	Consid- eration	Par Value	Actual Cost	Prior Year Book/ Adjusted Carrying Value	Unrealized Valuation Increase/ (Decrease)	Current Year's (Amor- tization)/ Accretion	Current Year's Other Than Temporary Impairment Recogn- ized	Total Change in Book/ Adjusted Carrying Value (11 + 12 - 13)	Total Foreign Exchange Change in Book /Adjusted Carrying Value	Book/ Adjusted Carrying Value at Disposal Date	Foreign Exchange Gain (Loss) on Disposal	Realized Gain (Loss) on Disposal	Total Gain (Loss) on Disposal	Bond Interest/ Stock Dividends Received During Year	Stated Con- tractual Maturity Date	NAIC Desig- nation, NAIC Desig- nation Modifier and SVO Admini- strative Symbol
.000000-00-0	ION Trading Technologies EUR TLB (Mar '21	B.....	06/30/2023	CA_CASH_CLOSE		2,745	2,745	2,570	0	0	0	0	0	0	2,570	(3)	178	175	0	04/01/2028	4.C Z
.000000-00-0	Tech 8 SASU EUR TLB (Jul '22	B.....	06/08/2023	BANK LOANS BARINGS		523,073	1,078,500	909,168	996,123	0	0	0	0	(86,955)	909,169	93,837	(479,933)	(386,096)	0	09/15/2026	6. *
.G4604*-AA-3	HORIZON BIDCO CAYMAN LTD USD TERM LOAN	D.....	05/11/2023	CA_CASH_CLOSE		833,333	833,333	808,333	808,333	0	0	0	0	0	808,333	0	25,000	25,000	0	10/11/2028	5.B GI
.G6684*-AA-9	OHA Credit Solutions Master Fund I SPV,	C.....	06/21/2023	CA_CASH_CLOSE		3,700,000	3,700,000	3,700,000	3,700,000	0	0	0	0	0	3,700,000	0	0	0	0	12/16/2032	1.F PL
.N1603L-AD-9	Bright Bidco BV-BRIGBI TL B 1L USD	D.....	05/03/2023	BANK LOANS BARINGS		329,604	1,551,076	515,733	515,733	0	0	0	0	0	515,733	0	(186,129)	(186,129)	0	06/30/2024	6. *
1909999999. Subtotal - Bonds - Unaffiliated Bank Loans						222,821,319	224,361,218	220,857,691	196,723,386	0	(7)	1,534,345	(1,534,352)	(86,955)	221,027,847	93,834	1,699,638	1,793,472	3,697,235	XXX	XXX
2509999997. Total - Bonds - Part 4						2,825,772,141	2,954,928,020	2,917,222,928	2,592,601,473	17,505	1,956,340	3,373,766	(1,399,921)	(125,324)	2,928,787,302	134,081	(103,149,242)	(103,015,161)	78,777,348	XXX	XXX
2509999998. Total - Bonds - Part 5						XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2509999999. Total - Bonds						2,825,772,141	2,954,928,020	2,917,222,928	2,592,601,473	17,505	1,956,340	3,373,766	(1,399,921)	(125,324)	2,928,787,302	134,081	(103,149,242)	(103,015,161)	78,777,348	XXX	XXX
.009522-ZA-4	AIRWAY THERAPEUTICS PERP PFD CLASS C		06/30/2023	DIRECT	1,833,370.000	2,621,712	1,833,370.00	2,600,001	4,289,338	(1,689,337)	0	0	(1,689,337)	0	2,600,001	0	21,711	21,711	0		5.B GI
.009522-ZZ-9	AIRWAY THERAPEUTICS B PERP CONVERTIBLE P		06/30/2023	DIRECT	2,173,047.000	3,585,528	2,173,047.00	3,579,320	5,215,313	(1,635,993)	0	0	(1,635,993)	0	3,579,321	0	6,207	6,207	0		5.B GI
.29402T-Z#-5	ENVEN ENERGY CORP SERIES A CONV PERP PFD		06/30/2023	EXCHANGE OFFER	10,224,624	10,224,624	10,224,624	10,224,624	19,622,298	(9,397,674)	0	0	(9,397,674)	0	10,224,624	0	0	0	1,638,564		5.C
4019999999. Subtotal - Preferred Stocks - Industrial and Miscellaneous (Unaffiliated) Perpetual Preferred						16,431,864	XXX	16,403,945	29,126,949	(12,723,004)	0	0	(12,723,004)	0	16,403,946	0	27,918	27,918	1,638,564	XXX	XXX
4509999997. Total - Preferred Stocks - Part 4						16,431,864	XXX	16,403,945	29,126,949	(12,723,004)	0	0	(12,723,004)	0	16,403,946	0	27,918	27,918	1,638,564	XXX	XXX
4509999998. Total - Preferred Stocks - Part 5						XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
4509999999. Total - Preferred Stocks						16,431,864	XXX	16,403,945	29,126,949	(12,723,004)	0	0	(12,723,004)	0	16,403,946	0	27,918	27,918	1,638,564	XXX	XXX
.226344-20-8	Crestwood Equity Partner-COMMON STOCK LT		06/01/2023	BLOOMBERG TRADEBOOK	1.000	26		26	0	0	0	0	0	0	26	0	0	0	0		
.23311P-10-0	DCP MIDSTREAM PARTNERS LP COMMON UNIT		06/16/2023	CA_CASH_CLOSE	80,849.000	3,375,446		2,604,362	3,136,133	(531,770)	0	0	(531,770)	0	2,604,362	0	771,084	771,084	69,530		
.24664T-10-3	Delek Logistics Partners-COMMON STOCK		05/05/2023	BLOOMBERG TRADEBOOK	4.000	176		202	181	21	0	0	21	0	202	0	(26)	(26)	8		
.29336T-10-0	ENLINK MIDSTREAM LLC COMMON UNIT		06/12/2023	VARIOUS	137,815.000	1,330,190	1,533,644	1,513,208	1,513,208	(165,971)	0	0	(165,971)	0	1,533,644	0	(203,454)	(203,454)	34,454		
.29402T-10-9	Enven Energy Corp-COMMON STOCK		06/30/2023	EXCHANGE OFFER	860,000.000	13,252,378	8,566,417	20,802,168	20,802,168	(12,235,752)	0	0	(12,235,752)	0	8,566,416	0	4,685,962	4,685,962	0		
.559080-10-6	MAGELLAN MIDSTREAM PARTNERS LP COMMON UN		05/08/2023	BLOOMBERG TRADEBOOK	4,032.000	219,126		208,629	202,447	6,183	0	0	6,183	0	208,629	0	10,497	10,497	8,447		
.565849-10-6	MARATHON OIL CORP-COMMON STOCK		04/24/2023	BLOOMBERG TRADEBOOK	9,800.000	238,323		219,138	265,286	(46,148)	0	0	(46,148)	0	219,138	0	19,185	19,185	980		
.69345V-10-0	PLH Group Inc-COMMON STOCK		06/30/2023	CA_CASH_CLOSE	950,000.000	14,293,545		12,587,500	17,045,401	(4,457,901)	0	0	(4,457,901)	0	12,587,500	0	1,706,045	1,706,045	0		
.87484T-10-8	Talos Energy Inc-COMMON STOCK		04/26/2023	JONES TRADING INST	445,586.000	5,849,171		(6,020,544)	0	0	0	0	0	0	(6,020,544)	0	11,869,715	11,869,715	0		
.958669-10-3	Western Midstream Partne-COMMON STOCK		06/12/2023	BLOOMBERG TRADEBOOK	8,869.000	230,397		253,193	238,133	15,061	0	0	15,061	0	253,194	0	(22,797)	(22,797)	12,026		
.878742-20-4	TECK RESOURCES LTD-COMMON STOCK		04/03/2023	BLOOMBERG TRADEBOOK	10,882.000	451,592		365,576	411,557	(45,981)	0	0	(45,981)	0	365,576	0	86,016	86,016	5,290		
.98462Y-10-0	Yamana Gold Inc-COMMON STOCK		04/12/2023	CA_CASH_CLOSE	24,200.000	25,236		118,959	134,310	(15,352)	0	0	(15,352)	0	118,958	0	(93,722)	(93,722)	545		
5019999999. Subtotal - Common Stocks - Industrial and Miscellaneous (Unaffiliated) Publicly Traded						39,265,606	XXX	20,437,102	43,748,824	(17,477,610)	0	0	(17,477,610)	0	20,437,101	0	18,828,505	18,828,505	131,280	XXX	XXX
.009522-ZB-2	AIRWAY THERAPEUTICS INC (SAFE)		06/30/2023	DIRECT	500,000.000	346,776		500,000	500,000	0	0	0	0	0	500,000	0	(153,224)	(153,224)	0		
.313360-ZZ-5	FEDERAL HOME LOAN BANK CINCINNATI-R		06/30/2023	CALL 100	11,279.000	1,127,900		1,127,900	1,127,900	0	0	0	0	0	1,127,900	0	0	0	17,481		
.715999-ZZ-4	PHILADELPHIA ENERGY CLASS A		06/30/2023	VARIOUS	82,707.000	0		703,010	0	703,010	0	0	703,010	0	703,009	(703,009)	0	(703,009)	0	0	
.09069Z-ZE-4	Biovish Tech Intl Warrants	C.....	06/30/2023	VARIOUS	48,000.000	0		10,080	1,440	8,640	0	0	8,640	0	10,080	0	(10,080)	(10,080)	0		
5029999999. Subtotal - Common Stocks - Industrial and Miscellaneous (Unaffiliated) Other						1,474,676	XXX	2,340,990	1,629,340	711,650	0	0	711,650	0	2,340,989	(703,009)	(163,304)	(866,313)	17,481	XXX	XXX
5989999997. Total - Common Stocks - Part 4						40,740,282	XXX	22,778,092	45,378,164	(16,765,960)	0	0	(16,765,960)	0	22,778,090	(703,009)	18,665,201	17,962,192	148,761	XXX	XXX
5989999998. Total - Common Stocks - Part 5						XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
5989999999. Total - Common Stocks						40,740,282	XXX	22,778,092	45,378,164	(16,765,960)	0	0	(16,765,960)	0	22,778,090	(703,009)	18,665,201	17,962,192	148,761	XXX	XXX
5999999999. Total - Preferred and Common Stocks						57,172,146	XXX	39,182,037	74,505,113	(29,488,964)	0	0	(29,488,964)	0	39,182,036	(703,009)	18,693,119	17,990,110	1,787,325	XXX	XXX
6009999999 - Totals						2,882,944,287	XXX	2,956,404,965	2,667,106,586	(29,471,459)	1,956,340	3,373,766	(30,888,885)	(125,324)	2,967,969,338	(568,928)	(84,456,123)	(85,025,051)	80,564,673	XXX	XXX

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
0079999999. Subtotal - Purchased Options - Hedging Effective Excluding Variable Annuity Guarantees Under SSAP No.108										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
0149999999. Subtotal - Purchased Options - Hedging Effective Variable Annuity Guarantees Under SSAP No.108										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
141932 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/06/2021	04/06/2028		2,560,103	4073.94000000	61,186		(64,180)	41,708		49,012			(4,307)				0003
141936 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/06/2021	04/06/2026		643,934	4073.94000000	14,875		(16,008)	8,244		16,980			(1,466)				0003
141931 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	04/20/2021	04/20/2028		2,131,255	4134.94000000	55,626		(58,557)	38,222		70,927			(3,916)				0003
141935 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	04/20/2021	04/20/2026		1,033,297	4134.94000000	25,316		(27,268)	14,225		30,588			(2,496)				0003
141929 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	05/06/2021	05/06/2026		2,934,227	4201.62000000	71,302		(65,415)	40,688		70,256			(7,029)				0003
141934 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	05/06/2021	05/06/2028		3,525,201	4201.62000000	93,418		(84,042)	64,775		58,704			(6,576)				0003
139414 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	05/20/2021	05/20/2026		3,238,121	4159.12000000	79,334		41,721	45,880		78,819			(7,820)				0003
141933 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	05/20/2021	05/19/2028		4,387,198	4159.12000000	117,577		65,542	82,157		76,784			(8,280)				0003
142030 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/04/2021	06/05/2026		3,793,322	4229.89000000	92,936		44,959	54,531		86,556			(9,156)				0003
142031 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/04/2021	06/06/2028		3,756,297	4229.89000000	99,542		39,238	70,173		54,834			(7,002)				0003
142042 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/18/2021	06/19/2026		4,246,800	4166.45000000	104,896		53,807	62,352		123,890			(10,335)				0003
142043 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/18/2021	06/20/2028		5,895,992	4166.45000000	159,192		86,854	113,095		182,258			(11,198)				0003
142044 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/06/2021	07/06/2026		4,766,527	4343.54000000	116,303		(11,465)	70,253		211,521			(11,465)				0003
142045 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/06/2021	07/06/2028		3,597,757	4343.54000000	92,822		(6,534)	66,576		161,917			(6,534)				0003
142024 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A.	07/20/2021	07/20/2026		4,182,637	4323.06000000	98,710		(9,730)	60,383		181,966			(9,730)				0003
142025 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A.	07/20/2021	07/20/2028		2,039,052	4323.06000000	50,365		(3,545)	36,400		83,083			(3,545)				0003
142046 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	08/06/2021	08/06/2026		4,064,101	4436.52000000	95,100		(9,375)	59,060		153,442			(9,375)				0003
142047 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	08/06/2021	08/04/2028		3,826,358	4436.52000000	97,189		(6,847)	70,867		146,588			(6,847)				0003
142048 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A.	08/20/2021	08/20/2026		1,809,340	4441.67000000	41,977		(4,138)	26,391		52,811			(4,138)				0003
142049 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A.	08/20/2021	08/18/2028		2,137,781	4441.67000000	56,010		(3,946)	41,147		65,873			(3,946)				0003
142050 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	09/03/2021	09/04/2026		1,540,167	4535.43000000	43,125		(4,249)	27,452		31,930			(4,249)				0003
142051 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	09/03/2021	09/06/2028		2,111,925	4535.43000000	61,246		(4,306)	45,360		32,103			(4,306)				0003
142217 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	09/20/2021	09/18/2026		1,174,913	4357.73000000	27,141		(2,678)	17,513		42,596			(2,678)				0003
142219 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	09/20/2021	09/20/2028		1,873,140	4357.73000000	46,454		(3,270)	34,700		67,588			(3,270)				0003
142231 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/06/2021	10/06/2026		1,802,801	4363.55000000	42,366		(4,176)	27,726		65,562			(4,176)				0003
142232 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/06/2021	10/06/2028		2,272,930	4363.55000000	59,551		(4,192)	44,855		87,498			(4,192)				0003

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
142242 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32TWEFA76	.10/20/2021	.10/20/2026	.....	..2,142,624	..4536.19000000	51,423	.....	.....(5,069)	34,047	.....	.....65,028	.....	.....	.....(5,069)	.....	.....	.....	0003
142243 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32TWEFA76	.10/20/2021	.10/20/2028	.....	..2,133,416	..4536.19000000	55,255	.....	.....(3,890)	41,922	.....	.....62,259	.....	.....	.....(3,890)	.....	.....	.....	0003
143735 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWISFPUBMPRO8K5P83	.11/05/2021	.11/06/2028	.....	..3,225,894	..4697.53000000	80,325	.....	.....(5,652)	61,453	.....	.....116,272	.....	.....	.....(5,652)	.....	.....	.....	0003
143737 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWISFPUBMPRO8K5P83	.11/05/2021	.11/06/2026	.....	..1,317,530	..4697.53000000	30,567	.....	.....(3,012)	20,512	.....	.....46,847	.....	.....	.....(3,012)	.....	.....	.....	0003
143909 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWISFPUBMPRO8K5P83	.11/19/2021	.11/20/2026	.....	..1,146,967	..4697.96000000	26,495	.....	.....(2,610)	17,982	.....	.....38,473	.....	.....	.....(2,610)	.....	.....	.....	0003
143911 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWISFPUBMPRO8K5P83	.11/19/2021	.11/20/2028	.....	..2,303,354	..4697.96000000	60,118	.....	.....(4,230)	46,322	.....	.....85,462	.....	.....	.....(4,230)	.....	.....	.....	0003
144235 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32TWEFA76	.12/06/2021	.12/04/2026	.....	..729,148	..4591.67000000	16,916	.....	.....(1,669)	11,630	.....	.....20,581	.....	.....	.....(1,669)	.....	.....	.....	0003
144237 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWISFPUBMPRO8K5P83	.12/06/2021	.12/06/2028	.....	..752,619	..4591.67000000	18,966	.....	.....(1,335)	14,738	.....	.....22,975	.....	.....	.....(1,335)	.....	.....	.....	0003
144701 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWISFPUBMPRO8K5P83	.12/20/2021	.12/18/2026	.....	..1,060,073	..4568.02000000	24,594	.....	.....(2,427)	17,097	.....	.....33,989	.....	.....	.....(2,427)	.....	.....	.....	0003
144703 Call Options - S&P 500 - USD	Liability Hedge	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWISFPUBMPRO8K5P83	.12/20/2021	.12/20/2028	.....	..1,687,120	..4568.02000000	44,371	.....	.....(3,124)	34,723	.....	.....56,156	.....	.....	.....(3,124)	.....	.....	.....	0003
145265 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.01/06/2022	.07/06/2023	.....	..6,104,865	..4696.05000000	583,622	.....	.....(192,403)	7,482	.....	.....54	.....	.....	.....(192,403)	.....	.....	.....	0003
145280 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32TWEFA76	.01/06/2022	.01/06/2027	.....	..840,780	..4696.05000000	20,431	.....	.....(21,832)	14,400	.....	.....22,673	.....	.....	.....(2,014)	.....	.....	.....	0003
145291 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32TWEFA76	.01/06/2022	.01/05/2029	.....	..2,075,217	..4696.05000000	55,408	.....	.....(57,648)	43,724	.....	.....45,874	.....	.....	.....(3,902)	.....	.....	.....	0003
145768 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWISFPUBMPRO8K5P83	.01/20/2022	.01/20/2027	.....	..1,067,105	..4482.73000000	26,998	.....	.....(28,849)	19,236	.....	.....33,894	.....	.....	.....(2,661)	.....	.....	.....	0003
145772 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWISFPUBMPRO8K5P83	.01/20/2022	.01/19/2029	.....	..2,284,303	..4482.73000000	66,016	.....	.....(68,685)	52,457	.....	.....78,908	.....	.....	.....(4,649)	.....	.....	.....	0003
145875 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.01/20/2022	.07/20/2023	.....	..4,034,457	..4482.73000000	394,164	.....	.....(129,944)	15,160	.....	.....25,424	.....	.....	.....(129,944)	.....	.....	.....	0003
146423 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWISFPUBMPRO8K5P83	.02/04/2022	.08/04/2023	.....	..8,790,818	..4500.53000000	906,773	.....	.....(298,936)	59,787	.....	.....75,733	.....	.....	.....(298,936)	.....	.....	.....	0003
146459 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32TWEFA76	.02/04/2022	.02/05/2027	.....	..875,187	..4500.53000000	23,367	.....	.....(24,969)	16,845	.....	.....24,806	.....	.....	.....(2,302)	.....	.....	.....	0003
146461 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWISFPUBMPRO8K5P83	.02/04/2022	.02/06/2029	.....	..2,205,498	..4500.53000000	62,195	.....	.....(64,704)	49,800	.....	.....63,097	.....	.....	.....(4,375)	.....	.....	.....	0003
147090 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUHNSJPFGFNF3BB653	.02/18/2022	.08/18/2023	.....	..7,524,511	..4348.87000000	802,823	.....	.....(264,667)	73,519	.....	.....200,401	.....	.....	.....(264,667)	.....	.....	.....	0003
147150 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWISFPUBMPRO8K5P83	.02/18/2022	.02/19/2027	.....	..1,589,414	..4348.87000000	43,391	.....	.....(46,364)	31,611	.....	.....50,613	.....	.....	.....(4,275)	.....	.....	.....	0003
147153 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWISFPUBMPRO8K5P83	.02/18/2022	.02/20/2029	.....	..2,507,570	..4348.87000000	70,713	.....	.....(73,566)	57,007	.....	.....71,141	.....	.....	.....(4,974)	.....	.....	.....	0003
147824 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.03/04/2022	.09/01/2023	.....	..7,359,079	..4328.87000000	812,447	.....	.....(267,840)	95,232	.....	.....178,562	.....	.....	.....(267,840)	.....	.....	.....	0003
147912 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWISFPUBMPRO8K5P83	.03/04/2022	.03/04/2027	.....	..2,313,933	..4328.87000000	67,104	.....	.....(71,706)	49,391	.....	.....79,415	.....	.....	.....(6,615)	.....	.....	.....	0003

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE DB - PART A - SECTION 1

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
147914 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	ROMUJISFPUBMPRO8K5P83 .03/04/2022	.03/02/2029	.....	3,147,487	..4328.87000000	96,628	.....	.....(100,536)	78,399	.....	.....98,413	.....	.....	.....(6,807)	.....	.....	.....	0003
148445 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078 .03/18/2022	.09/20/2023	.....	10,711,488	..4463.12000000	1,158,984	.....	.....(378,615)	174,584	.....	.....189,847	.....	.....	.....(378,615)	.....	.....	.....	0003
148494 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	E570DZIWZ7FF32TWEFA76 .03/18/2022	.03/19/2027	.....	3,484,463	..4463.12000000	103,140	.....	.....(45,528)	76,720	.....	.....94,082	.....	.....	.....54,518	.....	.....	.....	0003
148496 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	E570DZIWZ7FF32TWEFA76 .03/18/2022	.03/20/2029	.....	2,690,653	..4463.12000000	83,679	.....	.....(31,867)	68,376	.....	.....53,428	.....	.....	.....49,302	.....	.....	.....	0003
149311 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078 .04/06/2022	.10/06/2023	.....	9,410,415	..4481.15000000	1,005,963	.....	.....(330,426)	181,734	.....	.....159,721	.....	.....	.....(330,426)	.....	.....	.....	0003
149383 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	ROMUJISFPUBMPRO8K5P83 .04/06/2022	.04/06/2029	.....	1,256,634	..4481.15000000	38,830	.....	.....(40,399)	32,012	.....	.....30,916	.....	.....	.....(2,733)	.....	.....	.....	0003
149385 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGGFU57RNE97 .04/06/2022	.04/06/2027	.....	3,034,169	..4481.15000000	81,923	.....	.....(87,541)	61,779	.....	.....95,477	.....	.....	.....(8,076)	.....	.....	.....	0003
149978 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	G5GSEF7VJP5170UK5573 .04/20/2022	.10/20/2023	.....	7,213,078	..4459.45000000	642,685	.....	.....(211,101)	132,525	.....	.....130,372	.....	.....	.....(211,101)	.....	.....	.....	0003
150021 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	ROMUJISFPUBMPRO8K5P83 .04/20/2022	.04/20/2027	.....	3,978,366	..4459.45000000	125,716	.....	.....(134,338)	95,768	.....	.....118,433	.....	.....	.....(12,393)	.....	.....	.....	0003
150023 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	ROMUJISFPUBMPRO8K5P83 .04/20/2022	.04/20/2029	.....	2,397,649	..4459.45000000	76,485	.....	.....(79,575)	63,473	.....	.....66,330	.....	.....	.....(5,384)	.....	.....	.....	0003
150374 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078 .05/06/2022	.11/06/2023	.....	8,246,680	..4123.34000000	923,620	.....	.....(302,826)	218,708	.....	.....271,995	.....	.....	.....(302,826)	.....	.....	.....	0003
150452 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	E570DZIWZ7FF32TWEFA76 .05/06/2022	.05/06/2027	.....	2,560,850	..4123.34000000	78,874	.....	.....(76,505)	60,775	.....	.....74,123	.....	.....	.....(7,775)	.....	.....	.....	0003
150453 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	E570DZIWZ7FF32TWEFA76 .05/06/2022	.05/04/2029	.....	1,806,435	..4123.34000000	58,890	.....	.....(55,795)	49,232	.....	.....36,224	.....	.....	.....(4,149)	.....	.....	.....	0003
151057 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078 .05/20/2022	.11/20/2023	.....	6,632,312	..3901.36000000	814,453	.....	.....(267,034)	213,627	.....	.....255,075	.....	.....	.....(267,034)	.....	.....	.....	0003
151098 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	ROMUJISFPUBMPRO8K5P83 .05/20/2022	.05/20/2027	.....	5,069,803	..3901.36000000	173,894	.....	.....84,233	135,325	.....	.....200,713	.....	.....	.....(17,142)	.....	.....	.....	0003
151099 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	ROMUJISFPUBMPRO8K5P83 .05/20/2022	.05/18/2029	.....	1,272,358	..3901.36000000	44,660	.....	.....20,885	37,581	.....	.....38,514	.....	.....	.....(3,146)	.....	.....	.....	0003
151636 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078 .06/06/2022	.12/06/2023	.....	4,945,716	..4121.43000000	586,068	.....	.....(192,504)	171,115	.....	.....187,258	.....	.....	.....(192,504)	.....	.....	.....	0003
151704 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	ROMUJISFPUBMPRO8K5P83 .06/06/2022	.06/04/2027	.....	4,053,241	..4121.43000000	143,079	.....	.....1,357	112,644	.....	.....147,871	.....	.....	.....(14,120)	.....	.....	.....	0003
151705 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	ROMUJISFPUBMPRO8K5P83 .06/06/2022	.06/06/2029	.....	1,853,944	..4121.43000000	65,073	.....	.....2,872	55,199	.....	.....(2,911)	.....	.....	.....(4,581)	.....	.....	.....	0003
152997 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	SOCIETE GENERAL JPMORGAN CHASE BANK, N.A.	02RNE81BXP4ROTDBPU41 .06/17/2022	.12/20/2023	.....	5,592,728	..3674.84000000	601,217	.....	.....(196,405)	189,858	.....	.....235,927	.....	.....	.....(196,405)	.....	.....	.....	0003
153001 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGGFU57RNE97 .06/17/2022	.06/18/2027	.....	3,972,298	..3674.84000000	129,483	.....	.....(12,757)	102,764	.....	.....122,726	.....	.....	.....(12,757)	.....	.....	.....	0003
153006 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGGFU57RNE97 .06/17/2022	.06/20/2029		1,273,169	..3674.84000000	42,519		(2,990)	36,258		38,268			(2,990)				0003

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SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
153784 Call Options - S&P Equal Weight Energy - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCUFXT09	.07/06/2022	.07/06/2023	.....	55,628,138	1130.16000000	3,031,734		(1,495,101)	58,143		5,987,016			(1,495,101)				0003
153785 Call Options - S&P U.S. Retiree Spending Index - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG BFM8T61CT2L1QCEMIK50	.07/06/2022	.07/06/2023	.....	12,737,041	508.13000000	612,652		(302,130)	11,749		160,351			(302,130)				0003
153786 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/06/2022	.01/05/2024	.....	5,767,620	3845.08000000	712,305		(233,969)	246,967		198,040			(233,969)				0003
153791 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/06/2022	.07/06/2023	.....	62,674,804	3845.08000000	6,424,156		(3,168,077)	123,203		1,219,824			(3,168,077)				0003
153794 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/06/2022	.07/06/2023	.....	65,366,360	3845.08000000	6,700,040		(3,304,129)	128,494		1,343,971			(3,304,129)				0003
153798 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/06/2022	.07/06/2023	.....	1,431,397	61.35000000	115,492		(56,955)	2,215		78,562			(56,955)				0003
153816 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	.07/06/2022	.07/06/2023	.....	50,903,301	3845.08000000	5,237,098		(2,582,678)	100,437		3,522,029			(2,582,678)				0003
153819 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.07/06/2022	.07/06/2023	.....	33,663,703	3845.08000000	2,019,822		(996,077)	38,736		1,022,770			(996,077)				0003
153820 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.07/06/2022	.07/06/2023	.....	69,495,328	3845.08000000	6,949,533		(3,427,167)	133,279		5,746,117			(3,427,167)				0003
153828 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUH9JNPF6FNF3BB653	.07/06/2022	.07/06/2023	.....	40,020,022	3845.08000000	4,204,877		(2,073,638)	80,641		1,251,337			(2,073,638)				0003
153829 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWSPU8MPRO8K5P83	.07/06/2022	.07/06/2029	.....	4,331,917	3845.08000000	156,815		(11,039)	134,860		197,831			(11,039)				0003
153832 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	.07/06/2022	.07/06/2023	.....	53,887,436	3845.08000000	5,540,962		(2,732,529)	106,265		2,066,296			(2,732,529)				0003
153835 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	.07/06/2022	.07/06/2023	.....	52,103,743	3845.08000000	5,360,740		(2,643,653)	102,809		2,096,802			(2,643,653)				0003
153837 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	.07/06/2022	.07/06/2027	.....	4,143,069	3845.08000000	145,007		(14,294)	116,578		216,726			(14,294)				0003
153838 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RPHIGC71XBUI1	.07/06/2022	.07/06/2023	.....	48,162,139	3845.08000000	4,917,354		(2,424,997)	94,305		2,054,464			(2,424,997)				0003
153841 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	.07/06/2022	.07/06/2023	.....	61,011,743	3845.08000000	6,276,014		(3,095,020)	120,362		2,747,572			(3,095,020)				0003
153844 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	.07/06/2022	.07/06/2023	.....	62,667,334	3845.08000000	6,447,570		(3,179,624)	123,652		3,047,488			(3,179,624)				0003
153847 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	.07/06/2022	.07/06/2023	.....	60,409,832	3845.08000000	6,217,024		(3,065,930)	119,231		3,522,564			(3,065,930)				0003
153851 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	.07/06/2022	.07/06/2023	.....	53,202,742	3845.08000000	5,476,633		(2,700,805)	105,031		3,367,908			(2,700,805)				0003
153882 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCUFXT09	.07/06/2022	.07/06/2023	.....	18,859,593	3845.08000000	407,367		(200,893)	7,813					(200,893)				0003
153898 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROWP21HZNBB6K528	.07/06/2022	.07/06/2023	.....	46,389,557	162.14000000	4,165,782		(2,054,358)	79,892		2,899,247			(2,054,358)				0003
153907 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.07/06/2022	.07/06/2023		30,452,804	93.31000000	2,893,016		(1,426,693)	55,483		49			(1,426,693)				0003

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SCHEDULE DB - PART A - SECTION 1

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
154270 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIGC71XBU11	.07/15/2022	.07/14/2023	.....	1,440,309	..3801.99420000	100,530	.....	.....(49,713)	4,143	.....	102,218	.....	.....	.....(49,713)	.....	.....	.....	0003
154434 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/20/2022	.01/19/2024	.....	4,751,880	..3959.90000000	594,456	.....	.....(195,259)	221,294	.....	145,653	.....	.....	.....(195,259)	.....	.....	.....	0003
154439 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIGC71XBU11	.07/20/2022	.07/20/2023	.....	29,188,206	..3959.90000000	1,768,805	.....	.....(872,288)	101,767	.....	732,867	.....	.....	.....(872,288)	.....	.....	.....	0003
154454 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCUFXT09	.07/20/2022	.07/20/2023	.....	16,832,420	..3959.90000000	345,065	.....	.....(170,169)	19,853	.....	.....	.....	.....	.....(170,169)	.....	.....	.....	0003
154458 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWSPF08MPR08K5P83	.07/20/2022	.07/20/2027	.....	2,557,974	..3959.90000000	91,064	.....	.....(8,977)	73,908	.....	129,960	.....	.....	.....(8,977)	.....	.....	.....	0003
154462 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWSPF08MPR08K5P83	.07/20/2022	.07/20/2029	.....	1,734,536	..3959.90000000	63,657	.....	.....(4,481)	55,093	.....	73,514	.....	.....	.....(4,481)	.....	.....	.....	0003
154464 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/20/2022	.07/20/2023	.....	49,102,760	..3959.90000000	5,018,280	.....	.....(2,474,768)	288,723	.....	945,924	.....	.....	.....(2,474,768)	.....	.....	.....	0003
154477 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0WP21HZNB6K528	.07/20/2022	.07/20/2023	.....	34,161,641	..158.04000000	3,036,975	.....	.....(1,497,686)	174,730	.....	1,996,586	.....	.....	.....(1,497,686)	.....	.....	.....	0003
154483 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/20/2022	.07/20/2023	.....	62,962,410	..3959.90000000	6,434,730	.....	.....(3,173,291)	370,217	.....	1,287,854	.....	.....	.....(3,173,291)	.....	.....	.....	0003
154486 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0WP21HZNB6K528	.07/20/2022	.07/20/2023	.....	21,764,795	..93.96000000	1,978,419	.....	.....(975,659)	113,827	.....	3,936	.....	.....	.....(975,659)	.....	.....	.....	0003
154495 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGQFU57RNE97	.07/20/2022	.07/20/2023	.....	1,513,597	..62.91000000	127,445	.....	.....(62,849)	7,332	.....	81,213	.....	.....	.....(62,849)	.....	.....	.....	0003
154507 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/20/2022	.07/20/2023	.....	49,102,760	..3959.90000000	5,018,280	.....	.....(2,474,768)	288,723	.....	2,180,529	.....	.....	.....(2,474,768)	.....	.....	.....	0003
154515 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/20/2022	.07/20/2023	.....	46,726,820	..3959.90000000	4,775,460	.....	.....(2,355,021)	274,752	.....	2,268,351	.....	.....	.....(2,355,021)	.....	.....	.....	0003
154532 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/20/2022	.07/20/2023	.....	53,854,640	..3959.90000000	5,503,920	.....	.....(2,714,262)	316,664	.....	4,228,447	.....	.....	.....(2,714,262)	.....	.....	.....	0003
154536 Call Options - S&P Equal Weight Energy - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGQFU57RNE97	.07/20/2022	.07/20/2023	.....	38,857,839	..1143.36000000	2,148,839	.....	.....(1,059,701)	123,632	.....	3,748,721	.....	.....	.....(1,059,701)	.....	.....	.....	0003
154537 Call Options - S&P U.S. Retiree Spending Index - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG BFM8T61CT2L10CEMIK50	.07/20/2022	.07/20/2023	.....	8,720,523	..508.19000000	437,770	.....	.....(215,887)	25,187	.....	143,407	.....	.....	.....(215,887)	.....	.....	.....	0003
154538 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/20/2022	.07/20/2023		35,667,017	..3959.90000000	3,645,153		(1,797,610)	209,721		1,086,847			(1,797,610)				0003

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SCHEDULE DB - PART A - SECTION 1

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154544 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/20/2022	.07/20/2023		35,833,294	..3959.90000000	3,662,146		(1,805,990)	210,699		1,329,383			(1,805,990)				0003
154551 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/20/2022	.07/20/2023	.....	54,564,650	..3959.90000000	5,576,483	.....	.....(2,750,046)	320,839	.....	2,132,249	.....	.....	.....(2,750,046)	.....	.....	.....	0003
154557 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/20/2022	.07/20/2023	.....	44,608,155	..3959.90000000	4,558,933	.....	.....(2,248,241)	282,295	.....	1,800,560	.....	.....	.....(2,248,241)	.....	.....	.....	0003
154563 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/20/2022	.07/20/2023	.....	44,527,888	..3959.90000000	4,550,730	.....	.....(2,244,196)	261,823	.....	2,589,580	.....	.....	.....(2,244,196)	.....	.....	.....	0003
154572 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/20/2022	.07/20/2023	.....	49,145,844	..3959.90000000	5,022,683	.....	.....(2,476,940)	288,976	.....	3,145,408	.....	.....	.....(2,476,940)	.....	.....	.....	0003
155003 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/05/2022	.08/04/2023	.....	61,273,190	..4145.19000000	6,127,319	.....	.....(3,029,993)	605,999	.....	3,525,020	.....	.....	.....(3,029,993)	.....	.....	.....	0003
155019 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	.08/05/2022	.08/04/2023	.....	64,734,683	..4145.19000000	6,469,736	.....	.....(3,199,320)	639,864	.....	2,378,779	.....	.....	.....(3,199,320)	.....	.....	.....	0003
155024 Call Options - S&P Equal Weight Energy - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	.08/05/2022	.08/04/2023	.....	51,090,867	..1165.05000000	2,840,652	.....	.....(1,404,718)	280,944	.....	4,024,412	.....	.....	.....(1,404,718)	.....	.....	.....	0003
155025 Call Options - S&P U.S. Retiree Spending Index - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG BFMBT61CT2L1QCEMIK50	.08/05/2022	.08/04/2023	.....	13,410,152	..513.77000000	682,577	.....	.....(337,538)	67,508	.....	157,812	.....	.....	.....(337,538)	.....	.....	.....	0003
155031 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	.08/05/2022	.08/06/2029	.....	2,584,672	..4145.19000000	90,464	.....	.....(6,366)	78,864	.....	108,810	.....	.....	.....(6,366)	.....	.....	.....	0003
155046 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/05/2022	.08/04/2023	.....	24,855,413	..98.55000000	2,236,987	.....	.....(1,106,202)	221,240	.....	3,090	.....	.....	.....(1,106,202)	.....	.....	.....	0003
155058 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	SOCIETE GENERAL ... 02RNE81BX4R0TD8PU41	.08/05/2022	.02/06/2024	.....	7,750,577	..4145.19000000	1,131,584	.....	.....(370,337)	456,749	.....	275,253	.....	.....	.....(370,337)	.....	.....	.....	0003
155062 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GCT1XBU11	.08/05/2022	.08/04/2023	.....	1,548,036	..65.01000000	136,846	.....	.....(67,671)	13,534	.....	80,666	.....	.....	.....(67,671)	.....	.....	.....	0003
155067 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	.08/05/2022	.08/04/2023	.....	69,240,473	..4145.19000000	6,920,055	.....	.....(3,422,005)	684,401	.....	1,274,944	.....	.....	.....(3,422,005)	.....	.....	.....	0003
155076 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	.08/05/2022	.08/04/2023	.....	62,383,563	..4145.19000000	6,234,759	.....	.....(3,083,123)	616,625	.....	1,794,331	.....	.....	.....(3,083,123)	.....	.....	.....	0003
155081 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/05/2022	.08/04/2023	.....	54,251,776	..4145.19000000	5,425,178	.....	.....(2,682,780)	536,556	.....	3,648,980	.....	.....	.....(2,682,780)	.....	.....	.....	0003
155084 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/05/2022	.08/04/2023	.....	62,161,605	..4145.19000000	6,216,161	.....	.....(3,073,926)	614,785	.....	2,119,359	.....	.....	.....(3,073,926)	.....	.....	.....	0003
155103 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	.08/05/2022	.08/06/2027	.....	1,336,139	..4145.19000000	48,101	.....	.....(4,739)	39,465	.....	59,027	.....	.....	.....(4,739)	.....	.....	.....	0003
155106 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/05/2022	.08/04/2023	.....	51,631,221	..4145.19000000	5,163,122	.....	.....(2,553,192)	510,638	.....	2,022,877	.....	.....	.....(2,553,192)	.....	.....	.....	0003
155114 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/05/2022	.08/04/2023	.....	52,227,546	..4145.19000000	5,222,755	.....	.....(2,582,681)	516,536	.....	2,176,059	.....	.....	.....(2,582,681)	.....	.....	.....	0003
155120 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/05/2022	.08/04/2023	.....	49,496,908	..4145.19000000	4,949,691	.....	.....(2,447,649)	489,530	.....	2,244,697	.....	.....	.....(2,447,649)	.....	.....	.....	0003
155127 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/05/2022	.08/04/2023	.....	49,687,424	..4145.19000000	4,968,742	.....	.....(2,457,070)	491,414	.....	2,623,389	.....	.....	.....(2,457,070)	.....	.....	.....	0003

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
155132 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG BFM8T61CT2L1QCEMIK50	.08/05/2022	.08/04/2023	.....	20,434,560	..4145.19000000	433,213	.....	.....(214,226)	42,845	.....	.....	.....	.....	.....(214,226)	.....	.....	.....	0003
155142 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCJFXT09	.08/05/2022	.08/04/2023	.....	41,420,217	..4145.19000000	2,427,225	.....	.....(1,200,276)	240,055	.....	8	.....	.....	.....(1,200,276)	.....	.....	.....	0003
155143 Call Options – SPDR Gold shares – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507KV3UQJZ0078	.08/05/2022	.08/04/2023	.....	41,282,900	..165.29000000	3,509,134	.....	.....(1,735,286)	347,057	.....	2,250,192	.....	.....	.....(1,735,286)	.....	.....	.....	0003
155155 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507KV3UQJZ0078	.08/05/2022	.08/04/2023	.....	57,719,284	..4145.19000000	5,731,562	.....	.....(2,834,289)	566,858	.....	1,132,455	.....	.....	.....(2,834,289)	.....	.....	.....	0003
155336 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCJFXT09	.08/12/2022	.08/11/2023	.....	1,352,423	..4206.21000000	83,742	.....	.....(41,411)	9,893	.....	0	.....	.....	.....(41,411)	.....	.....	.....	0003
155746 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUJFSFPU8MPR08K5P83	.08/19/2022	.08/20/2027	.....	1,556,207	..4228.48000000	56,023	.....	.....(5,520)	46,395	.....	32,068	.....	.....	.....(5,520)	.....	.....	.....	0003
155753 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUJFSFPU8MPR08K5P83	.08/19/2022	.08/20/2029	.....	1,396,739	..4228.48000000	51,540	.....	.....(3,627)	45,213	.....	2,398	.....	.....	.....(3,627)	.....	.....	.....	0003
155756 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCJFXT09	.08/19/2022	.08/18/2023	.....	18,643,242	..4228.48000000	410,151	.....	.....(202,822)	56,339	.....	.....	.....	.....	.....(202,822)	.....	.....	.....	0003
155764 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/19/2022	.08/18/2023	.....	33,950,936	..4228.48000000	2,037,056	.....	.....(1,007,335)	279,815	.....	2	.....	.....	.....(1,007,335)	.....	.....	.....	0003
155775 Call Options – SPDR Gold shares – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROWP21HZNB6K528	.08/19/2022	.08/18/2023	.....	31,341,369	..162.72000000	2,592,872	.....	.....(1,282,190)	356,164	.....	1,755,865	.....	.....	.....(1,282,190)	.....	.....	.....	0003
155777 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUJFSFPU8MPR08K5P83	.08/19/2022	.02/20/2024	.....	5,735,110	..4228.48000000	724,230	.....	.....(237,021)	310,760	.....	174,577	.....	.....	.....(237,021)	.....	.....	.....	0003
155783 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUJFSFPU8MPR08K5P83	.08/19/2022	.08/18/2023	.....	59,117,823	..4228.48000000	5,902,915	.....	.....(2,919,024)	810,840	.....	1,037,828	.....	.....	.....(2,919,024)	.....	.....	.....	0003
155787 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/19/2022	.08/18/2023	.....	53,794,996	..4228.48000000	5,379,500	.....	.....(2,660,192)	738,942	.....	2,139,128	.....	.....	.....(2,660,192)	.....	.....	.....	0003
155791 Call Options – iShares U.S. Real Estate – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROWP21HZNB6K528	.08/19/2022	.08/18/2023	.....	20,518,725	..100.66000000	1,815,086	.....	.....(897,570)	249,325	.....	2,271	.....	.....	.....(897,570)	.....	.....	.....	0003
155798 Call Options – iShares MSCI EAFE – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	.08/19/2022	.08/18/2023	.....	1,070,731	..64.69000000	96,152	.....	.....(47,547)	13,208	.....	59,088	.....	.....	.....(47,547)	.....	.....	.....	0003
155799 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/19/2022	.08/18/2023	.....	46,294,354	..4228.48000000	4,629,435	.....	.....(2,289,281)	635,911	.....	2,576,490	.....	.....	.....(2,289,281)	.....	.....	.....	0003
155815 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUJFSFPU8MPR08K5P83	.08/19/2022	.08/18/2023	.....	47,750,958	..4228.48000000	4,767,933	.....	.....(2,357,769)	654,936	.....	878,601	.....	.....	.....(2,357,769)	.....	.....	.....	0003
155837 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/19/2022	.08/18/2023	.....	49,868,482	..4228.48000000	4,986,848	.....	.....(2,466,024)	685,007	.....	1,362,356	.....	.....	.....(2,466,024)	.....	.....	.....	0003
155848 Call Options – S&P Equal Weight Energy – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGQFUS7RNE97	.08/19/2022	.08/18/2023	.....	39,156,817	..1174.45000000	2,286,758	.....	.....(1,130,814)	314,115	.....	2,835,177	.....	.....	.....(1,130,814)	.....	.....	.....	0003
155849 Call Options – S&P U.S. Retiree Spending Index – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG BFM8T61CT2L1QCEMIK50	.08/19/2022	.08/18/2023	.....	9,018,288	..517.00000000	460,835	.....	.....(227,885)	63,301	.....	92,958	.....	.....	.....(227,885)	.....	.....	.....	0003
155852 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/19/2022	.08/18/2023	.....	46,177,520	..4228.48000000	4,617,752	.....	.....(2,283,504)	634,307	.....	1,459,561	.....	.....	.....(2,283,504)	.....	.....	.....	0003
155859 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/19/2022	.08/18/2023	.....	50,342,491	..4228.48000000	5,034,249	.....	.....(2,489,464)	691,518	.....	1,650,883	.....	.....	.....(2,489,464)	.....	.....	.....	0003
155873 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/19/2022	.08/18/2023	.....	52,523,919	..4228.48000000	5,252,392	.....	.....(2,597,337)	721,482	.....	1,885,042	.....	.....	.....(2,597,337)	.....	.....	.....	0003

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)	
155882 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5I70UK5573	.08/19/2022	.08/18/2023	.....	45,409,720	..4228.48000000	.....	4,540,972	.....	(2,245,536)	.....	623,760	.....	2,056,716	.....	(2,245,536)	.....	.....	0003
155888 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5I70UK5573	.08/19/2022	.08/18/2023	.....	47,463,742	..4228.48000000	.....	4,746,374	.....	(2,347,108)	.....	651,974	.....	2,329,478	.....	(2,347,108)	.....	.....	0003
156450 Call Options – SPDR Gold shares – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL	W22LR0WP21HZNBB6K528	.09/06/2022	.09/06/2023	.....	35,127,192	...158.33000000	.....	3,004,880	.....	(1,481,859)	.....	568,046	.....	2,047,247	.....	(1,481,859)	.....	.....	0003
156455 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	.09/06/2022	.03/06/2024	.....	4,689,828	..3908.19000000	.....	599,364	.....	(197,231)	.....	275,028	.....	.....	.....	(197,231)	.....	.....	0003
156458 Call Options – iShares U.S. Real Estate – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGGFU57PNE97	.09/06/2022	.09/06/2023	.....	24,021,255	94.28000000	.....	2,337,267	.....	(1,152,625)	.....	441,840	.....	44,697	.....	(1,152,625)	.....	.....	0003
156460 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	.09/06/2022	.09/06/2023	.....	59,013,669	..3908.19000000	.....	6,155,062	.....	(3,035,373)	.....	1,163,560	.....	.....	.....	(3,035,373)	.....	.....	0003
156474 Call Options – iShares MSCI EAFE – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RH1GC71XBUI1	.09/06/2022	.09/06/2023	.....	1,621,224	60.32000000	.....	156,935	.....	(77,392)	.....	29,667	.....	79,035	.....	(77,392)	.....	.....	0003
156492 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	.09/06/2022	.09/06/2023	.....	49,634,013	..3908.19000000	.....	5,176,774	.....	(2,552,930)	.....	978,623	.....	3,091,847	.....	(2,552,930)	.....	.....	0003
156497 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUJFSFPU8MPRO8K5P83	.09/06/2022	.09/06/2023	.....	34,726,329	..3908.19000000	.....	2,237,070	.....	(1,103,213)	.....	422,898	.....	1,092,259	.....	(1,103,213)	.....	.....	0003
156500 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	ES70DZVZ7FF32TWEFA76	.09/06/2022	.09/06/2027	.....	1,564,291	..3908.19000000	.....	54,750	.....	(5,397)	.....	45,875	.....	73,893	.....	(5,397)	.....	.....	0003
156505 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGGFU57PNE97	.09/06/2022	.09/06/2029	.....	987,646	..3908.19000000	.....	36,049	.....	(2,538)	.....	31,876	.....	72,072	.....	(2,538)	.....	.....	0003
156508 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	.09/06/2022	.09/06/2023	.....	49,819,730	..3908.19000000	.....	5,196,144	.....	(2,562,482)	.....	982,285	.....	1,016,304	.....	(2,562,482)	.....	.....	0003
156526 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	.09/06/2022	.09/06/2023	.....	29,894,449	..3908.19000000	.....	3,117,959	.....	(1,537,623)	.....	589,422	.....	891,971	.....	(1,537,623)	.....	.....	0003
156533 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	.09/06/2022	.09/06/2023	.....	54,517,687	..3908.19000000	.....	5,686,136	.....	(2,804,122)	.....	1,074,913	.....	1,948,705	.....	(2,804,122)	.....	.....	0003
156541 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	.09/06/2022	.09/06/2023	.....	49,490,074	..3908.19000000	.....	5,161,761	.....	(2,545,526)	.....	975,785	.....	1,852,227	.....	(2,545,526)	.....	.....	0003
156549 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	.09/06/2022	.09/06/2023	.....	74,136,801	..3908.19000000	.....	7,732,388	.....	(3,813,233)	.....	1,461,739	.....	3,009,916	.....	(3,813,233)	.....	.....	0003
156559 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	.09/06/2022	.09/06/2023		46,654,409	..3908.19000000		4,866,005		(2,399,673)		919,875		2,119,219		(2,399,673)			0003

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SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
156569 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023	.....	63,928,804	..3908.19000000	6,667,705	.....	.....(3,288,183)	1,260,470	.....	3,075,577	.....	.....	.....(3,288,183)	.....	.....	.....	0003
156572 Call Options – S&P Equal Weight Energy – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6GKMZ0031MB27	09/06/2022	09/06/2023	.....	46,854,214	..1127.44000000	2,787,827	.....	.....(1,374,819)	527,014	.....	5,553,420	.....	.....	.....(1,374,819)	.....	.....	.....	0003
156578 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023	.....	43,231,812	..3908.19000000	4,509,031	.....	.....(2,223,632)	852,392	.....	2,516,008	.....	.....	.....(2,223,632)	.....	.....	.....	0003
156579 Call Options – S&P U.S. Retiree Spending Index – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG BFM8T61CT2L1QCEMIK50	09/06/2022	09/06/2023	.....	13,000,187	..505.76000000	689,010	.....	.....(339,786)	130,251	.....	366,066	.....	.....	.....(339,786)	.....	.....	.....	0003
156588 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG BFM8T61CT2L1QCEMIK50	09/06/2022	09/06/2023	.....	18,186,604	..3908.19000000	383,737	.....	.....(189,240)	72,542	.....	728,744	.....	.....	.....(189,240)	.....	.....	.....	0003
156621 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6GKMZ0031MB27	09/06/2022	09/06/2023	.....	48,723,171	..3908.19000000	5,211,429	.....	.....(2,570,020)	985,174	.....	3,768,882	.....	.....	.....(2,570,020)	.....	.....	.....	0003
156718 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6GKMZ0031MB27	09/09/2022	09/09/2023	.....	998,178	..3994.15000000	68,118	.....	.....(33,592)	13,437	.....	25,316	.....	.....	.....(33,592)	.....	.....	.....	0003
156928 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUJSPFUM8MPR08K5P83	09/20/2022	09/20/2023	.....	54,317,583	..3855.93000000	6,000,463	.....	.....(2,959,133)	1,364,489	.....	1,005,708	.....	.....	.....(2,959,133)	.....	.....	.....	0003
156935 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUHN3JPFGNF3BB653	09/20/2022	09/20/2023	.....	62,240,572	..3855.93000000	7,021,561	.....	.....(3,462,688)	1,596,684	.....	2,120,001	.....	.....	.....(3,462,688)	.....	.....	.....	0003
156943 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUHN3JPFGNF3BB653	09/20/2022	09/20/2023	.....	39,214,733	..3855.93000000	4,423,942	.....	.....(2,181,670)	1,005,992	.....	1,463,964	.....	.....	.....(2,181,670)	.....	.....	.....	0003
156960 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	09/20/2022	09/20/2023	.....	59,815,447	..3855.93000000	6,579,699	.....	.....(3,244,783)	1,496,206	.....	4,513,978	.....	.....	.....(3,244,783)	.....	.....	.....	0003
156969 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUJSPFUM8MPR08K5P83	09/20/2022	09/20/2023	.....	34,678,393	..3855.93000000	2,302,299	.....	.....(1,135,380)	523,536	.....	1,047,035	.....	.....	.....(1,135,380)	.....	.....	.....	0003
156979 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	09/20/2022	09/20/2027	.....	1,181,616	..3855.93000000	45,492	.....	.....(4,484)	38,467	.....	89,558	.....	.....	.....(4,484)	.....	.....	.....	0003
156981 Call Options – S&P U.S. Retiree Spending Index – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG BFM8T61CT2L1QCEMIK50	09/20/2022	09/20/2023	.....	9,746,598	..504.43000000	552,632	.....	.....(272,531)	125,667	.....	315,924	.....	.....	.....(272,531)	.....	.....	.....	0003
156983 Call Options – S&P Equal Weight Energy – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCJFT09	09/20/2022	09/20/2023	.....	37,811,296	..1122.20000000	2,344,300	.....	.....(1,156,093)	533,087	.....	4,725,440	.....	.....	.....(1,156,093)	.....	.....	.....	0003
156984 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	09/20/2022	09/20/2029	.....	908,253	..3855.93000000	35,059	.....	.....(2,468)	31,192	.....	70,444	.....	.....	.....(2,468)	.....	.....	.....	0003
156987 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	09/20/2022	09/20/2023	.....	17,448,140	..3855.93000000	383,859	.....	.....(189,300)	87,289	.....	276,014	.....	.....	.....(189,300)	.....	.....	.....	0003
156990 Call Options – SPDR Gold shares – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	.....	29,492,835	..155.07000000	2,609,413	.....	.....(1,286,834)	593,373	.....	1,653,744	.....	.....	.....(1,286,834)	.....	.....	.....	0003
156998 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	03/20/2024		7,326,267	..3855.93000000	961,210		(316,303)	465,668		219,928			(316,303)				0003

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SCHEDULE DB - PART A - SECTION 1

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
157000 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	.....	62,857,828	..3855.93000000	5,085,121	.....	.....(2,507,731)	1,156,343	.....	1,453,861	.....	.....	.....(2,507,731)	.....	.....	.....	0003
157014 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	.....	50,179,299	..3855.93000000	4,059,444	.....	.....(2,001,917)	923,106	.....	2,020,431	.....	.....	.....(2,001,917)	.....	.....	.....	0003
157027 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	.....	56,234,652	..3855.93000000	4,549,314	.....	.....(2,243,497)	1,034,502	.....	2,493,706	.....	.....	.....(2,243,497)	.....	.....	.....	0003
157038 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	.....	45,715,790	..3855.93000000	3,698,351	.....	.....(1,823,844)	840,995	.....	2,428,335	.....	.....	.....(1,823,844)	.....	.....	.....	0003
157047 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	.....	47,042,346	..3855.93000000	3,805,668	.....	.....(1,876,768)	865,398	.....	2,770,239	.....	.....	.....(1,876,768)	.....	.....	.....	0003
157067 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL	09/20/2022	09/20/2023	.....	20,314,675	..89.16000000	1,808,006	.....	.....(891,619)	411,136	.....	270,961	.....	.....	.....(891,619)	.....	.....	.....	0003
157075 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA	09/20/2022	09/20/2023	.....	925,831	..59.58000000	90,917	.....	.....(44,836)	20,674	.....	42,087	.....	.....	.....(44,836)	.....	.....	.....	0003
157991 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	.....	45,325,656	..3744.52000000	5,204,948	.....	.....(2,566,824)	1,411,753	.....	1,304,100	.....	.....	.....(2,566,824)	.....	.....	.....	0003
158005 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	10/06/2022	10/06/2023	.....	63,021,991	..3744.52000000	7,140,392	.....	.....(3,521,289)	1,936,709	.....	2,212,435	.....	.....	.....(3,521,289)	.....	.....	.....	0003
158016 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	10/06/2022	10/06/2023	.....	50,422,349	..3744.52000000	5,712,348	.....	.....(2,817,048)	1,549,377	.....	1,921,439	.....	.....	.....(2,817,048)	.....	.....	.....	0003
158019 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	.....	62,122,194	..3744.52000000	7,133,770	.....	.....(3,518,023)	1,934,913	.....	2,563,939	.....	.....	.....(3,518,023)	.....	.....	.....	0003
158030 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	.....	37,651,671	..3744.52000000	4,323,710	.....	.....(2,132,241)	1,172,732	.....	1,564,524	.....	.....	.....(2,132,241)	.....	.....	.....	0003
158038 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	.....	43,939,507	..3744.52000000	5,045,770	.....	.....(2,488,325)	1,368,579	.....	2,460,397	.....	.....	.....(2,488,325)	.....	.....	.....	0003
158041 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	.....	46,394,151	..3744.52000000	5,327,648	.....	.....(2,627,333)	1,445,033	.....	2,786,813	.....	.....	.....(2,627,333)	.....	.....	.....	0003
158061 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	.....	63,962,154	..3744.52000000	7,345,061	.....	.....(3,622,222)	1,992,222	.....	5,810,422	.....	.....	.....(3,622,222)	.....	.....	.....	0003
158073 Call Options - S&P U.S. Retiree Spending Index - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG	10/06/2022	10/06/2023	.....	10,955,312	..498.42000000	632,121	.....	.....(311,731)	171,452	.....	498,199	.....	.....	.....(311,731)	.....	.....	.....	0003
158074 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	10/06/2022	10/06/2023	.....	18,551,640	..3744.52000000	352,481	.....	.....(173,826)	95,604	.....	1,306,418	.....	.....	.....(173,826)	.....	.....	.....	0003
158075 Call Options - S&P Equal Weight Energy - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	10/06/2022	10/06/2023		42,815,454	..1110.16000000	2,680,247		(1,321,766)	726,971		5,955,027			(1,321,766)				0003

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158076 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUISFPUB8MPR08K5P83	10/06/2022	10/06/2027		2,932,137	3744.52000000	137,810		(13,585)	117,735		123,183			(13,585)				0003	
158083 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUISFPUB8MPR08K5P83	10/06/2022	10/05/2029	.....	2,188,606	3744.52000000	108,555		(7,645)	97,258		43,447			(7,645)				0003	.....
158086 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	10/06/2022	10/06/2023	.....	34,614,121	159.63000000	3,239,585	(1,597,604)	878,682		1,928,009			(1,597,604)				0003	.....
158094 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	10/06/2022	10/06/2023	.....	46,775,196	3744.52000000	3,915,130	(1,930,749)	1,061,912		2,230,762			(1,930,749)				0003	.....
158110 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	10/06/2022	10/06/2023	.....	38,412,021	3744.52000000	2,612,300		(1,288,258)	708,542		1,213,749			(1,288,258)				0003	.....
158130 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGOFU57RNE97	10/06/2022	10/06/2023	.....	23,095,663	80.52000000	2,498,950	(1,232,359)	677,797		1,003,857			(1,232,359)				0003	.....
158140 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIGC71XBU11	10/06/2022	10/06/2023	.....	1,449,217	57.75000000	147,675		(72,826)	40,054		73,886			(72,826)				0003	.....
158141 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUISFPUB8MPR08K5P83	10/06/2022	04/05/2024	.....	6,051,642	3744.52000000	846,625		(278,597)	434,921		187,371			(278,597)				0003	.....
158143 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BANK OF AMERICA, N.A.	B4TYDEB6GKMZ0031MB27	10/06/2022	10/06/2023	.....	63,435,360	3744.52000000	10,301,901	(5,080,390)	2,794,214		1,206,710			(5,080,390)				0003	.....
158151 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUHNSJPF6GFNF3BB653	10/06/2022	10/06/2023	.....	49,425,607	3744.52000000	5,675,764		(2,799,007)	1,539,454		968,823			(2,799,007)				0003	.....
158397 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSPRFMYMCJFX09	10/14/2022	10/13/2023	.....	1,552,292	3583.15000000	129,338	(63,958)	37,664		269,070			(63,958)				0003	.....
158672 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGOFU57RNE97	10/20/2022	10/20/2023	.....	28,660,761	151.45000000	2,782,961	(1,372,419)	861,574		1,729,277			(1,372,419)				0003	.....
158690 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGOFU57RNE97	10/20/2022	10/20/2023	.....	18,630,293	78.33000000	2,090,320	(1,030,843)	647,140		905,304			(1,030,843)				0003	.....
158703 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIGC71XBU11	10/20/2022	10/20/2023	.....	788,916	56.96000000	82,678		(40,773)	25,596		36,674			(40,773)				0003	.....
158715 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	10/20/2022	10/20/2023	.....	58,410,257	3665.78000000	6,892,410		(3,398,997)	2,133,815		4,748,483			(3,398,997)				0003	.....
158720 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUISFPUB8MPR08K5P83	10/20/2022	10/20/2023	.....	29,295,136	3665.78000000	2,079,662		(1,025,587)	643,840		871,396			(1,025,587)				0003	.....
158726 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	10/20/2022	10/20/2023	.....	39,211,139	3665.78000000	4,626,914		(2,281,766)	1,432,442		4,068,452			(2,281,766)				0003	.....
158729 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	E570DZVZ7FF32WEFA76	10/20/2022	10/20/2027	.....	6,530,815	3665.78000000	321,316	(31,674)	276,972		434,657			(31,674)				0003	.....
158732 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUISFPUB8MPR08K5P83	10/20/2022	10/19/2029	.....	3,668,206	3665.78000000	186,345		(13,123)	167,973		66,039			(13,123)				0003	.....
158743 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	10/20/2022	04/19/2024		5,498,670	3665.78000000	780,810	(256,939)	421,095		174,757			(256,939)				0003	

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SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
158752 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	10/20/2023	.....	59,019,058	..3665.78000000	6,881,623	.....	.....(3,393,677)	2,130,475	.....	.....1,111,443	.....	.....	.....(3,393,677)	.....	.....	.....	0003
158755 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	10/20/2023	.....	72,927,027	..3665.78000000	8,503,292	.....	.....(4,193,404)	2,632,526	.....	.....1,786,439	.....	.....	.....(4,193,404)	.....	.....	.....	0003
158769 Call Options – S&P Equal Weight Energy – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	10/20/2022	10/20/2023	.....	38,430,560	..1103.30000000	2,505,673	.....	.....(1,235,674)	775,729	.....	.....5,676,154	.....	.....	.....(1,235,674)	.....	.....	.....	0003
158771 Call Options – S&P U.S. Retiree Spending Index – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG	10/20/2022	10/20/2023	.....	8,641,892	..496.73000000	532,341	.....	.....(262,524)	164,807	.....	.....439,087	.....	.....	.....(262,524)	.....	.....	.....	0003
158774 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/20/2022	10/20/2023	.....	17,015,922	..3665.78000000	318,198	.....	.....(156,919)	98,511	.....	.....906,032	.....	.....	.....(156,919)	.....	.....	.....	0003
158776 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	10/20/2023	.....	43,043,589	..3665.78000000	5,018,883	.....	.....(2,475,066)	1,553,791	.....	.....1,464,440	.....	.....	.....(2,475,066)	.....	.....	.....	0003
158792 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	10/20/2023	.....	79,898,021	..3665.78000000	9,316,110	.....	.....(4,594,246)	2,884,166	.....	.....3,170,520	.....	.....	.....(4,594,246)	.....	.....	.....	0003
158810 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	10/20/2023	.....	31,755,149	..3665.78000000	3,702,651	.....	.....(1,825,965)	1,146,300	.....	.....1,298,710	.....	.....	.....(1,825,965)	.....	.....	.....	0003
158821 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	10/20/2023	.....	48,197,272	..3665.78000000	5,619,803	.....	.....(2,771,410)	1,739,829	.....	.....2,300,146	.....	.....	.....(2,771,410)	.....	.....	.....	0003
158828 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	10/20/2023	.....	58,285,902	..3665.78000000	6,796,137	.....	.....(3,351,520)	2,104,010	.....	.....3,348,505	.....	.....	.....(3,351,520)	.....	.....	.....	0003
159728 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	11/04/2022	11/06/2023	.....	38,842,841	..3770.55000000	4,481,240	.....	.....(2,197,883)	1,587,360	.....	.....1,268,192	.....	.....	.....(2,197,883)	.....	.....	.....	0003
159745 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	11/04/2022	11/06/2023	.....	43,403,478	..3770.55000000	5,007,355	.....	.....(2,455,924)	1,773,723	.....	.....1,556,924	.....	.....	.....(2,455,924)	.....	.....	.....	0003
159748 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	11/04/2022	11/06/2023	.....	53,801,564	..3770.55000000	6,206,978	.....	.....(3,044,294)	2,198,657	.....	.....2,078,242	.....	.....	.....(3,044,294)	.....	.....	.....	0003
159760 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	11/04/2022	11/06/2023	.....	56,716,378	..3770.55000000	6,543,353	.....	.....(3,209,274)	2,317,809	.....	.....2,347,042	.....	.....	.....(3,209,274)	.....	.....	.....	0003
159769 Call Options – S&P Equal Weight Energy – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A.	11/04/2022	11/06/2023	.....	45,692,708	..1115.53000000	3,024,857	.....	.....(1,483,581)	1,071,475	.....	.....6,318,009	.....	.....	.....(1,483,581)	.....	.....	.....	0003
159771 Call Options – S&P U.S. Retiree Spending Index – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG	11/04/2022	11/06/2023	.....	13,151,244	..503.66000000	825,882	.....	.....(405,065)	292,547	.....	.....536,053	.....	.....	.....(405,065)	.....	.....	.....	0003
159794 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	11/04/2022	11/06/2023	.....	42,547,547	..3770.55000000	4,908,605	.....	.....(2,407,490)	1,738,743	.....	.....1,955,318	.....	.....	.....(2,407,490)	.....	.....	.....	0003
159810 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	11/04/2022	11/06/2023	.....	53,553,142	..3770.55000000	6,178,318	.....	.....(3,030,238)	2,188,505	.....	.....2,773,391	.....	.....	.....(3,030,238)	.....	.....	.....	0003
159815 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	11/04/2022	11/06/2023		50,254,079	..3770.55000000	5,797,556		(2,843,488)	2,053,630		2,871,492			(2,843,488)				0003

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159820 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	11/04/2022	11/06/2023		51,856,153	..3770.55000000	5,982,495		(2,934,194)	2,119,140		3,583,374			(2,934,194)				0003
159831 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	11/04/2022	11/06/2023	.....	76,202,158	..3770.55000000	8,791,372	.....	.....(4,311,844)	3,114,110	.....	7,521,333	.....	.....	.....(4,311,844)	.....	.....	.....	0003
159834 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	11/04/2022	11/05/2027	.....	11,680,363	..3770.55000000	496,415	.....	.....(48,908)	432,020	.....	1,112,928	.....	.....	.....(48,908)	.....	.....	.....	0003
159838 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	11/04/2022	11/06/2029	.....	7,664,623	..3770.55000000	344,908	.....	.....(24,261)	312,965	.....	689,174	.....	.....	.....(24,261)	.....	.....	.....	0003
159842 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/04/2022	05/06/2024	.....	8,295,210	..3770.55000000	1,154,692	.....	.....(378,588)	656,218	.....	248,187	.....	.....	.....(378,588)	.....	.....	.....	0003
159850 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/04/2022	11/06/2023	.....	82,197,990	..3770.55000000	9,271,976	.....	.....(4,547,563)	3,284,351	.....	1,523,997	.....	.....	.....(4,547,563)	.....	.....	.....	0003
159852 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/04/2022	11/06/2023	.....	47,814,156	..3770.55000000	5,393,462	.....	.....(2,645,295)	1,910,491	.....	944,178	.....	.....	.....(2,645,295)	.....	.....	.....	0003
159862 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A.	11/04/2022	11/06/2023	.....	30,915,219	..156.47000000	2,986,410	.....	.....(1,464,724)	1,057,856	.....	1,741,209	.....	.....	.....(1,464,724)	.....	.....	.....	0003
159884 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A.	11/04/2022	11/06/2023	.....	24,333,525	..82.65000000	2,569,620	.....	.....(1,260,304)	910,220	.....	955,823	.....	.....	.....(1,260,304)	.....	.....	.....	0003
159894 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA	11/04/2022	11/06/2023	.....	1,151,938	..60.75000000	116,000	.....	.....(56,894)	41,090	.....	52,682	.....	.....	.....(56,894)	.....	.....	.....	0003
159900 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	11/04/2022	11/06/2023	.....	40,610,293	..3770.55000000	649,765	.....	.....(318,686)	230,162	.....	1,241,861	.....	.....	.....(318,686)	.....	.....	.....	0003
159907 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	11/04/2022	11/06/2023	.....	57,344,121	..3770.55000000	6,615,877	.....	.....(3,244,844)	2,343,499	.....	1,591,549	.....	.....	.....(3,244,844)	.....	.....	.....	0003
159911 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG	11/04/2022	11/06/2023	.....	21,552,501	..3770.55000000	362,082	.....	.....(177,588)	128,258	.....	1,392,452	.....	.....	.....(177,588)	.....	.....	.....	0003
160252 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A.	11/11/2022	11/11/2023	.....	1,236,181	..3742.94162740	131,801	.....	.....(64,998)	48,748	.....	159,839	.....	.....	.....(64,998)	.....	.....	.....	0003
160843 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	11/18/2022	11/19/2027	.....	12,068,585	..3965.34000000	582,913	.....	.....(57,430)	511,764	.....	832,845	.....	.....	.....(57,430)	.....	.....	.....	0003
160847 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	11/18/2022	11/20/2029	.....	7,589,428	..3965.34000000	380,230	.....	.....(26,745)	347,096	.....	156,145	.....	.....	.....(26,745)	.....	.....	.....	0003
160852 Call Options - S&P Equal Weight Energy - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A.	11/18/2022	11/20/2023	.....	39,938,226	..1138.09000000	2,643,911	.....	.....(1,296,741)	1,037,393	.....	4,729,535	.....	.....	.....(1,296,741)	.....	.....	.....	0003
160853 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/18/2022	11/20/2023	.....	29,389,556	..162.79000000	2,729,714	.....	.....(1,338,824)	1,071,059	.....	1,408,547	.....	.....	.....(1,338,824)	.....	.....	.....	0003
160854 Call Options - S&P U.S. Retiree Spending Index - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG	11/18/2022	11/20/2023	.....	11,578,651	..508.36000000	722,508	.....	.....(354,363)	283,491	.....	405,351	.....	.....	.....(354,363)	.....	.....	.....	0003
160855 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL	11/18/2022	11/20/2023		18,373,857	..86.59000000	1,803,823		(884,709)	707,767		529,068			(884,709)				0003

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160872 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	4PQUHN3JPF6GFNF3BB653	11/18/2022	05/20/2024	6,584,397	..3965.34000000	737,256		(241,723)	437,788		201,091			(241,723)				0003
160874 Call Options - Ishares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	THROUGH CBO	9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023	1,027,143	65.15000000	96,487	.....	.....(47,323)	37,859	.....	.....49,891	.....	.....	.....(47,323)	.....	.....	.....	0003
160893 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	E570DZIWZ7FF32WIEFA76	11/18/2022	11/20/2023	68,905,179	..3965.34000000	7,620,277	.....	.....(3,737,465)	2,989,972	.....	.....1,223,735	.....	.....	.....(3,737,465)	.....	.....	.....	0003
160896 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	THROUGH CBO	9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023	47,256,107	..3965.34000000	5,169,840	.....	.....(2,535,616)	2,028,493	.....	.....1,366,840	.....	.....	.....(2,535,616)	.....	.....	.....	0003
160908 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	E570DZIWZ7FF32WIEFA76	11/18/2022	11/20/2023	60,874,627	..3965.34000000	6,732,172	.....	.....(3,301,883)	2,641,506	.....	.....1,311,906	.....	.....	.....(3,301,883)	.....	.....	.....	0003
160909 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	THROUGH CBO	9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023	46,984,640	..3965.34000000	5,140,141	.....	.....(2,521,050)	2,016,840	.....	.....1,819,351	.....	.....	.....(2,521,050)	.....	.....	.....	0003
160921 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	THROUGH CBO	9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023	32,843,563	..3965.34000000	3,593,101	.....	.....(1,762,284)	1,409,827	.....	.....1,410,178	.....	.....	.....(1,762,284)	.....	.....	.....	0003
160932 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	THROUGH CBO	9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023	65,871,276	..3965.34000000	7,206,348	.....	.....(3,534,448)	2,827,559	.....	.....2,817,016	.....	.....	.....(3,534,448)	.....	.....	.....	0003
160936 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	E570DZIWZ7FF32WIEFA76	11/18/2022	11/20/2023	45,564,355	..3965.34000000	5,038,997	.....	.....(2,471,443)	1,977,154	.....	.....1,652,542	.....	.....	.....(2,471,443)	.....	.....	.....	0003
160943 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/18/2022	11/20/2023	50,496,533	..3965.34000000	5,662,772	.....	.....	.....(2,777,381)	2,221,905	.....	.....4,523,086	.....	.....	.....(2,777,381)	.....	.....	.....	0003
160972 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/18/2022	11/20/2023	34,842,921	..3965.34000000	2,132,684	.....	.....	.....(1,046,003)	836,803	.....	.....994,253	.....	.....	.....(1,046,003)	.....	.....	.....	0003
160985 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	THROUGH CBO	9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023	45,997,944	..3965.34000000	5,032,196	.....	.....(2,468,107)	1,974,486	.....	.....2,377,410	.....	.....	.....(2,468,107)	.....	.....	.....	0003
160992 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	THROUGH CBO	9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023	51,071,041	..3965.34000000	5,587,195	.....	.....(2,740,314)	2,192,251	.....	.....2,947,984	.....	.....	.....(2,740,314)	.....	.....	.....	0003
160993 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG	BFMBT61CT2L1QCENIK50	11/18/2022	11/20/2023	17,723,482	..3965.34000000	342,063	.....	.....(167,769)	134,216	.....	.....678,766	.....	.....	.....(167,769)	.....	.....	.....	0003
161833 Call Options - Ishares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	SOCIETE GENERAL ... JPMORGAN CHASE BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02RNE81BXP4R0TD8PU41	12/06/2022	12/06/2023	18,574,287	86.37000000	1,727,409	.....	.....(851,873)	757,220	.....	.....551,827	.....	.....	.....(851,873)	.....	.....	.....	0003
161845 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	THROUGH CBO	7H6GLXDRUG0FU57RNE97	12/06/2022	12/06/2023	16,030,576	..3941.26000000	312,596	.....	.....(154,157)	137,028	.....	.....837,083	.....	.....	.....(154,157)	.....	.....	.....	0003
161847 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/06/2022	12/06/2023	28,693,189	..164.84000000	2,579,672	.....	.....(1,272,167)	1,130,815	.....	.....1,297,390	.....	.....	.....(1,272,167)	.....	.....	.....	0003
161858 Call Options - Ishares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/06/2022	12/06/2023	786,120	66.53000000	69,833		(34,438)	30,612		41,393			(34,438)				0003

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
161868 Call Options - S&P Equal Weight Energy - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPFMYMCJFXT09	12/06/2022	12/06/2023	.....	41,734,898	1137.22000000	2,739,896	.....	(1,351,182)	1,201,050	.....	5,067,891	.....	.....	(1,351,182)	.....	.....	.....	0003
161869 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	12/06/2022	06/06/2024	.....	6,306,016	3941.26000000	831,136	.....	(273,001)	520,218	.....	199,966	.....	.....	(273,001)	.....	.....	.....	0003
161871 Call Options - S&P U.S. Retiree Spending Index - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG BFM8T61CT2L1QCEMIK50	12/06/2022	12/06/2023	.....	10,850,695	511.36000000	671,658	.....	(331,229)	294,425	.....	354,901	.....	.....	(331,229)	.....	.....	.....	0003
161874 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	12/06/2022	12/06/2023	.....	42,938,254	3941.26000000	4,585,843	.....	(2,261,512)	2,010,233	.....	828,397	.....	.....	(2,261,512)	.....	.....	.....	0003
161884 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	12/06/2022	12/06/2023	.....	62,999,881	3941.26000000	6,868,308	.....	(3,387,111)	3,010,765	.....	1,097,586	.....	.....	(3,387,111)	.....	.....	.....	0003
161886 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	12/06/2022	12/06/2023	.....	42,233,596	3941.26000000	4,510,585	.....	(2,224,398)	1,977,243	.....	1,129,889	.....	.....	(2,224,398)	.....	.....	.....	0003
161899 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	12/06/2022	12/06/2023	.....	49,507,062	3941.26000000	5,397,308	.....	(2,661,686)	2,365,943	.....	1,622,713	.....	.....	(2,661,686)	.....	.....	.....	0003
161902 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	12/06/2022	12/06/2023	.....	29,559,450	3941.26000000	1,658,250	.....	(817,767)	726,904	.....	824,392	.....	.....	(817,767)	.....	.....	.....	0003
161925 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	12/06/2022	12/06/2023	.....	38,579,747	3941.26000000	4,206,002	.....	(2,074,193)	1,843,727	.....	1,430,677	.....	.....	(2,074,193)	.....	.....	.....	0003
161940 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	12/06/2022	12/06/2023	.....	50,076,725	3941.26000000	5,459,413	.....	(2,692,313)	2,393,167	.....	1,934,366	.....	.....	(2,692,313)	.....	.....	.....	0003
161942 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	12/06/2022	12/06/2023	.....	42,726,240	3941.26000000	4,658,056	.....	(2,297,124)	2,041,888	.....	1,781,745	.....	.....	(2,297,124)	.....	.....	.....	0003
161957 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	12/06/2022	12/06/2023	.....	59,655,691	3941.26000000	6,503,721	.....	(3,207,315)	2,850,946	.....	2,841,803	.....	.....	(3,207,315)	.....	.....	.....	0003
161962 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	12/06/2022	12/06/2023	.....	66,457,345	3941.26000000	7,245,244	.....	(3,572,997)	3,175,998	.....	3,589,402	.....	.....	(3,572,997)	.....	.....	.....	0003
161964 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	12/06/2022	12/06/2023	.....	52,186,877	3941.26000000	5,689,464	.....	(2,805,763)	2,494,012	.....	4,365,508	.....	.....	(2,805,763)	.....	.....	.....	0003
161965 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	12/06/2022	12/06/2027	.....	8,250,589	3941.26000000	391,903	.....	(38,632)	347,905	.....	619,496	.....	.....	(38,632)	.....	.....	.....	0003
161970 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	12/06/2022	12/06/2029	.....	10,495,862	3941.26000000	524,793	.....	(36,943)	482,719	.....	877,969	.....	.....	(36,943)	.....	.....	.....	0003
162048 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPFMYMCJFXT09	12/09/2022	12/09/2023	.....	2,301,254	3937.33544339	157,725	.....	(77,782)	70,436	.....	197,970	.....	.....	(77,782)	.....	.....	.....	0003
162527 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GCT1XBUI1	12/20/2022	12/20/2023	.....	29,854,890	3821.62000000	1,916,684	.....	(945,214)	913,707	.....	839,468	.....	.....	(945,214)	.....	.....	.....	0003
162533 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUJFSFPU8MPRO8K5P83	12/20/2022	12/20/2027	.....	6,695,471	3821.62000000	321,383	.....	(31,681)	287,766	.....	469,136	.....	.....	(31,681)	.....	.....	.....	0003
162536 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUJFSFPU8MPRO8K5P83	12/20/2022	12/20/2029	.....	10,151,085	3821.62000000	507,554	.....	(35,729)	469,642	.....	687,966	.....	.....	(35,729)	.....	.....	.....	0003
162540 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023		27,730,919	169.08000000	2,496,242		(1,231,023)	1,189,989		1,089,145			(1,231,023)				0003

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SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)	
162559 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022		511,690	65.52000000	47,795		(23,570)	22,785		22,008			(23,570)				0003	
162574 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022		6,114,592	3821.62000000	813,248		(267,125)	529,798		187,197			(267,125)				0003	
162578 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022		52,356,194	3821.62000000	5,654,401		(2,788,472)	2,695,523		926,773			(2,788,472)				0003	
162586 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022		47,703,372	3821.62000000	5,151,902		(2,540,664)	2,455,975		933,987			(2,540,664)				0003	
162587 Call Options - S&P Equal Weight Energy - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	B4TYDEB6GKMZ0031MB27	12/20/2022		41,531,267	1123.49000000	2,707,839		(1,335,373)	1,290,860		5,663,058			(1,335,373)				0003	
162590 Call Options - S&P U.S. Retiree Spending Index - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	BFMBT61CT2L1QCEMIK50	12/20/2022		10,505,238	508.98000000	650,274		(320,683)	309,994		403,028			(320,683)				0003	
162601 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022		44,369,085	3821.62000000	4,791,804		(2,363,081)	2,284,312		1,201,226			(2,363,081)				0003	
162614 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022		45,763,135	3821.62000000	4,942,359		(2,437,328)	2,356,084		1,507,047			(2,437,328)				0003	
162625 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022		49,857,963	3821.62000000	5,384,595		(2,655,417)	2,566,903		1,817,980			(2,655,417)				0003	
162644 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022		63,641,591	3821.62000000	6,873,209		(3,389,528)	3,276,544		2,897,243			(3,389,528)				0003	
162656 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022		49,681,060	3821.62000000	5,365,490		(2,645,995)	2,557,795		2,600,816			(2,645,995)				0003	
162660 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022		47,089,467	3821.62000000	5,085,601		(2,507,968)	2,424,369		2,824,249			(2,507,968)				0003	
162677 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGOFU57RNE97	12/20/2022		19,054,087	83.29000000	1,953,043		(963,144)	931,040		649,647			(963,144)				0003	
162692 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP517OUK5573	12/20/2022		32,587,007	3821.62000000	3,588,735		(1,769,787)	1,710,794		3,068,505			(1,769,787)				0003	
162698 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	BFMBT61CT2L1QCEMIK50	12/20/2022		19,414,179	3821.62000000	423,229		(208,716)	201,759		1,316,438			(208,716)				0003	
162699 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022		52,322,182	3821.62000000	5,650,728		(2,786,660)	2,693,772		2,059,937			(2,786,660)				0003	

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE DB - PART A - SECTION 1

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
163181 Call Options - S&P Equal Weight Energy - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCJFXT09	.01/06/2023	.01/05/2024	.....	47,226,592	1134.16000000	.....	3,088,619	(1,484,913)	1,603,706	.....	6,079,499	.....	.....	(1,484,913)	.....	.....	.....	0003
163183 Call Options - S&P U.S. Retiree Spending Index - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG BFM8T61CT2L1QCEMIK50	.01/06/2023	.01/05/2024	.....	10,898,213	515.20000000	.....	.671,330	(322,755)	.348,575	.....	339,662	.....	.....	(322,755)	.....	.....	.....	0003
163191 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIVZ7FF32TWEFA76	.01/06/2023	.01/05/2024	.....	44,067,947	3895.08000000	.....	4,600,961	(2,212,001)	2,388,961	.....	1,146,595	.....	.....	(2,212,001)	.....	.....	.....	0003
163210 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIVZ7FF32TWEFA76	.01/06/2023	.01/05/2024	.....	64,654,254	3895.08000000	.....	6,750,297	(3,245,335)	3,504,962	.....	2,112,488	.....	.....	(3,245,335)	.....	.....	.....	0003
163272 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIVZ7FF32TWEFA76	.01/06/2023	.01/05/2024	.....	61,909,679	3895.08000000	.....	6,463,746	(3,107,570)	3,356,176	.....	2,463,043	.....	.....	(3,107,570)	.....	.....	.....	0003
163301 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUHN3JPGFNF3BB653	.01/06/2023	.01/05/2024	.....	34,125,791	3895.08000000	.....	3,541,300	(1,702,548)	1,838,752	.....	1,433,507	.....	.....	(1,702,548)	.....	.....	.....	0003
163312 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.01/06/2023	.01/05/2024	.....	52,694,569	3895.08000000	.....	5,476,141	(2,632,760)	2,843,381	.....	2,605,106	.....	.....	(2,632,760)	.....	.....	.....	0003
163325 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.01/06/2023	.01/05/2024	.....	49,352,385	3895.08000000	.....	5,131,438	(2,467,037)	2,664,400	.....	2,767,356	.....	.....	(2,467,037)	.....	.....	.....	0003
163331 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.01/06/2023	.01/05/2024	.....	41,945,284	3895.08000000	.....	4,366,468	(2,099,263)	2,267,204	.....	3,677,027	.....	.....	(2,099,263)	.....	.....	.....	0003
163342 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIGC71XBU11	.01/06/2023	.01/05/2024	.....	29,739,668	3895.08000000	.....	1,775,458	(853,586)	.921,873	.....	.815,082	.....	.....	(853,586)	.....	.....	.....	0003
163348 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWISFPU8MPR08K5P83	.01/06/2023	.01/05/2024	.....	19,861,310	3895.08000000	.....	.436,949	(210,072)	.226,877	.....	1,217,404	.....	.....	(210,072)	.....	.....	.....	0003
163350 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0WP21HZNBB6K528	.01/06/2023	.01/05/2024	.....	17,147,318	.86.21000000	.....	1,637,610	(787,312)	.850,297	.....	.486,031	.....	.....	(787,312)	.....	.....	.....	0003
163351 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIVZ7FF32TWEFA76	.01/06/2023	.01/06/2028	.....	11,272,223	3895.08000000	.....	.516,268	(49,478)	.466,790	.....	.704,550	.....	.....	(49,478)	.....	.....	.....	0003
163356 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIVZ7FF32TWEFA76	.01/06/2023	.01/04/2030	.....	13,719,968	3895.08000000	.....	.684,626	(46,892)	.637,734	.....	.586,186	.....	.....	(46,892)	.....	.....	.....	0003
163360 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57PNE97	.01/06/2023	.01/05/2024	.....	1,090,695	.68.13000000	.....	100,998	(48,557)	.52,441	.....	.40,513	.....	.....	(48,557)	.....	.....	.....	0003
163368 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIVZ7FF32TWEFA76	.01/06/2023	.01/05/2024	.....	53,847,905	3895.08000000	.....	5,622,048	(2,702,908)	2,919,140	.....	.950,631	.....	.....	(2,702,908)	.....	.....	.....	0003
163374 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIVZ7FF32TWEFA76	.01/06/2023	.01/05/2024	.....	50,082,847	3895.08000000	.....	5,228,953	(2,513,920)	2,715,033	.....	.888,551	.....	.....	(2,513,920)	.....	.....	.....	0003
163380 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.01/06/2023	.01/05/2024	.....	33,147,219	173.71000000	.....	3,026,394	(1,454,997)	1,571,397	.....	1,026,436	.....	.....	(1,454,997)	.....	.....	.....	0003
163386 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.01/06/2023	.07/05/2024	.....	4,284,588	3895.08000000	.....	.539,858	(173,031)	.366,827	.....	.145,012	.....	.....	(173,031)	.....	.....	.....	0003
163389 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.01/06/2023	.01/05/2024	.....	34,115,603	3895.08000000	.....	3,479,808	(1,672,984)	1,806,823	.....	1,239,574	.....	.....	(1,672,984)	.....	.....	.....	0003
163622 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCJFXT09	.01/13/2023	.01/13/2024	.....	963,504	3969.61000000	.....	.55,881	(25,721)	.30,161	.....	.90,195	.....	.....	(25,721)	.....	.....	.....	0003
163820 Call Options - S&P Equal Weight Energy - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWISFPU8MPR08K5P83	.01/20/2023	.01/19/2024	.....	33,921,132	1145.17000000	.....	2,201,481	(973,732)	1,227,749	.....	4,091,544	.....	.....	(973,732)	.....	.....	.....	0003

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)	
163821 Call Options – S&P U.S. Retiree Spending Index – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	BFMBT61CT2L1QCEMIK50	.01/20/2023	.01/19/2024	7,682,400	515.67000000		470,163	(207,957)	262,206		248,718			(207,957)				0003	
163825 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUJSPFUBM8PRO8K5P83	.01/20/2023	.01/19/2024	48,503,638	3972.61000000		4,753,405	(2,102,468)	2,650,937		895,113			(2,102,468)				0003	
163846 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUJSPFUBM8PRO8K5P83	.01/20/2023	.01/19/2024	47,719,167	3972.61000000		4,680,773	(2,070,342)	2,610,431		1,265,418			(2,070,342)				0003	
163857 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUJSPFUBM8PRO8K5P83	.01/20/2023	.01/19/2024	53,349,235	3972.61000000		5,233,026	(2,314,608)	2,918,419		1,835,648			(2,314,608)				0003	
163871 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUJSPFUBM8PRO8K5P83	.01/20/2023	.01/19/2024	66,289,577	3972.61000000		6,502,345	(2,876,037)	3,626,308		2,627,635			(2,876,037)				0003	
163880 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	E570DZIWZ7FF32WIEFA76	.01/20/2023	.01/19/2024	63,650,291	3972.61000000		6,158,165	(2,723,804)	3,434,361		2,842,268			(2,723,804)				0003	
163905 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	E570DZIWZ7FF32WIEFA76	.01/20/2023	.01/19/2024	59,390,723	3972.61000000		5,746,052	(2,541,523)	3,204,529		3,084,903			(2,541,523)				0003	
163907 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSPRFMYMCJFXTO9	.01/20/2023	.01/19/2024	46,072,459	3972.61000000		4,549,655	(2,012,348)	2,537,308		3,673,123			(2,012,348)				0003	
163916 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RH1GCT1XBU11	.01/20/2023	.01/19/2024	23,818,982	3972.61000000		1,310,044	(579,443)	730,601		670,518			(579,443)				0003	
163921 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSPRFMYMCJFXTO9	.01/20/2023	.01/19/2024	16,019,215	3972.61000000		402,082	(177,844)	224,238		823,761			(177,844)				0003	
163922 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	E570DZIWZ7FF32WIEFA76	.01/20/2023	.01/20/2028	5,705,912	3972.61000000		263,613	(23,243)	240,370		344,589			(23,243)				0003	
163924 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUJSPFUBM8PRO8K5P83	.01/20/2023	.01/18/2030	18,090,591	3972.61000000		891,866	(56,200)	835,666		1,086,868			(56,200)				0003	
163946 Call Options – iShares U.S. Real Estate – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	I22LROWP21HZNBB6K528	.01/20/2023	.01/19/2024	17,685,682	89.47000000		1,651,228	(730,351)	920,877		395,406			(730,351)				0003	
163954 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUJSPFUBM8PRO8K5P83	.01/20/2023	.07/19/2024	4,043,828	3972.61000000		500,343	(147,537)	352,806		136,336			(147,537)				0003	
163964 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUJSPFUBM8PRO8K5P83	.01/20/2023	.01/19/2024	50,655,583	3972.61000000		4,964,298	(2,195,747)	2,768,551		861,317			(2,195,747)				0003	
163966 Call Options – SPDR Gold shares – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	.01/20/2023	.01/19/2024	27,288,691	179.29000000		2,512,891	(1,111,471)	1,401,420		665,909			(1,111,471)				0003	
163973 Call Options – iShares MSCI EAFE – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	.01/20/2023	.01/19/2024	946,734	71.01000000		77,328	(34,203)	43,125		30,917			(34,203)				0003	
164455 Call Options – S&P Equal Weight Energy – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGOFU57PNE97	.02/06/2023	.02/06/2024	53,904,509	1167.94000000		3,557,698	(1,403,585)	2,154,113		5,576,877			(1,403,585)				0003	
164461 Call Options – S&P U.S. Retiree Spending Index – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	BFMBT61CT2L1QCEMIK50	.02/06/2023	.02/06/2024	12,080,110	518.61000000		758,631	(299,295)	459,335		369,994			(299,295)				0003	
164465 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSPRFMYMCJFXTO9	.02/06/2023	.02/06/2024	63,985,221	4111.08000000		6,068,998	(2,394,345)	3,674,654		1,057,542			(2,394,345)				0003	
164494 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	B4TYDEB6GKMZ0031MB27	.02/06/2023	.02/06/2024	49,998,347	4111.08000000		4,726,583	(1,864,734)	2,861,849		1,202,933			(1,864,734)				0003	
164511 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	B4TYDEB6GKMZ0031MB27	.02/06/2023	.02/06/2024	33,114,718	4111.08000000		3,130,493	(1,235,044)	1,895,449		983,334			(1,235,044)				0003	
164536 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	B4TYDEB6GKMZ0031MB27	.02/06/2023	.02/06/2024	50,710,941	4111.08000000		4,793,948	(1,891,311)	2,902,637		1,787,843			(1,891,311)				0003	
164563 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	B4TYDEB6GKMZ0031MB27	.02/06/2023	.02/06/2024	73,739,809	4111.08000000		6,970,977	(2,750,194)	4,220,783		2,737,129			(2,750,194)				0003	

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SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
164571 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6KMZ0031MB27	.02/06/2023	.02/06/2024	.....	37,982,426	..4111.08000000	.....	3,590,661	(1,416,589)	2,174,071	.....	1,471,441	.....		.....(1,416,589)	.....	.....	.....	0003
164575 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6KMZ0031MB27	.02/06/2023	.02/06/2024	.....	50,489,635	..4111.08000000	.....	4,773,027	(1,883,057)	2,889,970	.....	2,249,135	.....		.....(1,883,057)	.....	.....	.....	0003
164581 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIGC71XB11	.02/06/2023	.02/06/2024	.....	45,021,501	..4111.08000000	.....	4,268,038	(1,683,829)	2,584,209	.....	2,181,256	.....		.....(1,683,829)	.....	.....	.....	0003
164584 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIGC71XB11	.02/06/2023	.02/06/2024	.....	49,629,481	..4111.08000000	.....	4,704,875	(1,856,170)	2,848,705	.....	2,573,058	.....		.....(1,856,170)	.....	.....	.....	0003
164592 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIGC71XB11	.02/06/2023	.02/06/2024	.....	47,789,942	..4111.08000000	.....	4,530,486	(1,787,370)	2,743,116	.....	3,676,290	.....		.....(1,787,370)	.....	.....	.....	0003
164600 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. ES70DZVZ7FF32WFEA76	.02/06/2023	.02/04/2028	.....	5,580,626	..4111.08000000	.....	257,825	(20,355)	237,470	.....	291,491	.....		.....(20,355)	.....	.....	.....	0003
164603 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. ES70DZVZ7FF32WFEA76	.02/06/2023	.02/06/2030	.....	20,840,541	..4111.08000000	.....	1,025,355	(57,744)	967,611	.....	857,218	.....		.....(57,744)	.....	.....	.....	0003
164605 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.02/06/2023	.02/06/2024	.....	2,425,221	70.69000000	.....	190,409	(75,120)	115,288	.....	103,569	.....		.....(75,120)	.....	.....	.....	0003
164615 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0WP21HZNB6K528	.02/06/2023	.02/06/2024	.....	45,132,548	173.82000000	.....	3,874,646	(1,528,627)	2,346,018	.....	1,487,555	.....		.....(1,528,627)	.....	.....	.....	0003
164621 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	.02/06/2023	.02/06/2024	.....	28,017,318	92.74000000	.....	2,482,333	(979,331)	1,503,002	.....	436,184	.....		.....(979,331)	.....	.....	.....	0003
164628 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6KMZ0031MB27	.02/06/2023	.08/06/2024	.....	6,804,276	..4111.08000000	.....	819,228	(215,665)	603,563	.....	205,821	.....		.....(215,665)	.....	.....	.....	0003
164633 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMVYMCJFXTO9	.02/06/2023	.02/06/2024	.....	66,315,525	..4111.08000000	.....	6,290,028	(2,481,545)	3,808,482	.....	1,085,382	.....		.....(2,481,545)	.....	.....	.....	0003
164639 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIGC71XB11	.02/06/2023	.02/06/2024	.....	29,689,385	..4111.08000000	.....	1,591,351	(627,821)	963,530	.....	729,542	.....		.....(627,821)	.....	.....	.....	0003
164641 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG BFM8T61CT2L10CEMIK50	.02/06/2023	.02/06/2024	.....	21,353,699	..4111.08000000	.....	565,873	(223,249)	342,624	.....	1,097,803	.....		.....(223,249)	.....	.....	.....	0003
164704 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMVYMCJFXTO9	.02/10/2023	.02/10/2024	.....	1,214,990	..4114.28506883	.....	61,767	(23,691)	38,076	.....	78,904	.....		.....(23,691)	.....	.....	.....	0003
165119 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0WP21HZNB6K528	.02/17/2023	.02/20/2024	.....	26,009,908	90.66000000	.....	2,412,753	(872,000)	1,540,753	.....	556,234	.....		.....(872,000)	.....	.....	.....	0003
165129 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUW5FPU8M9R08K5P83	.02/17/2023	.02/20/2024	.....	998,293	71.02000000	.....	86,442	(31,241)	55,201	.....	40,043	.....		.....(31,241)	.....	.....	.....	0003
165141 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.02/17/2023	.02/20/2024	.....	51,453,325	..4079.09000000	.....	5,067,714	(1,831,538)	3,236,176	.....	1,586,569	.....		.....(1,831,538)	.....	.....	.....	0003
165170 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG BFM8T61CT2L10CEMIK50	.02/17/2023	.02/20/2024	.....	48,983,356	..4079.09000000	.....	4,801,643	(1,735,376)	3,066,266	.....	1,813,741	.....		.....(1,735,376)	.....	.....	.....	0003
165187 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.02/17/2023	.02/20/2024	.....	36,822,879	..4079.09000000	.....	3,633,785	(1,313,297)	2,320,488	.....	2,798,197	.....		.....(1,313,297)	.....	.....	.....	0003
165229 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.02/17/2023	.02/20/2024	.....	24,302,451	..4079.09000000	.....	1,287,175	(465,202)	821,973	.....	587,123	.....		.....(465,202)	.....	.....	.....	0003
165236 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.02/17/2023	.08/20/2024	.....	6,934,453	..4079.09000000	.....	835,601	(202,064)	633,537	.....	199,845	.....		.....(202,064)	.....	.....	.....	0003
165237 Call Options - S&P Equal Weight Energy - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	.02/17/2023	.02/20/2024		43,532,760	1163.41000000		2,934,108	(1,060,425)	1,873,683		4,736,815			(1,060,425)				0003

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165239 Call Options - S&P U.S. Retiree Spending Index - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/17/2023	02/20/2024		10,435,563	517.77000000		672,050	(242,888)	429,163		350,334			(242,888)				0003	
165240 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	9R7GPTS07KV3UQJZ0078 X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/17/2023	02/20/2024		56,699,351	4079.09000000		5,465,758	(1,975,396)	3,490,362		915,500			(1,975,396)				0003	
165249 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	9R7GPTS07KV3UQJZ0078 X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/17/2023	02/20/2024		54,847,444	4079.09000000		5,287,236	(1,910,876)	3,376,360		962,013			(1,910,876)				0003	
165257 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	9R7GPTS07KV3UQJZ0078 X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/17/2023	02/20/2024		44,430,264	4079.09000000		4,283,031	(1,547,943)	2,735,088		1,085,561			(1,547,943)				0003	
165270 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	9R7GPTS07KV3UQJZ0078 X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/17/2023	02/20/2024		62,410,077	4079.09000000		6,016,266	(2,174,357)	3,841,909		2,216,629			(2,174,357)				0003	
165272 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	9R7GPTS07KV3UQJZ0078 X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/17/2023	02/20/2024		51,804,443	4079.09000000		4,993,894	(1,804,858)	3,189,036		2,086,369			(1,804,858)				0003	
165277 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	9R7GPTS07KV3UQJZ0078 X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/17/2023	02/20/2024		48,949,080	4079.09000000		4,718,640	(1,705,378)	3,013,262		2,270,142			(1,705,378)				0003	
165279 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	9R7GPTS07KV3UQJZ0078 X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/17/2023	02/20/2024		48,137,667	4079.09000000		4,640,421	(1,677,109)	2,963,312		2,519,554			(1,677,109)				0003	
165301 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	02/17/2023	02/20/2024		39,453,793	171.26000000		3,431,310	(1,240,120)	2,191,190		1,428,820			(1,240,120)				0003	
165307 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	02/17/2023	02/20/2024		17,306,899	4079.09000000		418,827	(151,370)	267,457		649,045			(151,370)				0003	
165308 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	02/17/2023	02/18/2028		8,592,432	4079.09000000		391,815	(28,523)	363,292		471,293			(28,523)				0003	
165310 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	02/17/2023	02/20/2030		16,958,688	4079.09000000		827,584	(42,996)	784,588		849,171			(42,996)				0003	
165807 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	03/06/2023	03/06/2024		46,548,743	171.62000000		3,881,504	(1,230,203)	2,651,300		1,672,381			(1,230,203)				0003	
165815 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	03/06/2023	03/06/2024		28,758,645	87.97000000		2,734,948	(866,814)	1,868,134		744,642			(866,814)				0003	
165823 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	03/06/2023	03/06/2024		1,417,975	70.70000000		119,821	(37,976)	81,845		41,294			(37,976)				0003	
165834 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	9R7GPTS07KV3UQJZ0078 X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/06/2023	09/06/2024		4,453,262	4048.42000000		498,762	(105,193)	393,569		105,277			(105,193)				0003	

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SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
165836 Call Options - S&P Equal Weight Energy - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCJFXT09	.03/06/2023	03/06/2024	.....	50,425,583	1159.79000000	.....	3,474,323	(1,101,151)	2,373,171	.....	5,781,276	.....	.....	.....(1,101,151)	.....	.....	.....	0003
165837 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.03/06/2023	03/06/2024	.....	65,584,404	4048.42000000	.....	5,804,298	(1,839,614)	3,964,684	.....	1,094,475	.....	.....	.....(1,839,614)	.....	.....	.....	0003
165839 Call Options - S&P U.S. Retiree Spending Index - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG BFM8T61CT2L1QCEMIK50	.03/06/2023	03/06/2024	.....	11,534,942	513.13000000	.....	753,232	(238,729)	514,503	.....	490,898	.....	.....	.....(238,729)	.....	.....	.....	0003
165843 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.03/06/2023	03/06/2024	.....	52,562,742	4048.42000000	.....	4,651,865	(1,474,362)	3,177,504	.....	1,271,627	.....	.....	.....(1,474,362)	.....	.....	.....	0003
165863 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	.03/06/2023	03/06/2028	.....	9,177,411	4048.42000000	.....	431,338	(27,387)	403,952	.....	584,494	.....	.....	.....(27,387)	.....	.....	.....	0003
165865 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. ES70DZVZ7FF32TWEFA76	.03/06/2023	03/06/2030	.....	13,812,465	4048.42000000	.....	661,617	(30,015)	631,602	.....	492,070	.....	.....	.....(30,015)	.....	.....	.....	0003
165878 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCJFXT09	.03/06/2023	03/06/2024	.....	66,124,379	4048.42000000	.....	6,407,452	(2,030,777)	4,376,675	.....	1,086,093	.....	.....	.....(2,030,777)	.....	.....	.....	0003
165886 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCJFXT09	.03/06/2023	03/06/2024	.....	79,354,071	4048.42000000	.....	7,693,377	(2,438,338)	5,255,039	.....	3,198,997	.....	.....	.....(2,438,338)	.....	.....	.....	0003
165890 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCJFXT09	.03/06/2023	03/06/2024	.....	48,172,219	4048.42000000	.....	4,667,888	(1,479,440)	3,188,448	.....	1,460,644	.....	.....	.....(1,479,440)	.....	.....	.....	0003
165901 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCJFXT09	.03/06/2023	03/06/2024	.....	51,019,893	4048.42000000	.....	4,948,930	(1,568,513)	3,380,416	.....	2,552,339	.....	.....	.....(1,568,513)	.....	.....	.....	0003
165917 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCJFXT09	.03/06/2023	03/06/2024	.....	37,733,652	4048.42000000	.....	3,658,278	(1,159,454)	2,498,823	.....	1,468,134	.....	.....	.....(1,159,454)	.....	.....	.....	0003
165918 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCJFXT09	.03/06/2023	03/06/2024	.....	64,612,671	4048.42000000	.....	6,264,198	(1,985,374)	4,278,824	.....	2,270,713	.....	.....	.....(1,985,374)	.....	.....	.....	0003
165919 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCJFXT09	.03/06/2023	03/06/2024	.....	43,155,522	4048.42000000	.....	4,186,086	(1,326,738)	2,859,348	.....	3,198,666	.....	.....	.....(1,326,738)	.....	.....	.....	0003
165920 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	.03/06/2023	03/06/2024	.....	30,804,472	4048.42000000	.....	1,712,729	(542,832)	1,169,897	.....	778,199	.....	.....	.....(542,832)	.....	.....	.....	0003
165938 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	.03/06/2023	03/06/2024	.....	16,729,080	4048.42000000	.....	418,227	(132,553)	285,674	.....	1,000,114	.....	.....	.....(132,553)	.....	.....	.....	0003
165942 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCJFXT09	.03/06/2023	03/06/2024	.....	31,127,643	4048.42000000	.....	3,017,825	(956,469)	2,061,356	.....	1,365,982	.....	.....	.....(956,469)	.....	.....	.....	0003
165944 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCJFXT09	.03/06/2023	03/06/2024	.....	45,097,973	4048.42000000	.....	4,374,503	(1,386,455)	2,988,049	.....	2,125,037	.....	.....	.....(1,386,455)	.....	.....	.....	0003
166106 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.03/10/2023	03/08/2024	.....	1,446,382	3992.55380987	.....	65,531	(20,163)	45,368	.....	158,681	.....	.....	.....(20,163)	.....	.....	.....	0003
166342 Call Options - S&P Equal Weight Energy - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	.03/20/2023	03/20/2024	.....	52,175,511	1142.99000000	.....	3,323,580	(926,244)	2,397,336	.....	6,786,232	.....	.....	.....(926,244)	.....	.....	.....	0003
166343 Call Options - S&P U.S. Retiree Spending Index - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG BFM8T61CT2L1QCEMIK50	.03/20/2023	03/20/2024	.....	11,228,864	514.00000000	.....	666,995	(185,884)	481,111	.....	484,929	.....	.....	.....(185,884)	.....	.....	.....	0003
166351 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	SOCIETE GENERAL ... 02RNE81BXP4R0TD8PU41	.03/20/2023	03/20/2024	.....	45,143,279	183.84000000	.....	4,062,895	(1,132,282)	2,930,613	.....	890,440	.....	.....	.....(1,132,282)	.....	.....	.....	0003
166358 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	SOCIETE GENERAL ... 02RNE81BXP4R0TD8PU41	.03/20/2023	03/20/2024	.....	30,747,590	82.99000000	.....	2,767,283	(771,210)	1,996,073	.....	1,065,675	.....	.....	.....(771,210)	.....	.....	.....	0003
166366 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	.03/20/2023	03/20/2024		905,560	68.23000000		80,595	(22,461)	58,134		37,644			(22,461)				0003

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
166374 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32TWIFA76	.03/20/2023	.03/20/2024	.....	60,473,792	..3951.57000000	.....	6,032,485	(1,681,184)	4,351,301	.....	4,513,204	.....	.....	.....(1,681,184)	.....	.....	.....	0003
166385 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	.03/20/2023	.03/20/2024	.....	19,494,043	..3951.57000000	.....	432,768	(120,607)	312,160	.....	1,159,590	.....	.....	.....(120,607)	.....	.....	.....	0003
166386 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32TWIFA76	.03/20/2023	.03/20/2028	.....	10,912,967	..3951.57000000	.....	538,009	(30,037)	507,973	.....	685,358	.....	.....	.....(30,037)	.....	.....	.....	0003
166390 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	.03/20/2023	.03/20/2030	.....	13,135,985	..3951.57000000	.....	650,231	(25,938)	624,293	.....	1,026,053	.....	.....	.....(25,938)	.....	.....	.....	0003
166392 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.03/20/2023	.03/20/2024	.....	43,793,472	..3951.57000000	.....	3,972,097	(1,106,978)	2,865,119	.....	1,526,740	.....	.....	.....(1,106,978)	.....	.....	.....	0003
166399 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.03/20/2023	.03/20/2024	.....	50,089,943	..3951.57000000	.....	4,543,191	(1,266,135)	3,277,056	.....	1,856,155	.....	.....	.....(1,266,135)	.....	.....	.....	0003
166405 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.03/20/2023	.03/20/2024	.....	47,813,997	..3951.57000000	.....	4,336,761	(1,208,606)	3,128,155	.....	1,931,009	.....	.....	.....(1,208,606)	.....	.....	.....	0003
166411 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.03/20/2023	.03/20/2024	.....	49,789,782	..3951.57000000	.....	4,515,966	(1,258,548)	3,257,418	.....	2,225,077	.....	.....	.....(1,258,548)	.....	.....	.....	0003
166415 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.03/20/2023	.03/20/2024	.....	72,687,075	..3951.57000000	.....	6,592,766	(1,837,328)	4,755,437	.....	3,596,713	.....	.....	.....(1,837,328)	.....	.....	.....	0003
166441 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIGC71XBUI1	.03/20/2023	.03/20/2024	.....	27,545,458	..3951.57000000	.....	1,647,218	(459,061)	1,188,158	.....	701,052	.....	.....	.....(459,061)	.....	.....	.....	0003
166443 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.03/20/2023	.09/20/2024	.....	4,741,884	..3951.57000000	.....	401,640	(74,486)	327,154	.....	104,432	.....	.....	.....(74,486)	.....	.....	.....	0003
166445 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.03/20/2023	.03/20/2024	.....	74,684,673	..3951.57000000	.....	6,773,949	(1,887,822)	4,886,127	.....	1,235,527	.....	.....	.....(1,887,822)	.....	.....	.....	0003
166450 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.03/20/2023	.03/20/2024	.....	66,260,242	..3951.57000000	.....	6,009,848	(1,674,876)	4,334,972	.....	1,152,046	.....	.....	.....(1,674,876)	.....	.....	.....	0003
166456 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.03/20/2023	.03/20/2024	.....	47,837,944	..3951.57000000	.....	4,338,933	(1,209,211)	3,129,722	.....	1,192,056	.....	.....	.....(1,209,211)	.....	.....	.....	0003
166466 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.03/20/2023	.03/20/2024	.....	49,316,779	..3951.57000000	.....	4,473,064	(1,246,592)	3,226,473	.....	1,530,463	.....	.....	.....(1,246,592)	.....	.....	.....	0003
167352 Call Options – S&P Equal Weight Energy – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCUFXT09	.04/06/2023	.04/05/2024	.....	54,827,848	..1169.34000000	.....	3,492,534	(813,330)	2,679,204	.....	6,069,472	.....	.....	.....(813,330)	.....	.....	.....	0003
167353 Call Options – S&P U.S. Retiree Spending Index – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG BFM8T61CT2L1QCEM1K50	.04/06/2023	.04/05/2024		15,849,534	..520.90000000		950,972	(221,459)	729,513		557,391			(221,459)				0003

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167359 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	.04/06/2023	.04/05/2024		37,855,997	84.22000000		3,690,942	 (859,534)	 2,831,407		1,286,195			 (859,534)				0003
167368 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSPRFMYMCJFXTO9	.04/06/2023	.04/05/2024	.....	1,762,377	71.94000000	.....	141,519	 (32,956)	 108,562	.....	76,118	.....	.....	..... (32,956)	.....	.....	.....	0003
167376 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUWSPU8MPR08K5P83	.04/06/2023	.10/04/2024	.....	3,676,167	..4105.02000000	.....	433,677	 (67,390)	 366,287	.....	75,083	.....	.....	..... (67,390)	.....	.....	.....	0003
167378 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUWSPU8MPR08K5P83	.04/06/2023	.04/05/2024	.....	82,950,604	..4105.02000000	.....	7,818,924	 (1,820,845)	 5,998,079	.....	1,300,332	.....	.....	..... (1,820,845)	.....	.....	.....	0003
167385 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUWSPU8MPR08K5P83	.04/06/2023	.04/05/2024	.....	80,874,035	..4105.02000000	.....	7,621,569	 (1,774,886)	 5,846,683	.....	1,331,470	.....	.....	..... (1,774,886)	.....	.....	.....	0003
167389 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	4PQUHN3JPF6GNF3BB653	.04/06/2023	.04/05/2024	.....	30,213,841	..4105.02000000	.....	1,533,667	 (357,155)	 1,176,512	.....	1,035,595	.....	.....	..... (357,155)	.....	.....	.....	0003
167395 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	4PQUHN3JPF6GNF3BB653	.04/06/2023	.04/05/2024	.....	38,084,070	..4105.02000000	.....	2,253,069	 (524,687)	 1,728,382	.....	1,738,466	.....	.....	..... (524,687)	.....	.....	.....	0003
167400 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	4PQUHN3JPF6GNF3BB653	.04/06/2023	.04/05/2024	.....	75,924,474	..4105.02000000	.....	4,954,863	 (1,153,872)	 3,800,991	.....	4,116,651	.....	.....	..... (1,153,872)	.....	.....	.....	0003
167409 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSPRFMYMCJFXTO9	.04/06/2023	.04/05/2024	.....	21,883,054	..4105.02000000	.....	538,323	 (125,363)	 412,960	.....	1,051,351	.....	.....	..... (125,363)	.....	.....	.....	0003
167410 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	E570DZIWZ7FF32TWEFA76	.04/06/2023	.04/06/2028	.....	17,613,170	..4105.02000000	.....	864,807	 (40,235)	 824,572	.....	1,023,775	.....	.....	..... (40,235)	.....	.....	.....	0003
167414 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	E570DZIWZ7FF32TWEFA76	.04/06/2023	.04/05/2030	.....	19,509,223	..4105.02000000	.....	963,756	 (32,050)	 931,706	.....	900,442	.....	.....	..... (32,050)	.....	.....	.....	0003
167418 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	.04/06/2023	.04/05/2024	.....	69,624,834	..4105.02000000	.....	6,384,592	 (1,486,823)	 4,897,769	.....	2,290,439	.....	.....	..... (1,486,823)	.....	.....	.....	0003
167429 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	.04/06/2023	.04/05/2024	.....	44,737,329	..4105.02000000	.....	4,102,409	 (955,356)	 3,147,054	.....	1,638,421	.....	.....	..... (955,356)	.....	.....	.....	0003
167430 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUWSPU8MPR08K5P83	.04/06/2023	.04/05/2024	.....	35,993,766	..4105.02000000	.....	1,960,221	 (456,490)	 1,503,731	.....	799,957	.....	.....	..... (456,490)	.....	.....	.....	0003
167441 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	.04/06/2023	.04/05/2024	.....	47,207,730	..4105.02000000	.....	4,328,945	 (1,008,110)	 3,320,835	.....	1,947,608	.....	.....	..... (1,008,110)	.....	.....	.....	0003
167444 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	.04/06/2023	.04/05/2024	.....	54,186,264	..4105.02000000	.....	4,968,876	 (1,157,136)	 3,811,740	.....	2,268,417	.....	.....	..... (1,157,136)	.....	.....	.....	0003
167447 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	.04/06/2023	.04/05/2024	.....	40,229,196	..4105.02000000	.....	3,689,014	 (859,085)	 2,829,929	.....	3,090,153	.....	.....	..... (859,085)	.....	.....	.....	0003
167450 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	.04/06/2023	.04/05/2024		50,527,459	..186.49000000		4,698,086	 (1,094,075)	 3,604,012		917,671			 (1,094,075)				0003

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SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
167459 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.04/06/2023	.04/05/2024	.....	46,540,418	..4105.02000000	.....	4,267,753	 (993,860)	 3,273,892	.....	1,389,281	.....	.....	..... (993,860)	.....	.....	.....	0003
167471 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.04/06/2023	.04/05/2024	.....	58,174,701	..4105.02000000	.....	5,334,615	 (1,242,308)	 4,092,308	.....	1,372,500	.....	.....	..... (1,242,308)	.....	.....	.....	0003
167612 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5I70UK5573	.04/14/2023	.04/14/2024	.....	1,501,343	..4088.73484766	.....	92,018	 (19,359)	 72,659	.....	147,109	.....	.....	..... (19,359)	.....	.....	.....	0003
167989 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG BFM8T61CT2L10CEMIK50	.04/20/2023	.04/19/2024	.....	18,068,330	..4129.79000000	.....	439,012	 (85,397)	 353,615	.....	894,113	.....	.....	..... (85,397)	.....	.....	.....	0003
167991 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZWZ7FF32TWEFA76	.04/20/2023	.04/20/2028	.....	15,613,951	..4129.79000000	.....	757,277	 (29,429)	 727,848	.....	823,155	.....	.....	..... (29,429)	.....	.....	.....	0003
167995 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZWZ7FF32TWEFA76	.04/20/2023	.04/18/2030	.....	14,700,848	..4129.79000000	.....	721,812	 (20,058)	 701,753	.....	622,730	.....	.....	..... (20,058)	.....	.....	.....	0003
167999 Call Options – Ishares MSCI EAFE – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.04/20/2023	.04/19/2024	.....	1,381,870	..73.26000000	.....	98,274	 (19,116)	 79,158	.....	42,710	.....	.....	..... (19,116)	.....	.....	.....	0003
168016 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.04/20/2023	.10/18/2024	.....	3,716,811	..4129.79000000	.....	422,226	 (54,804)	 367,422	.....	63,500	.....	.....	..... (54,804)	.....	.....	.....	0003
168019 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.04/20/2023	.04/19/2024	.....	65,250,682	..4129.79000000	.....	5,944,276	 (1,156,284)	 4,787,992	.....	1,010,129	.....	.....	..... (1,156,284)	.....	.....	.....	0003
168026 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.04/20/2023	.04/19/2024	.....	48,407,333	..4129.79000000	.....	4,409,863	 (857,809)	 3,552,054	.....	1,245,345	.....	.....	..... (857,809)	.....	.....	.....	0003
168032 Call Options – S&P Equal Weight Energy – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGQFU57RNE97	.04/20/2023	.04/19/2024	.....	46,993,198	..1174.71000000	.....	3,045,159	 (592,346)	 2,452,813	.....	5,065,769	.....	.....	..... (592,346)	.....	.....	.....	0003
168035 Call Options – S&P U.S. Retiree Spending Index – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG BFM8T61CT2L10CEMIK50	.04/20/2023	.04/19/2024	.....	10,195,645	..520.20000000	.....	633,150	 (123,161)	 509,989	.....	386,954	.....	.....	..... (123,161)	.....	.....	.....	0003
168045 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.04/20/2023	.04/19/2024	.....	64,826,553	..4129.79000000	.....	5,905,638	 (1,148,768)	 4,756,870	.....	2,064,534	.....	.....	..... (1,148,768)	.....	.....	.....	0003
168059 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.04/20/2023	.04/19/2024	.....	54,513,228	..4129.79000000	.....	4,966,104	 (966,009)	 4,000,095	.....	1,903,986	.....	.....	..... (966,009)	.....	.....	.....	0003
168067 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.04/20/2023	.04/19/2024	.....	49,611,663	..4129.79000000	.....	4,519,576	 (879,150)	 3,640,426	.....	2,027,298	.....	.....	..... (879,150)	.....	.....	.....	0003
168080 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.04/20/2023	.04/19/2024		51,513,349	..4129.79000000		4,692,818	 (912,849)	 3,779,968		2,312,070			 (912,849)				0003

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SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)	
168092 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/20/2023	04/19/2024		59,272,728	4129.79000000		5,399,690	(1,050,351)	4,349,339		2,804,216			(1,050,351)				0003	
168103 Call Options – SPDR Gold shares – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	04/20/2023	04/19/2024		40,258,312	186.09000000		3,703,765	(720,458)	2,983,306		791,367			(720,458)				0003	
168104 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/20/2023	04/19/2024		65,599,814	4129.79000000		5,976,082	(1,162,471)	4,813,611		4,053,981			(1,162,471)				0003	
168117 Call Options – iShares U.S. Real Estate – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	04/20/2023	04/19/2024		27,892,298	84.25000000		2,677,661	(520,860)	2,156,801		1,000,448			(520,860)				0003	
168123 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	04/20/2023	04/19/2024		61,413,075	4129.79000000		5,735,981	(1,115,766)	4,620,215		998,157			(1,115,766)				0003	
168129 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/20/2023	04/19/2024		26,374,394	4129.79000000		1,404,964	(273,294)	1,131,670		599,469			(273,294)				0003	
170968 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	05/05/2023	05/06/2024		35,484,164	4136.25000000		1,920,403	(293,032)	1,627,371		830,528			(293,032)				0003	
170973 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	05/05/2023	05/06/2024		19,049,411	4136.25000000		485,760	(74,121)	411,639		962,769			(74,121)				0003	
170976 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	05/05/2023	05/05/2028		15,646,372	4136.25000000		765,108	(23,452)	741,656		817,302			(23,452)				0003	
170979 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	05/05/2023	05/06/2030		15,930,319	4136.25000000		767,841	(16,810)	751,032		827,235			(16,810)				0003	
171005 Call Options – SPDR Gold shares – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/05/2023	05/06/2024		51,935,962	187.46000000		4,756,964	(725,858)	4,031,106		989,072			(725,858)				0003	
171015 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/05/2023	11/06/2024		3,722,625	4136.25000000		418,419	(42,525)	375,894		72,012			(42,525)				0003	
171018 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/05/2023	05/06/2024		67,834,500	4136.25000000		6,186,572	(944,000)	5,242,572		2,278,455			(944,000)				0003	
171024 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/05/2023	05/06/2024		47,542,926	4136.25000000		4,335,961	(661,618)	3,674,343		1,910,892			(661,618)				0003	
171037 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/05/2023	05/06/2024		48,299,819	4136.25000000		4,404,990	(672,151)	3,732,839		2,447,338			(672,151)				0003	
171064 Call Options – S&P Equal Weight Energy – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	05/05/2023	05/06/2024		49,157,145	1177.53000000		3,175,552	(484,553)	2,690,999		5,330,203			(484,553)				0003	
171067 Call Options – S&P U.S. Retiree Spending Index – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	05/05/2023	05/06/2024		14,753,987	521.41000000		899,993	(137,329)	762,665		566,879			(137,329)				0003	
171076 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	05/05/2023	05/06/2024		43,453,573	4136.25000000		4,097,164	(625,180)	3,471,983		2,967,146			(625,180)				0003	

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171088 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	05/05/2023	05/06/2024		56,879,950	4136.25000000		5,363,114	 (818,350)	4,544,764		2,649,825			 (818,350)				0003
171105 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	SOCIETE GENERAL ...	02RNE81BXP4R0TD8PU41	05/05/2023	05/06/2024	.....	35,729,781	85.14000000	.....	3,572,978	 (545,196)	.....	1,198,452	.....	.....	..... (545,196)	.....	.....	.....	0003
171111 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUJISFPUMPR08K5P83	05/05/2023	05/06/2024	.....	1,852,405	73.88000000	.....	147,266	 (22,471)	.....	64,468	.....	.....	..... (22,471)	.....	.....	.....	0003
171118 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	4PQUHN3JPF6GNF3BB653	05/05/2023	05/06/2024	.....	75,733,365	4136.25000000	.....	7,140,771	 (1,089,600)	.....	1,161,103	.....	.....	..... (1,089,600)	.....	.....	.....	0003
171124 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	4PQUHN3JPF6GNF3BB653	05/05/2023	05/06/2024	.....	61,715,852	4136.25000000	.....	5,819,083	 (887,925)	.....	993,816	.....	.....	..... (887,925)	.....	.....	.....	0003
171128 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	4PQUHN3JPF6GNF3BB653	05/05/2023	05/06/2024	.....	36,230,353	4136.25000000	.....	3,416,099	 (521,258)	.....	832,818	.....	.....	..... (521,258)	.....	.....	.....	0003
171139 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	4PQUHN3JPF6GNF3BB653	05/05/2023	05/06/2024	.....	43,678,050	4136.25000000	.....	4,118,329	 (628,410)	.....	1,332,989	.....	.....	..... (628,410)	.....	.....	.....	0003
171147 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	4PQUHN3JPF6GNF3BB653	05/05/2023	05/06/2024	.....	54,739,763	4136.25000000	.....	5,161,319	 (787,558)	.....	2,007,059	.....	.....	..... (787,558)	.....	.....	.....	0003
171149 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	4PQUHN3JPF6GNF3BB653	05/05/2023	05/06/2024	.....	51,001,825	4136.25000000	.....	4,808,876	 (733,779)	.....	2,255,466	.....	.....	..... (733,779)	.....	.....	.....	0003
171349 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	05/12/2023	05/12/2024	.....	1,395,983	4137.71599488	.....	70,853	 (9,486)	.....	133,988	.....	.....	..... (9,486)	.....	.....	.....	0003
171603 Call Options - S&P Equal Weight Energy - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGOFU57RNE97	05/19/2023	05/20/2024	.....	45,781,883	1190.69000000	.....	2,998,713	 (343,177)	.....	4,543,391	.....	.....	..... (343,177)	.....	.....	.....	0003
171604 Call Options - S&P U.S. Retiree Spending Index - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG	BFM8T61CT2L1QCEMIK50	05/19/2023	05/20/2024	.....	11,590,433	514.34000000	.....	723,243	 (82,769)	.....	590,748	.....	.....	..... (82,769)	.....	.....	.....	0003
171605 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG	BFM8T61CT2L1QCEMIK50	05/19/2023	05/20/2024	.....	17,832,253	4191.98000000	.....	465,422	 (53,264)	.....	793,601	.....	.....	..... (53,264)	.....	.....	.....	0003
171609 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	E57ODZVZ7FF32TWEFA76	05/19/2023	05/20/2030	.....	20,432,234	4191.98000000	.....	974,618	 (16,002)	.....	759,850	.....	.....	..... (16,002)	.....	.....	.....	0003
171613 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	05/19/2023	05/20/2024	.....	66,998,195	4191.98000000	.....	5,969,612	 (683,171)	.....	3,498,922	.....	.....	..... (683,171)	.....	.....	.....	0003
171627 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	05/19/2023	05/20/2024	.....	40,925,295	4191.98000000	.....	3,646,488	 (417,309)	.....	2,618,188	.....	.....	..... (417,309)	.....	.....	.....	0003
171636 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUJISFPUMPR08K5P83	05/19/2023	11/20/2024	.....	2,088,258	4191.98000000	.....	243,742	 (18,579)	.....	43,064	.....	.....	..... (18,579)	.....	.....	.....	0003
171641 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	05/19/2023	05/20/2024	.....	69,645,168	4191.98000000	.....	6,373,226	 (729,361)	.....	1,039,248	.....	.....	..... (729,361)	.....	.....	.....	0003
171644 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	05/19/2023	05/20/2024	.....	64,722,568	4191.98000000	.....	5,923,242	 (677,864)	.....	1,009,074	.....	.....	..... (677,864)	.....	.....	.....	0003
171648 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	05/19/2023	05/20/2024	.....	43,887,976	4191.98000000	.....	4,017,000	 (459,711)	.....	1,061,385	.....	.....	..... (459,711)	.....	.....	.....	0003
171660 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	05/19/2023	05/20/2024		82,522,946	4191.98000000		7,565,059	 (865,756)		2,634,815			 (865,756)				0003

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SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
171673 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/19/2023	05/20/2024		46,379,406	4191.98000000		4,250,962	(486,486)	3,764,476		1,605,105			(486,486)				0003
171685 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/19/2023	05/20/2024		46,457,408	4191.98000000		4,258,262	(487,322)	3,770,941		1,901,274			(487,322)				0003
171695 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	05/19/2023	05/20/2024		61,931,663	4191.98000000		5,654,361	(647,093)	5,007,268		2,978,893			(647,093)				0003
171713 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	05/19/2023	05/20/2024		44,144,370	183.64000000		3,929,378	(449,684)	3,479,694		1,086,339			(449,684)				0003
171716 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	05/19/2023	05/20/2024		28,520,583	82.56000000		2,837,798	(324,762)	2,513,036		1,053,613			(324,762)				0003
171722 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	05/19/2023	05/20/2024		2,004,582	73.66000000		156,157	(17,871)	138,286		67,573			(17,871)				0003
171729 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/19/2023	05/20/2024		30,123,905	4191.98000000		1,545,356	(176,853)	1,368,504		681,145			(176,853)				0003
171734 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	05/19/2023	05/19/2028		15,669,739	4191.98000000		756,848	(17,399)	739,450		726,809			(17,399)				0003
171736 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/19/2023	05/20/2024		56,172,532	4191.98000000		5,005,034	(572,783)	4,432,251		2,517,500			(572,783)				0003
172259 Call Options - S&P Equal Weight Energy - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	06/06/2023	06/06/2024		52,847,749	1211.64000000		3,561,938	(233,570)	3,328,369		4,591,135			(233,570)				0003
172262 Call Options - S&P U.S. Retiree Spending Index - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	06/06/2023	06/06/2024		12,423,651	513.78000000		795,114	(52,139)	742,975		672,942			(52,139)				0003
172265 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/06/2023	06/06/2024		2,498,944	72.83000000		195,018	(12,788)	182,230		94,305			(12,788)				0003
172301 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	06/06/2023	06/06/2024		19,174,909	4283.85000000		1,700,915	(111,535)	1,589,380		419,244			(111,535)				0003
172310 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	06/06/2023	06/06/2024		51,407,480	182.34000000		4,349,072	(285,185)	4,063,887		1,367,377			(285,185)				0003
172317 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	06/06/2023	06/06/2024		61,630,714	4283.85000000		5,466,968	(358,490)	5,108,478		1,713,697			(358,490)				0003
172320 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	06/06/2023	06/06/2024		28,290,792	84.28000000		2,618,274	(171,690)	2,446,584		1,012,074			(171,690)				0003
172334 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	06/06/2023	06/06/2028		19,270,434	4283.85000000		920,163	(12,088)	908,076		812,155			(12,088)				0003
172335 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/06/2023	06/06/2024		49,713,238	4283.85000000		4,419,507	(289,804)	4,129,703		1,776,918			(289,804)				0003
172337 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/06/2023	06/06/2030		17,649,477	4283.85000000		831,290	(7,802)	823,488		683,719			(7,802)				0003
172357 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/06/2023	12/06/2024		4,283,850	4283.85000000		472,080	(20,637)	451,443		77,399			(20,637)				0003

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SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
172360 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIGC71XBU11	.06/06/2023	.06/06/2024	.....	41,520,598	..4283.85000000	.....	3,691,181	 (242,045)	 3,449,137	.....	1,621,648	.....	.....	..... (242,045)	.....	.....	.....	0003
172361 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.06/06/2023	.06/06/2024	.....	89,960,850	..4283.85000000	.....	7,727,580	 (506,727)	 7,220,853	.....	1,298,302	.....	.....	..... (506,727)	.....	.....	.....	0003
172371 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.06/06/2023	.06/06/2024	.....	71,111,910	..4283.85000000	.....	6,108,468	 (400,555)	 5,707,913	.....	1,072,928	.....	.....	..... (400,555)	.....	.....	.....	0003
172372 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUHN3JPFGNF3BB653	.06/06/2023	.06/06/2024	.....	63,682,625	..4283.85000000	.....	5,648,983	 (370,425)	 5,278,558	.....	2,884,440	.....	.....	..... (370,425)	.....	.....	.....	0003
172381 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIGC71XBU11	.06/06/2023	.06/06/2024	.....	63,586,612	..4283.85000000	.....	5,652,850	 (370,679)	 5,282,171	.....	3,166,745	.....	.....	..... (370,679)	.....	.....	.....	0003
172389 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	SOCIETE GENERAL ... 02RNE81BXP4ROTD8PU41	.06/06/2023	.06/06/2024	.....	47,373,463	..4283.85000000	.....	4,263,612	 (279,581)	 3,984,031	.....	2,813,908	.....	.....	..... (279,581)	.....	.....	.....	0003
172391 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIGC71XBU11	.06/06/2023	.06/06/2024	.....	29,049,620	..4283.85000000	.....	1,406,002	 (92,197)	 1,313,805	.....	599,621	.....	.....	..... (92,197)	.....	.....	.....	0003
172392 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCJFXT09	.06/06/2023	.06/06/2024	.....	17,253,840	..4283.85000000	.....	484,833	 (31,792)	 453,041	.....	598,015	.....	.....	..... (31,792)	.....	.....	.....	0003
172398 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.06/06/2023	.06/06/2024	.....	44,980,425	..4283.85000000	.....	3,863,790	 (253,363)	 3,610,427	.....	1,427,342	.....	.....	..... (253,363)	.....	.....	.....	0003
172406 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.06/06/2023	.06/06/2024	.....	50,121,045	..4283.85000000	.....	4,305,366	 (282,319)	 4,023,047	.....	2,121,990	.....	.....	..... (282,319)	.....	.....	.....	0003
172412 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.06/06/2023	.06/06/2024	.....	43,363,186	..4283.85000000	.....	3,724,870	 (244,254)	 3,480,616	.....	1,438,367	.....	.....	..... (244,254)	.....	.....	.....	0003
172527 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWISFPUB8MPRO8K5P83	.06/09/2023	.06/09/2024	.....	1,140,207	..4267.08371000	.....	60,010	 (3,443)	 56,567	.....	86,609	.....	.....	..... (3,443)	.....	.....	.....	0003
172786 Call Options - S&P Equal Weight Energy - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWISFPUB8MPRO8K5P83	.06/20/2023	.06/20/2024	.....	46,758,408	..1235.41000000	.....	3,146,841	 (85,979)	 3,060,862	.....	3,433,053	.....	.....	..... (85,979)	.....	.....	.....	0003
172790 Call Options - S&P U.S. Retiree Spending Index - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG BFM8T61CT2L1QCCEMIK50	.06/20/2023	.06/20/2024	.....	9,374,058	..514.14000000	.....	609,314	 (16,648)	 592,666	.....	519,320	.....	.....	..... (16,648)	.....	.....	.....	0003
172805 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	.06/20/2023	.06/20/2024	.....	23,744,426	..84.91000000	.....	2,006,405	 (54,820)	 1,951,586	.....	739,791	.....	.....	..... (54,820)	.....	.....	.....	0003
172815 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROWP21HZNBB6K528	.06/20/2023	.06/20/2024	.....	1,616,767	..72.42000000	.....	129,898	 (3,549)	 126,349	.....	50,088	.....	.....	..... (3,549)	.....	.....	.....	0003
172829 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP517OUK5573	.06/20/2023	.06/20/2024	.....	44,290,751	..4388.71000000	.....	3,946,458	 (107,827)	 3,838,631	.....	1,014,291	.....	.....	..... (107,827)	.....	.....	.....	0003
172838 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP517OUK5573	.06/20/2023	.06/20/2024	.....	45,128,233	..4388.71000000	.....	4,026,154	 (110,004)	 3,916,150	.....	1,443,856	.....	.....	..... (110,004)	.....	.....	.....	0003
172854 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP517OUK5573	.06/20/2023	.06/20/2024	.....	49,445,911	..4388.71000000	.....	4,411,496	 (120,533)	 4,290,964	.....	1,705,994	.....	.....	..... (120,533)	.....	.....	.....	0003
172861 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCJFXT09	.06/20/2023	.06/20/2024	.....	29,754,826	..4388.71000000	.....	1,452,036	 (39,673)	 1,412,362	.....	551,263	.....	.....	..... (39,673)	.....	.....	.....	0003
172864 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	UBS AG BFM8T61CT2L1QCCEMIK50	.06/20/2023	.06/20/2024		15,722,268	..4388.71000000		455,946	 (12,458)	 443,488		590,650			 (12,458)				0003

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
172868 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	06/20/2023	06/20/2028		17,848,623	4388.71000000		846,025	(4,631)	841,394		749,893			(4,631)				0003
172870 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	06/20/2023	06/20/2030		9,849,798	4388.71000000		459,001	(1,795)	457,206		278,999			(1,795)				0003
172873 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/20/2023	06/20/2024		44,258,717	179.75000000		3,722,903	(101,719)	3,621,184		1,219,891			(101,719)				0003
172879 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/20/2023	06/20/2024		44,764,842	4388.71000000		3,849,786	(105,185)	3,744,601		1,361,487			(105,185)				0003
172885 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/20/2023	06/20/2024		52,225,649	4388.71000000		4,491,417	(122,716)	4,368,701		2,058,354			(122,716)				0003
172889 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/20/2023	12/20/2024		3,510,968	4388.71000000		390,416	(7,111)	383,305		69,933			(7,111)				0003
172892 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/20/2023	06/20/2024		53,700,431	4388.71000000		4,618,249	(126,182)	4,492,067		2,285,197			(126,182)				0003
172894 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/20/2023	06/20/2024		72,852,586	4388.71000000		6,265,338	(171,184)	6,094,154		998,417			(171,184)				0003
172902 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/20/2023	06/20/2024		65,649,879	4388.71000000		5,645,904	(154,260)	5,491,644		3,235,288			(154,260)				0003
172906 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/20/2023	06/20/2024		62,138,955	4388.71000000		5,343,963	(146,010)	5,197,954		888,061			(146,010)				0003
172916 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/20/2023	06/20/2024		60,795,659	4388.71000000		5,228,440	(142,854)	5,085,586		1,719,101			(142,854)				0003
0159999999. Subtotal - Purchased Options - Hedging Other - Call Options and Warrants										864,887,382	792,870,481	(614,956,072)	816,775,883	XXX	777,537,188	0	0	(614,069,497)	0	0	XXX	XXX
0219999999. Subtotal - Purchased Options - Hedging Other										864,887,382	792,870,481	(614,956,072)	816,775,883	XXX	777,537,188	0	0	(614,069,497)	0	0	XXX	XXX
0289999999. Subtotal - Purchased Options - Replications										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
0359999999. Subtotal - Purchased Options - Income Generation										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
0429999999. Subtotal - Purchased Options - Other										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
0439999999. Total Purchased Options - Call Options and Warrants										864,887,382	792,870,481	(614,956,072)	816,775,883	XXX	777,537,188	0	0	(614,069,497)	0	0	XXX	XXX
0449999999. Total Purchased Options - Put Options										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
0459999999. Total Purchased Options - Caps										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
0469999999. Total Purchased Options - Floors										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
0479999999. Total Purchased Options - Collars										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
0489999999. Total Purchased Options - Other										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
0499999999. Total Purchased Options										864,887,382	792,870,481	(614,956,072)	816,775,883	XXX	777,537,188	0	0	(614,069,497)	0	0	XXX	XXX
0569999999. Subtotal - Written Options - Hedging Effective Excluding Variable Annuity Guarantees Under SSAP No.108										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
0639999999. Subtotal - Written Options - Hedging Effective Variable Annuity Guarantees Under SSAP No.108										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
141924 Call Options – S&P 500 – USD	Liability Hedge	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUIWSPU8MPR08K5P83	04/06/2021	04/06/2028	2,662,509	4236.90000000	0												0003
141928 Call Options – S&P 500 – USD	Liability Hedge	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUIWSPU8MPR08K5P83	04/06/2021	04/06/2026	669,047	4232.82000000	0												0003
141923 Call Options – S&P 500 – USD	Liability Hedge	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGOFU57RNE97	04/20/2021	04/20/2028	2,225,032	4316.88000000	0												0003
141927 Call Options – S&P 500 – USD	Liability Hedge	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGOFU57RNE97	04/20/2021	04/20/2026	1,074,629	4300.34000000	0												0003
141922 Call Options – S&P 500 – USD	Liability Hedge	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUIWSPU8MPR08K5P83	05/06/2021	05/06/2026	3,051,593	4369.68000000	0												0003
141926 Call Options – S&P 500 – USD	Liability Hedge	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUIWSPU8MPR08K5P83	05/06/2021	05/06/2028	3,678,547	4384.39000000	0												0003
141921 Call Options – S&P 500 – USD	Liability Hedge	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUIWSPU8MPR08K5P83	05/20/2021	05/20/2026	3,369,262	4327.56000000	0												0003
141925 Call Options – S&P 500 – USD	Liability Hedge	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUIWSPU8MPR08K5P83	05/20/2021	05/19/2028	4,582,427	4344.20000000	0												0003
142028 Call Options – S&P 500 – USD	Liability Hedge	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUIWSPU8MPR08K5P83	06/04/2021	06/05/2026	3,946,952	4401.20000000	0												0003
142029 Call Options – S&P 500 – USD	Liability Hedge	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUIWSPU8MPR08K5P83	06/04/2021	06/06/2028	3,919,696	4413.89000000	0												0003
142032 Call Options – S&P 500 – USD	Liability Hedge	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUIWSPU8MPR08K5P83	06/18/2021	06/19/2026	4,418,795	4335.19000000	0												0003
142033 Call Options – S&P 500 – USD	Liability Hedge	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUIWSPU8MPR08K5P83	06/18/2021	06/20/2028	6,158,364	4351.86000000	0												0003
142034 Call Options – S&P 500 – USD	Liability Hedge	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUIWSPU8MPR08K5P83	07/06/2021	07/06/2026	4,959,571	4519.45000000	0												0003
142035 Call Options – S&P 500 – USD	Liability Hedge	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUIWSPU8MPR08K5P83	07/06/2021	07/06/2028	3,750,662	4528.14000000	0												0003
142026 Call Options – S&P 500 – USD	Liability Hedge	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	E570DZVZ7FF32TWIFA76	07/20/2021	07/20/2026	4,354,125	4500.31000000	0												0003
142027 Call Options – S&P 500 – USD	Liability Hedge	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	E570DZVZ7FF32TWIFA76	07/20/2021	07/20/2028	2,123,673	4502.47000000	0												0003
142036 Call Options – S&P 500 – USD	Liability Hedge	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUIWSPU8MPR08K5P83	08/06/2021	08/06/2026	4,218,537	4605.11000000	0												0003
142037 Call Options – S&P 500 – USD	Liability Hedge	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUIWSPU8MPR08K5P																	

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
147915 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	ROMUIISFPUBMIPRO8K5P83	03/04/2022	03/02/2029	3,298,567	..4536.65576000	0												0003
148449 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	9R7GPTS07KV3UQJZ0078		03/18/2022	09/20/2023	11,109,955	..4629.14806400	(931,248)								304,219				0003
148495 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	E570DZWZ7FF32TWEFA76	03/18/2022	03/19/2027	3,639,522	..4661.72884000	0												0003
148497 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	E570DZWZ7FF32TWEFA76	03/18/2022	03/20/2029	2,815,500	..4670.20876800	0												0003
149329 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	9R7GPTS07KV3UQJZ0078		04/06/2022	10/06/2023	9,739,780	..4637.99025000	(814,275)								267,463				0003
149384 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROMUIISFPUBMIPRO8K5P83		04/06/2022	04/06/2029	1,315,067	..4689.52347500	0												0003
149386 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGGFU57RNE97	04/06/2022	04/06/2027	3,167,976	..4678.76871500	0												0003
149980 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	04/20/2022	10/20/2023	7,445,339	..4603.04429000	(507,224)								166,606				0003
150022 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUIISFPUBMIPRO8K5P83	04/20/2022	04/20/2027	4,166,941	..4670.82793000	0												0003
150024 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	ROMUIISFPUBMIPRO8K5P83	04/20/2022	04/20/2029	2,515,134	..4677.96305000	0												0003
150390 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	9R7GPTS07KV3UQJZ0078		05/06/2022	11/06/2023	8,569,125	..4284.56259400	(743,600)								243,803				0003
150454 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	E570DZWZ7FF32TWEFA76	05/06/2022	05/06/2027	2,684,539	..4322.49732200	0												0003
150455 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	E570DZWZ7FF32TWEFA76	05/06/2022	05/04/2029	1,896,215	..4328.26999800	0												0003
151058 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	9R7GPTS07KV3UQJZ0078		05/20/2022	11/20/2023	6,916,838	..4068.72834400	(658,648)								215,950				0003
151100 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUIISFPUBMIPRO8K5P83	05/20/2022	05/20/2027	5,349,149	..4116.32493600	0												0003
151101 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUIISFPUBMIPRO8K5P83	05/20/2022	05/18/2029	1,342,084	..4115.15452800	0												0003
151638 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	06/06/2022	12/06/2023	5,173,219	..4311.01578000	(460,296)								151,192				0003
151706 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUIISFPUBMIPRO8K5P83	06/06/2022	06/04/2027	4,280,628	..4352.64222300	0												0003
151708 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUIISFPUBMIPRO8K5P83	06/06/2022	06/06/2029	1,953,500	..4342.75079100	0												0003
152998 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	SOCIETE GENERAL	02RNE81BX4R0TD8PU41	06/17/2022	12/20/2023	5,850,553	..3844.25012400	(461,399)								150,729				0003
153004 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGGFU57RNE97	06/17/2022	06/18/2027	4,183,227	..3674.84000000	0												0003
153008 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGGFU57RNE97	06/17/2022	06/20/2029	1,343,448	..3877.69116800	0												0003

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STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
154465 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWSFPUBMPROBK5P83	.07/20/2022	.07/20/2029	.....	1,833,751	..4186.40628000	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0003
154474 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	.07/20/2022	.07/20/2023	.....	50,055,354	..4036.72210000	(4,464,372)	.....	2,201,608	(256,854)	.....	.....	.....	.....	2,201,608	.....	.....	.....	0003
154481 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL	.07/20/2022	.07/20/2023	.....	36,173,762	..167.34855600	(2,159,016)	.....	1,064,720	(124,217)	.....	.....	.....	.....	1,064,720	.....	.....	.....	0003
154487 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	.07/20/2022	.07/20/2023	.....	64,259,436	..4041.47390000	(5,681,070)	.....	2,801,624	(326,856)	.....	.....	.....	.....	2,801,624	.....	.....	.....	0003
154488 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL	.07/20/2022	.07/20/2023	.....	23,033,683	99.43786800	(1,332,005)	.....	656,879	(76,636)	.....	.....	.....	.....	656,879	.....	.....	.....	0003
154496 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	.07/20/2022	.07/20/2023	.....	1,595,634	66.31972200	(82,037)	.....	40,457	(4,720)	.....	.....	.....	.....	40,457	.....	.....	.....	0003
154508 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	.07/20/2022	.07/20/2023	.....	51,302,564	..4137.30352000	(3,784,852)	.....	1,866,502	(217,759)	.....	.....	.....	.....	1,866,502	.....	.....	.....	0003
154518 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	.07/20/2022	.07/20/2023	.....	49,016,434	..4153.93500000	(3,499,408)	.....	1,725,735	(201,336)	.....	.....	.....	.....	1,725,735	.....	.....	.....	0003
154535 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	.07/20/2022	.07/20/2023	.....	58,157,626	..4276.29600000	(3,221,024)	.....	1,588,450	(185,319)	.....	.....	.....	.....	1,588,450	.....	.....	.....	0003
154541 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	.07/20/2022	.07/20/2023	.....	36,761,995	..4081.46890000	(3,018,803)	.....	1,488,725	(173,685)	.....	.....	.....	.....	1,488,725	.....	.....	.....	0003
154548 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	.07/20/2022	.07/20/2023	.....	37,173,459	..4108.00030000	(2,902,842)	.....	1,431,538	(167,013)	.....	.....	.....	.....	1,431,538	.....	.....	.....	0003
154554 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	.07/20/2022	.07/20/2023	.....	56,714,497	..4115.92010000	(4,360,735)	.....	2,150,499	(250,892)	.....	.....	.....	.....	2,150,499	.....	.....	.....	0003
154560 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	.07/20/2022	.07/20/2023	.....	46,423,707	..4121.06790000	(3,534,272)	.....	1,742,929	(203,342)	.....	.....	.....	.....	1,742,929	.....	.....	.....	0003
154568 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	.07/20/2022	.07/20/2023	.....	47,146,127	..4192.74210000	(3,113,320)	.....	1,535,336	(179,123)	.....	.....	.....	.....	1,535,336	.....	.....	.....	0003
154575 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	.07/20/2022	.07/20/2023	.....	52,330,494	..4216.50150000	(3,291,241)	.....	1,623,078	(189,359)	.....	.....	.....	.....	1,623,078	.....	.....	.....	0003
155009 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A.	.08/05/2022	.08/04/2023	.....	42,729,096	..4276.17800400	(1,706,513)	.....	843,880	(168,776)	.....	.....	.....	.....	843,880	.....	.....	.....	0003

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
155014 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZWZ7F32WIEFA76	.08/05/2022	.08/04/2023	.....	67,311,123	..4310.16860000	(5,011,263)	.....	2,478,097	(495,619)	.....	.....	.....	.....	2,478,097	.....	.....	.....	0003
155021 Call Options – Ishares MSCI EAFE – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XB11	.08/05/2022	.08/04/2023	.....	1,632,094	..68.54000000	(91,179)	.....	45,089	(9,018)	.....	.....	.....	.....	45,089	.....	.....	.....	0003
155026 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZWZ7F32WIEFA76	.08/05/2022	.08/04/2023	.....	64,304,977	..4272.86185200	(5,133,690)	.....	2,538,638	(507,728)	.....	.....	.....	.....	2,538,638	.....	.....	.....	0003
155028 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZWZ7F32WIEFA76	.08/05/2022	.08/06/2027	.....	1,414,170	..4387.26909600	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0003
155035 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	.08/05/2022	.08/06/2029	.....	2,732,774	..4382.70938700	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0003
155056 Call Options – Ishares U.S. Real Estate – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/05/2022	.08/04/2023	.....	26,321,882	..104.36445000	(1,478,898)	.....	731,323	(146,265)	.....	.....	.....	.....	731,323	.....	.....	.....	0003
155061 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	SOCIETE GENERAL ... 02RNE81BX4ROT8PU41	.08/05/2022	.02/06/2024	.....	8,098,578	..4331.30903100	(935,495)	.....	306,162	(377,600)	.....	.....	.....	.....	306,162	.....	.....	.....	0003
155069 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZWZ7F32WIEFA76	.08/05/2022	.08/04/2023	.....	70,590,662	..4226.02120500	(6,134,176)	.....	3,033,384	(606,677)	.....	.....	.....	.....	3,033,384	.....	.....	.....	0003
155087 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/05/2022	.08/04/2023	.....	58,673,295	..4483.02298500	(3,092,351)	.....	1,529,185	(305,837)	.....	.....	.....	.....	1,529,185	.....	.....	.....	0003
155100 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/05/2022	.08/04/2023	.....	64,436,720	..4296.90400000	(4,921,334)	.....	2,433,627	(486,725)	.....	.....	.....	.....	2,433,627	.....	.....	.....	0003
155109 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/05/2022	.08/04/2023	.....	53,820,384	..4320.94605600	(3,929,136)	.....	1,942,979	(388,596)	.....	.....	.....	.....	1,942,979	.....	.....	.....	0003
155117 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/05/2022	.08/04/2023	.....	54,593,454	..4332.96710000	(3,895,653)	.....	1,926,422	(385,284)	.....	.....	.....	.....	1,926,422	.....	.....	.....	0003
155123 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/05/2022	.08/04/2023	.....	51,956,905	..4351.20594300	(3,579,616)	.....	1,770,140	(354,028)	.....	.....	.....	.....	1,770,140	.....	.....	.....	0003
155130 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/05/2022	.08/04/2023	.....	52,623,950	..4390.17072900	(3,358,373)	.....	1,660,734	(332,147)	.....	.....	.....	.....	1,660,734	.....	.....	.....	0003
155138 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/05/2022	.08/04/2023	.....	65,292,711	..4417.11446400	(3,947,219)	.....	1,951,921	(390,384)	.....	.....	.....	.....	1,951,921	.....	.....	.....	0003
155147 Call Options – SPDR Gold shares – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.08/05/2022	.08/04/2023	.....	43,768,130	..175.24045800	(2,432,666)	.....	1,202,967	(240,593)	.....	.....	.....	.....	1,202,967	.....	.....	.....	0003
155159 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.08/05/2022	.08/04/2023	.....	58,919,845	..4231.40995200	(5,031,443)	.....	2,488,076	(497,615)	.....	.....	.....	.....	2,488,076	.....	.....	.....	0003
155751 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWSPU8MPRO8K5P83	.08/19/2022	.08/20/2027	.....	1,644,288	..4467.81200000	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0003
155755 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWSPU8MPRO8K5P83	.08/19/2022	.08/20/2029	.....	1,477,052	..4471.61760000	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0003
155768 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/19/2022	.08/18/2023	.....	35,000,020	..4359.14003200	(1,449,026)	.....	716,551	(199,042)	.....	.....	.....	.....	716,551	.....	.....	.....	0003
155781 Call Options – SPDR Gold shares – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0WP21HZNBB6K528	.08/19/2022	.08/18/2023	.....	33,231,253	..172.53201600	(1,762,640)	.....	871,635	(242,121)	.....	.....	.....	.....	871,635	.....	.....	.....	0003
155782 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWSPU8MPRO8K5P83	.08/19/2022	.02/20/2024	.....	5,965,661	..4398.46489600	(591,003)	.....	193,419	(253,594)	.....	.....	.....	.....	193,419	.....	.....	.....	0003
155784 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWSPU8MPRO8K5P83	.08/19/2022	.08/18/2023	.....	60,300,180	..4313.04960000	(5,196,457)	.....	2,569,676	(713,799)	.....	.....	.....	.....	2,569,676	.....	.....	.....	0003
155790 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/19/2022	.08/18/2023	.....	56,436,331	..4436.09836800	(3,872,702)	.....	1,915,072	(531,965)	.....	.....	.....	.....	1,915,072	.....	.....	.....	0003

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
156796 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0WP21HZNB6K528	.08/19/2022	.08/18/2023	.....	21,756,005	106.72979800	(1,187,418)	.....	.....587,185	(163,107)	.....	.....	.....	.....	.....587,185	.....	.....	.....	0003
155800 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/19/2022	.08/18/2023	.....	50,076,603	4573.94681600	(2,583,688)	.....	.....1,277,648	(354,902)	.....	.....	.....	.....	.....1,277,648	.....	.....	.....	0003
155806 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIG71XB11	.08/19/2022	.08/18/2023	.....	1,133,155	68.46142700	(60,175)	.....	.....29,757	(8,266)	.....	.....	.....	.....	.....29,757	.....	.....	.....	0003
155825 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWSEFPU8MPRO8K5P83	.08/19/2022	.08/18/2023	.....	48,753,728	4317.27808000	(4,169,614)	.....	.....2,061,897	(572,749)	.....	.....	.....	.....	.....2,061,897	.....	.....	.....	0003
155846 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/19/2022	.08/18/2023	.....	51,459,287	4363.36851200	(4,054,308)	.....	.....2,004,877	(556,910)	.....	.....	.....	.....	.....2,004,877	.....	.....	.....	0003
155855 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/19/2022	.08/18/2023	.....	47,909,177	4387.04800000	(3,611,544)	.....	.....1,785,928	(496,091)	.....	.....	.....	.....	.....1,785,928	.....	.....	.....	0003
155866 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/19/2022	.08/18/2023	.....	52,310,882	4393.81356800	(3,893,488)	.....	.....1,925,351	(534,820)	.....	.....	.....	.....	.....1,925,351	.....	.....	.....	0003
155879 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/19/2022	.08/18/2023	.....	54,803,457	4411.99603200	(3,940,344)	.....	.....1,948,522	(541,256)	.....	.....	.....	.....	.....1,948,522	.....	.....	.....	0003
155885 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/19/2022	.08/18/2023	.....	48,048,024	4474.15468800	(3,057,436)	.....	.....1,511,919	(419,978)	.....	.....	.....	.....	.....1,511,919	.....	.....	.....	0003
155891 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.08/19/2022	.08/18/2023	.....	50,558,379	4504.17689600	(3,025,814)	.....	.....1,496,281	(415,634)	.....	.....	.....	.....	.....1,496,281	.....	.....	.....	0003
156454 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0WP21HZNB6K528	.09/06/2022	.09/06/2023	.....	37,273,464	168.00396300	(2,035,720)	.....	.....1,003,917	(384,835)	.....	.....	.....	.....	.....1,003,917	.....	.....	.....	0003
156459 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY / CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.09/06/2022	.03/06/2024	.....	4,851,158	4042.63173600	(510,252)	.....	.....167,907	(234,138)	.....	.....	.....	.....	.....167,907	.....	.....	.....	0003
156461 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY / CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.09/06/2022	.09/06/2023	.....	60,193,942	3986.35380000	(5,479,941)	.....	.....2,702,437	(1,035,934)	.....	.....	.....	.....	.....2,702,437	.....	.....	.....	0003
156466 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57PNE97	.09/06/2022	.09/06/2023	.....	25,452,922	99.89908800	(1,631,043)	.....	.....804,350	(308,334)	.....	.....	.....	.....	.....804,350	.....	.....	.....	0003
156486 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIG71XB11	.09/06/2022	.09/06/2023	.....	1,702,447	63.34203200	(111,864)	.....	.....55,166	(21,147)	.....	.....	.....	.....	.....55,166	.....	.....	.....	0003
156493 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY / CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.09/06/2022	.09/06/2023	.....	52,934,675	4168.08463500	(3,408,807)	.....	.....1,681,056	(644,405)	.....	.....	.....	.....	.....1,681,056	.....	.....	.....	0003
156499 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWSEFPU8MPRO8K5P83	.09/06/2022	.09/06/2023	.....	35,837,571	4033.25208000	(1,636,652)	.....	.....807,116	(309,394)	.....	.....	.....	.....	.....807,116	.....	.....	.....	0003
156503 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZFF32TWEFA76	.09/06/2022	.09/06/2027	.....	1,651,422	4125.87618300	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0003
156506 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57PNE97	.09/06/2022	.09/06/2029	.....	1,044,140	4131.73846800	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0003
156522 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY / CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.09/06/2022	.09/06/2023	.....	50,885,872	3991.83000000	(4,587,832)	.....	.....2,262,493	(867,289)	.....	.....	.....	.....	.....2,262,493	.....	.....	.....	0003

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amorti- zation)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
156529 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023	.....	30,833,134	4030.90716600	(2,590,012)		1,277,266	(489,619)					1,277,266				0003
156537 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023	.....	56,573,004	4055.52876300	(4,540,176)		2,238,991	(858,280)					2,238,991				0003
156546 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023	.....	51,444,932	4062.56000000	(4,074,502)		2,009,343	(770,248)					2,009,343				0003
156555 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023	.....	77,317,270	4075.85135100	(5,971,630)		2,944,913	(1,128,883)					2,944,913				0003
156563 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023	.....	48,898,486	4096.17393900	(3,632,492)		1,791,366	(686,690)					1,791,366				0003
156573 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023	.....	67,189,173	4107.50769000	(4,882,759)		2,407,936	(923,042)					2,407,936				0003
156584 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023	.....	45,912,184	4150.49778000	(3,064,243)		1,511,134	(579,268)					1,511,134				0003
156623 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BANK OF AMERICA, N.A.	09/06/2022	09/06/2023	.....	52,781,811	4233.74222700	(3,093,921)		1,525,769	(584,878)					1,525,769				0003
156930 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	09/20/2022	09/20/2023	.....	55,376,776	3931.12063500	(5,399,168)		2,662,603	(1,227,756)					2,662,603				0003
156939 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	09/20/2022	09/20/2023	.....	64,481,233	3994.74348000	(5,782,974)		2,851,878	(1,315,032)					2,851,878				0003
156949 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	09/20/2022	09/20/2023	.....	40,763,715	4008.23923500	(3,569,060)		1,760,085	(811,595)					1,760,085				0003
156963 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	09/20/2022	09/20/2023	.....	64,660,499	4168.26033000	(4,057,282)		2,000,851	(922,615)					2,000,851				0003
156971 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	09/20/2022	09/20/2023	.....	35,743,020	3974.30705100	(1,732,533)		854,400	(393,973)					854,400				0003
156982 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	09/20/2022	09/20/2027	.....	1,254,640	4094.22647400	0												0003
156986 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	09/20/2022	09/20/2029	.....	964,383	4094.22647400	0												0003
156995 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	.....	31,209,318	164.09507400	(1,816,319)		895,719	(413,026)					895,719				0003
156999 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	03/20/2024		7,584,884	3992.04432900	(819,888)		269,799	(397,204)					269,799				0003

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
157005 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	.....	64,391,560	3950.01469200	(4,221,462)	.....	2,081,817	(959,949)	.....	.....	.....	.....	2,081,817	.....	.....	.....	0003
157019 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	.....	52,321,955	4020.57821100	(2,882,759)	.....	1,421,635	(655,532)	.....	.....	.....	.....	1,421,635	.....	.....	.....	0003
157034 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	.....	58,883,304	4037.54430300	(3,103,025)	.....	1,530,259	(705,619)	.....	.....	.....	.....	1,530,259	.....	.....	.....	0003
157043 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	.....	48,303,304	4074.17563800	(2,304,445)	.....	1,136,439	(524,024)	.....	.....	.....	.....	1,136,439	.....	.....	.....	0003
157048 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	.....	50,001,310	4098.46799700	(2,226,012)	.....	1,097,759	(506,189)	.....	.....	.....	.....	1,097,759	.....	.....	.....	0003
157070 Call Options – iShares U.S. Real Estate – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL	09/20/2022	09/20/2023	.....	21,509,178	94.40260800	(1,214,818)	.....	599,088	(276,246)	.....	.....	.....	.....	599,088	.....	.....	.....	0003
157078 Call Options – iShares MSCI EAFE – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA	09/20/2022	09/20/2023	.....	969,253	62.37430200	(66,012)	.....	32,554	(15,011)	.....	.....	.....	.....	32,554	.....	.....	.....	0003
157994 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	.....	46,699,024	3857.97895600	(4,438,944)	.....	2,189,069	(1,203,988)	.....	.....	.....	.....	2,189,069	.....	.....	.....	0003
158009 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	10/06/2022	10/06/2023	.....	65,360,107	3883.44169200	(5,844,659)	.....	2,882,298	(1,585,264)	.....	.....	.....	.....	2,882,298	.....	.....	.....	0003
158018 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	10/06/2022	10/06/2023	.....	52,454,369	3895.42415600	(4,591,459)	.....	2,264,281	(1,245,355)	.....	.....	.....	.....	2,264,281	.....	.....	.....	0003
158023 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	.....	64,830,722	3907.78107200	(5,649,049)	.....	2,785,833	(1,532,208)	.....	.....	.....	.....	2,785,833	.....	.....	.....	0003
158034 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	.....	39,304,579	3908.90442800	(3,416,305)	.....	1,684,753	(926,614)	.....	.....	.....	.....	1,684,753	.....	.....	.....	0003
158040 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	.....	46,549,514	3966.94448800	(3,644,100)	.....	1,797,090	(988,400)	.....	.....	.....	.....	1,797,090	.....	.....	.....	0003
158046 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	.....	49,354,098	3983.42037600	(3,750,247)	.....	1,849,437	(1,017,190)	.....	.....	.....	.....	1,849,437	.....	.....	.....	0003
158065 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	.....	70,204,861	4109.98515200	(4,178,934)	.....	2,060,844	(1,133,464)	.....	.....	.....	.....	2,060,844	.....	.....	.....	0003
158081 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	10/06/2022	10/06/2027	.....	3,163,776	4040.33708000	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0003
158084 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	10/06/2022	10/05/2029		2,372,230	4058.68522800	0												0003

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158090 Call Options – SPDR Gold shares – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/06/2022	10/06/2023		36,718,660	169.33550400	(2,287,659)		1,128,161	(620,488)					1,128,161				0003
158098 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/06/2022	10/06/2023		49,137,343	3933.61826000	(2,630,240)		1,297,105	(713,407)					1,297,105				0003
158115 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	10/06/2022	10/06/2023		39,645,046	3864.71909200	(1,950,077)		961,682	(528,925)					961,682				0003
158133 Call Options – iShares U.S. Real Estate – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	10/06/2022	10/06/2023		24,467,545	85.30288800	(1,810,701)		892,948	(491,122)					892,948				0003
158142 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/06/2022	04/05/2024		6,268,896	3878.94826800	(726,742)		239,147	(373,335)					239,147				0003
158146 Call Options – iShares MSCI EAFE – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	10/06/2022	10/06/2023		1,525,591	60.79342500	(106,373)		52,458	(28,852)					52,458				0003
158147 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	10/06/2022	10/06/2023		64,704,067	3819.41040000	(9,580,007)		4,724,387	(2,598,413)					4,724,387				0003
158157 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023		50,443,774	3821.65711200	(5,097,484)		2,513,828	(1,382,605)					2,513,828				0003
158680 Call Options – SPDR Gold shares – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	10/20/2022	10/20/2023		30,460,657	160.96106000	(1,946,067)		959,704	(602,481)					959,704				0003
158696 Call Options – iShares U.S. Real Estate – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	10/20/2022	10/20/2023		19,770,467	83.12379600	(1,522,095)		750,622	(471,224)					750,622				0003
158710 Call Options – iShares MSCI EAFE – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	10/20/2022	10/20/2023		826,862	59.69977600	(60,825)		29,996	(18,831)					29,996				0003
158721 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	10/20/2022	10/20/2023		63,468,586	3983.23654800	(4,339,882)		2,140,216	(1,343,580)					2,140,216				0003
158722 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/20/2022	10/20/2023		30,182,779	3776.85313400	(1,612,697)		795,303	(499,273)					795,303				0003
158728 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROMUISFPUBMPRO8K5P83	10/20/2022	10/20/2023		43,575,339	4073.78131400	(2,505,984)		1,235,828	(775,825)					1,235,828				0003
158730 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	10/20/2022	10/20/2023		7,088,546	3978.83761200	0												0003
158734 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	10/20/2022	10/20/2027		3,982,571	3979.93734600	0												0003
158746 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/20/2022	10/19/2029		5,699,921	3799.94754800	(672,270)		221,222	(362,559)					221,222				0003
158754 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	10/20/2023		60,187,635	3738.36244400	(6,234,725)		3,074,659	(1,930,203)					3,074,659				0003
158762 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	10/20/2023		74,808,545	3760.35712400	(7,471,391)		3,684,521	(2,313,061)					3,684,521				0003

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158779 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	10/20/2023		44,588,854	3797.38150200	(4,182,970)		2,062,835	(1,295,002)					2,062,835				0003
158795 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	10/20/2023	.....	83,245,748	3819.37618200	(7,520,804)		3,708,889	(2,328,358)					3,708,889				0003
158815 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	10/20/2023	.....	33,126,972	3824.14169600	(2,967,803)		1,463,574	(918,799)					1,463,574				0003
158825 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	10/20/2023	.....	50,631,234	3850.90189000	(4,328,548)		2,134,627	(1,340,071)					2,134,627				0003
158829 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	10/20/2023	.....	61,835,513	3889.02600200	(4,936,791)		2,434,582	(1,528,376)					2,434,582				0003
159732 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	.....	40,206,225	3902.89630500	(3,731,185)		1,830,009	(1,321,673)					1,830,009				0003
159746 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	.....	45,078,853	3916.09323000	(4,090,674)		2,006,325	(1,449,013)					2,006,325				0003
159752 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	.....	56,039,710	3927.40488000	(4,987,835)		2,446,349	(1,766,808)					2,446,349				0003
159764 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	.....	59,245,929	3938.71653000	(5,171,384)		2,536,373	(1,831,825)					2,536,373				0003
159803 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	.....	44,657,906	3957.56928000	(3,772,585)		1,850,314	(1,336,338)					1,850,314				0003
159813 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	.....	56,552,118	3981.70080000	(4,578,686)		2,245,677	(1,621,878)					2,245,677				0003
159818 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	.....	53,364,806	4003.94704500	(4,152,740)		2,036,766	(1,470,998)					2,036,766				0003
159826 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	.....	55,755,735	4054.09536000	(3,959,586)		1,942,031	(1,402,578)					1,942,031				0003
159833 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/04/2022	11/06/2023	.....	84,508,193	4181.53995000	(4,695,506)		2,302,973	(1,663,258)					2,302,973				0003
159835 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	11/04/2022	11/05/2027	.....	12,677,866	4092.55497000	0												0003
159839 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	11/04/2022	11/06/2029	.....	8,325,314	4095.57141000	0												0003
159844 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/04/2022	05/06/2024	.....	8,588,031	3903.65041500	(995,434)		326,372	(565,711)					326,372				0003
159851 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/04/2022	11/06/2023	.....	83,833,730	3845.58394500	(8,352,234)		4,096,464	(2,958,557)					4,096,464				0003
159856 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/04/2022	11/06/2023		48,827,816	3850.48566000	(4,823,960)		2,365,975	(1,708,760)					2,365,975				0003

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159873 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	11/04/2022	11/06/2023		32,797,956	165.99902300	(2,120,784)		1,040,166	(751,231)					1,040,166				0003
159887 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	11/04/2022	11/06/2023		25,791,103	87.60073500	(1,876,116)		920,166	(664,564)					920,166				0003
159899 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	11/04/2022	11/06/2023		1,207,807	63.69637500	(83,285)		40,848	(29,502)					40,848				0003
159904 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	11/04/2022	11/06/2023		41,881,396	3888.56821500	0												0003
159910 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/04/2022	11/06/2023		59,052,975	3882.91239000	(5,667,405)		2,779,654	(2,007,528)					2,779,654				0003
160845 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/18/2022	11/19/2027		13,083,553	4298.82509400	0												0003
160848 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/18/2022	11/20/2029		8,257,298	4314.28992000	0												0003
160861 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/18/2022	11/20/2023		31,067,700	172.08530900	(1,946,185)		954,532	(763,626)					954,532				0003
160867 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	11/18/2022	11/20/2023		19,457,914	91.69881000	(1,252,240)		614,178	(491,342)					614,178				0003
160891 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	11/18/2022	05/20/2024		6,833,287	4115.22985200	(597,009)		195,741	(354,508)					195,741				0003
160892 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/18/2022	11/20/2023		1,084,663	68.79840000	(63,536)		31,162	(24,930)					31,162				0003
160900 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/18/2022	11/20/2023		48,796,656	4094.61008400	(4,287,603)		2,102,911	(1,682,329)					2,102,911				0003
160903 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	11/18/2022	11/20/2023		70,276,392	4044.25026600	(6,822,355)		3,346,114	(2,676,891)					3,346,114				0003
160914 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/18/2022	11/20/2023		49,047,265	4139.41842600	(3,976,349)		1,950,253	(1,560,202)					1,950,253				0003
160915 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	11/18/2022	11/20/2023		62,347,792	4061.30122800	(5,879,927)		2,883,888	(2,307,110)					2,883,888				0003
160927 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/18/2022	11/20/2023		34,446,329	4158.84859200	(2,694,846)		1,321,723	(1,057,378)					1,321,723				0003
160937 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	11/18/2022	11/20/2023		69,072,620	4158.05552400	(5,411,945)		2,654,360	(2,123,488)					2,654,360				0003
160940 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	11/18/2022	11/20/2023		47,437,050	4128.31547400	(3,978,259)		1,951,190	(1,560,952)					1,951,190				0003
160957 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/18/2022	11/20/2023		55,904,712	4390.02791400	(2,887,987)		1,416,451	(1,133,161)					1,416,451				0003

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160978 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	G5GSEF7VJP5I70UK5573	11/18/2022	11/20/2023	35,895,178	4085.09326800	(1,558,822)		764,545	(611,636)					764,545				0003
160991 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	THROUGH CBO X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023	48,721,022	4200.08812800	(3,528,024)		1,730,366	(1,384,293)					1,730,366				0003
160996 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	THROUGH CBO X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023	54,462,159	4228.63857600	(3,733,855)		1,831,319	(1,465,055)					1,831,319				0003
161837 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	SOCIETE GENERAL X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	02RNE81BXP4R0TD8PU41	12/06/2022	12/06/2023	19,655,311	91.39673400	(1,188,754)		586,235	(521,098)					586,235				0003
161851 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	THROUGH CBO X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	9R7GPTS07KV3UQJZ0078	12/06/2022	12/06/2023	30,337,309	174.28533200	(1,805,074)		890,173	(791,265)					890,173				0003
161863 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	THROUGH CBO X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	9R7GPTS07KV3UQJZ0078	12/06/2022	12/06/2023	837,139	70.84779700	(42,183)		20,803	(18,491)					20,803				0003
161873 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	THROUGH CBO X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	9R7GPTS07KV3UQJZ0078	12/06/2022	06/06/2024	6,553,212	4095.75739200	(690,832)		226,916	(432,400)					226,916				0003
161879 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	THROUGH CBO X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	9R7GPTS07KV3UQJZ0078	12/06/2022	12/06/2023	43,870,014	4026.78534200	(4,035,777)		1,990,246	(1,769,108)					1,990,246				0003
161887 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	E570DZIWZ7FF32TWIFA76	12/06/2022	12/06/2023	64,234,679	4018.50869600	(6,143,810)		3,029,824	(2,693,177)					3,029,824				0003
161890 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	THROUGH CBO X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	9R7GPTS07KV3UQJZ0078	12/06/2022	12/06/2023	43,509,051	4060.28605200	(3,765,625)		1,857,021	(1,650,685)					1,857,021				0003
161905 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	E570DZIWZ7FF32TWIFA76	12/06/2022	12/06/2023	51,348,725	4087.87487200	(4,332,906)		2,136,776	(1,899,356)					2,136,776				0003
161932 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	E570DZIWZ7FF32TWIFA76	12/06/2022	12/06/2023	40,207,813	4107.58117200	(3,272,372)		1,613,772	(1,434,464)					1,613,772				0003
161939 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	THROUGH CBO X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	9R7GPTS07KV3UQJZ0078	12/06/2022	12/06/2023	30,425,542	4056.73891800	(1,182,375)		583,089	(518,301)					583,089				0003
161941 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	E570DZIWZ7FF32TWIFA76	12/06/2022	12/06/2023	52,280,101	4114.67544000	(4,197,480)		2,069,990	(1,839,991)					2,069,990				0003
161947 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	E570DZIWZ7FF32TWIFA76	12/06/2022	12/06/2023	44,760,010	4128.86397600	(3,500,175)		1,726,114	(1,534,323)					1,726,114				0003
161958 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	E570DZIWZ7FF32TWIFA76	12/06/2022	12/06/2023	62,912,892	4156.45279600	(4,678,257)		2,307,086	(2,050,743)					2,307,086				0003
161963 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	E570DZIWZ7FF32TWIFA76	12/06/2022	12/06/2023	70,590,992	4186.40637200	(4,952,466)		2,442,312	(2,170,944)					2,442,312				0003
161967 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGOFU57RNE97	12/06/2022	12/06/2027	8,949,414	4275.08472200	0												0003
161971 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGOFU57RNE97	12/06/2022	12/06/2029	11,421,597	4288.87913200	0												0003
161972 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	E570DZIWZ7FF32TWIFA76	12/06/2022	12/06/2023	57,358,597	4331.83886600	(2,975,747)		1,467,491	(1,304,437)					1,467,491				0003

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SCHEDULE DB - PART A - SECTION 1

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162528 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA	12/20/2022	12/20/2023		30,723,667	.. 3932.82914200	 (1,439,006)		709,647	 (685,992)					709,647				0003
162534 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	12/20/2022	12/20/2027	.....	7,255,213	.. 4141.10743200	 0	.....											0003
162538 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	12/20/2022	12/20/2029	.....	11,042,350	.. 4157.15823600	 0	.....											0003
162544 Call Options – SPDR Gold shares – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023	.....	29,319,901	.. 178.76828400	 (1,751,634)	.....	863,819	 (835,025)	.....				863,819				0003
162569 Call Options – iShares MSCI EAFE – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023	.....	538,093	 68.90083200	 (32,723)	.....	16,137	 (15,599)	.....				16,137				0003
162577 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	06/20/2024	.....	6,342,055	.. 3963.78426400	 (686,736)	.....	225,570	 (447,381)	.....				225,570				0003
162581 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023	.....	53,382,375	.. 3896.52375200	 (5,062,835)	.....	2,496,741	 (2,413,516)	.....				2,496,741				0003
162591 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023	.....	48,738,535	.. 3904.54915400	 (4,556,113)	.....	2,246,850	 (2,171,955)	.....				2,246,850				0003
162606 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023	.....	45,704,594	.. 3936.65076200	 (4,031,347)	.....	1,988,062	 (1,921,793)	.....				1,988,062				0003
162617 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023	.....	47,442,642	.. 3961.87345400	 (3,994,195)	.....	1,969,740	 (1,904,082)	.....				1,969,740				0003
162631 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023	.....	51,887,182	.. 3977.15993400	 (4,244,871)	.....	2,093,361	 (2,023,583)	.....				2,093,361				0003
162639 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023	.....	54,624,358	.. 3989.77128000	 (4,363,080)	.....	2,151,656	 (2,079,934)	.....				2,151,656				0003
162649 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023	.....	66,887,312	.. 4016.52262000	 (5,074,681)	.....	2,502,582	 (2,419,163)	.....				2,502,582				0003
162658 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023	.....	52,602,306	.. 4046.33125600	 (3,763,240)	.....	1,855,844	 (1,793,983)	.....				1,855,844				0003
162665 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023	.....	50,272,715	.. 4079.96151200	 (3,359,802)	.....	1,656,888	 (1,601,659)	.....				1,656,888				0003
162689 Call Options – iShares U.S. Real Estate – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	12/20/2022	12/20/2023		20,180,184	.. 88.21243900	 (1,385,231)		683,128	 (660,357)					683,128				0003

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SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
162695 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.12/20/2022	.12/20/2023	.....	36,116,180	..4235.50144600	(1,789,770)	.....	882,626	(853,205)	.....	.....	.....	.....	882,626	.....	.....	.....	0003
163196 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZVZ7FF32TWEFA76	.01/06/2023	.01/05/2024	.....	45,372,359	..4010.37436800	(3,856,213)	.....	1,853,949	(2,002,264)	.....	.....	.....	.....	1,853,949	.....	.....	.....	0003
163294 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZVZ7FF32TWEFA76	.01/06/2023	.01/05/2024	.....	64,732,760	..4072.69564800	(4,878,859)	.....	2,345,605	(2,533,253)	.....	.....	.....	.....	2,345,605	.....	.....	.....	0003
163305 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUH3JPF6GFNF3B8653	.01/06/2023	.01/05/2024	.....	35,770,655	..4082.82285600	(2,616,491)	.....	1,257,928	(1,358,562)	.....	.....	.....	.....	1,257,928	.....	.....	.....	0003
163315 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.01/06/2023	.01/05/2024	.....	55,682,351	..4115.93103600	(3,819,423)	.....	1,836,261	(1,983,162)	.....	.....	.....	.....	1,836,261	.....	.....	.....	0003
163328 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.01/06/2023	.01/05/2024	.....	52,540,549	..4146.70216800	(3,382,389)	.....	1,626,149	(1,756,240)	.....	.....	.....	.....	1,626,149	.....	.....	.....	0003
163334 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.01/06/2023	.01/05/2024	.....	46,299,205	..4299.38930400	(2,128,687)	.....	1,023,407	(1,105,280)	.....	.....	.....	.....	1,023,407	.....	.....	.....	0003
163339 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZVZ7FF32TWEFA76	.01/06/2023	.01/05/2024	.....	67,065,858	..4040.36648400	(5,386,092)	.....	2,589,467	(2,796,625)	.....	.....	.....	.....	2,589,467	.....	.....	.....	0003
163343 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GCT1XBU11	.01/06/2023	.01/05/2024	.....	30,593,196	..4006.86879600	(1,302,597)	.....	626,249	(676,349)	.....	.....	.....	.....	626,249	.....	.....	.....	0003
163354 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZVZ7FF32TWEFA76	.01/06/2023	.01/06/2028	.....	12,190,909	..4212.52902000	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0003
163355 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0WP21HZNB6K528	.01/06/2023	.01/05/2024	.....	18,092,135	..90.96017100	(1,136,908)	.....	546,591	(590,318)	.....	.....	.....	.....	546,591	.....	.....	.....	0003
163357 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZVZ7FF32TWEFA76	.01/06/2023	.01/04/2030	.....	14,877,934	..4223.82475200	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0003
163363 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGUF57RNE97	.01/06/2023	.01/05/2024	.....	1,144,030	..71.46155700	(68,278)	.....	32,826	(35,452)	.....	.....	.....	.....	32,826	.....	.....	.....	0003
163371 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZVZ7FF32TWEFA76	.01/06/2023	.01/05/2024	.....	54,924,863	..3972.98160000	(4,997,412)	.....	2,402,602	(2,594,810)	.....	.....	.....	.....	2,402,602	.....	.....	.....	0003
163377 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZVZ7FF32TWEFA76	.01/06/2023	.01/05/2024	.....	51,089,512	..3973.37110800	(4,647,992)	.....	2,234,612	(2,413,381)	.....	.....	.....	.....	2,234,612	.....	.....	.....	0003
163383 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.01/06/2023	.01/05/2024	.....	34,960,372	..183.21193700	(2,177,248)	.....	1,046,754	(1,130,494)	.....	.....	.....	.....	1,046,754	.....	.....	.....	0003
163387 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.01/06/2023	.07/05/2024	.....	4,464,112	..4058.28385200	(439,252)	.....	140,786	(298,466)	.....	.....	.....	.....	140,786	.....	.....	.....	0003
163392 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.01/06/2023	.01/05/2024	.....	35,531,401	..4056.72582000	(2,677,429)	.....	1,287,225	(1,390,203)	.....	.....	.....	.....	1,287,225	.....	.....	.....	0003
163829 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUJISFPUBM8MPR08K5P83	.01/20/2023	.01/19/2024	.....	49,541,615	..4057.62385400	(4,123,779)	.....	1,823,979	(2,299,800)	.....	.....	.....	.....	1,823,979	.....	.....	.....	0003
163850 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUJISFPUBM8MPR08K5P83	.01/20/2023	.01/19/2024	.....	49,193,689	..4095.36364900	(3,793,197)	.....	1,677,760	(2,115,437)	.....	.....	.....	.....	1,677,760	.....	.....	.....	0003
163868 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUJISFPUBM8MPR08K5P83	.01/20/2023	.01/19/2024	.....	55,499,209	..4132.70618300	(3,955,312)	.....	1,749,465	(2,205,847)	.....	.....	.....	.....	1,749,465	.....	.....	.....	0003
163876 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUJISFPUBM8MPR08K5P83	.01/20/2023	.01/19/2024	.....	69,378,671	..4157.73362600	(4,682,033)	.....	2,070,899	(2,611,134)	.....	.....	.....	.....	2,070,899	.....	.....	.....	0003
163884 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZVZ7FF32TWEFA76	.01/20/2023	.01/19/2024	.....	67,017,392	..4182.76106900	(4,189,462)	.....	1,853,031	(2,336,431)	.....	.....	.....	.....	1,853,031	.....	.....	.....	0003
163906 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZVZ7FF32TWEFA76	.01/20/2023	.01/19/2024		63,067,009	..4218.51455900	(3,624,022)		1,602,933	(2,021,089)					1,602,933				0003

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
163911 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A.	01/20/2023	01/19/2024	.....	50,564,523	4359.93947500	.....	(2,100,904)	929,246	(1,171,658)	.....	.....	.....	.....	929,246	.....	.....	.....	0003
163918 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA	01/20/2023	01/19/2024	.....	24,538,316	4092.58282200	.....	(897,976)	397,182	(500,794)	.....	.....	.....	.....	397,182	.....	.....	.....	0003
163923 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	01/20/2023	01/20/2028	.....	6,175,508	4299.55580300	.....	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0003
163926 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	01/20/2023	01/18/2030	.....	19,648,191	4314.65172100	.....	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0003
163950 Call Options – iShares U.S. Real Estate – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL	01/20/2023	01/19/2024	.....	18,725,600	94.73083600	.....	(1,112,346)	491,999	(620,347)	.....	.....	.....	.....	491,999	.....	.....	.....	0003
163955 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	01/20/2023	07/19/2024	.....	4,217,308	4143.03496900	.....	(399,368)	117,762	(281,606)	.....	.....	.....	.....	117,762	.....	.....	.....	0003
163965 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	01/20/2023	01/19/2024	.....	51,653,498	4050.87041700	.....	(4,357,393)	1,927,309	(2,430,085)	.....	.....	.....	.....	1,927,309	.....	.....	.....	0003
163969 Call Options – SPDR Gold shares – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2023	01/19/2024	.....	28,912,368	189.95775500	.....	(1,774,701)	784,964	(989,737)	.....	.....	.....	.....	784,964	.....	.....	.....	0003
163976 Call Options – iShares MSCI EAFE – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2023	01/19/2024	.....	995,397	74.65991400	.....	(49,063)	21,701	(27,362)	.....	.....	.....	.....	21,701	.....	.....	.....	0003
164468 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A.	02/06/2023	02/06/2024	.....	65,277,722	4194.12381600	.....	(5,253,187)	2,072,490	(3,180,697)	.....	.....	.....	.....	2,072,490	.....	.....	.....	0003
164503 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BANK OF AMERICA, N.A.	02/06/2023	02/06/2024	.....	51,473,298	4232.35686000	.....	(3,806,614)	1,501,787	(2,304,826)	.....	.....	.....	.....	1,501,787	.....	.....	.....	0003
164531 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BANK OF AMERICA, N.A.	02/06/2023	02/06/2024	.....	34,326,717	4261.54552800	.....	(2,382,100)	939,787	(1,442,313)	.....	.....	.....	.....	939,787	.....	.....	.....	0003
164540 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BANK OF AMERICA, N.A.	02/06/2023	02/06/2024	.....	52,927,009	4290.73419600	.....	(3,439,966)	1,357,137	(2,082,829)	.....	.....	.....	.....	1,357,137	.....	.....	.....	0003
164566 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BANK OF AMERICA, N.A.	02/06/2023	02/06/2024	.....	77,139,214	4300.60078800	.....	(4,906,263)	1,935,621	(2,970,641)	.....	.....	.....	.....	1,935,621	.....	.....	.....	0003
164573 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BANK OF AMERICA, N.A.	02/06/2023	02/06/2024	.....	39,813,179	4309.23405600	.....	(2,481,574)	979,032	(1,502,542)	.....	.....	.....	.....	979,032	.....	.....	.....	0003
164577 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BANK OF AMERICA, N.A.	02/06/2023	02/06/2024	.....	53,306,957	4340.47826400	.....	(3,086,673)	1,217,756	(1,868,917)	.....	.....	.....	.....	1,217,756	.....	.....	.....	0003
164583 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA	02/06/2023	02/06/2024	.....	47,776,817	4362.67809600	.....	(2,639,160)	1,041,203	(1,597,957)	.....	.....	.....	.....	1,041,203	.....	.....	.....	0003
164588 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA	02/06/2023	02/06/2024	.....	52,895,101	4381.58906400	.....	(2,784,214)	1,098,430	(1,685,784)	.....	.....	.....	.....	1,098,430	.....	.....	.....	0003
164596 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA	02/06/2023	02/06/2024	.....	52,669,295	4530.82126800	.....	(1,863,808)	735,310	(1,128,497)	.....	.....	.....	.....	735,310	.....	.....	.....	0003
164601 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	02/06/2023	02/04/2028	.....	6,031,541	4443.25526400	.....	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0003
164604 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	02/06/2023	02/06/2030	.....	22,611,987	4460.52180000	.....	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0003
164608 Call Options – iShares MSCI EAFE – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/06/2023	02/06/2024	.....	2,588,924	75.46157500	.....	(99,493)	39,252	(60,241)	.....	.....	.....	.....	39,252	.....	.....	.....	0003
164618 Call Options – SPDR Gold shares – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL	02/06/2023	02/06/2024	.....	47,795,368	184.07538000	.....	(2,604,165)	1,027,397	(1,576,768)	.....	.....	.....	.....	1,027,397	.....	.....	.....	0003
164625 Call Options – iShares U.S. Real Estate – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	02/06/2023	02/06/2024		29,709,564	98.34149600		(1,605,392)	633,360	(972,032)					633,360				0003

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164629 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	B4TYDEB6GMZ0031MB27	02/06/2023	08/06/2024	7,077,128	4275.93430800		(653,884)	172,138	(481,747)					172,138				0003
164634 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	K81H1DSPRFMYMCUFX09	02/06/2023	02/06/2024	67,641,836	4193.30160000		(5,451,136)	2,150,585	(3,300,551)					2,150,585				0003
164640 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RHI6C71XBU11	02/06/2023	02/06/2024	30,526,625	4227.01245600		(1,098,507)	433,384	(665,124)					433,384				0003
165123 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	W22LR0WP21HZNB6K528	02/17/2023	02/20/2024	27,549,694	96.02707200		(1,609,829)	581,813	(1,028,016)					581,813				0003
165134 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUWISFPU8MPR08K5P83	02/17/2023	02/20/2024	1,061,285	75.50136200		(49,715)	17,968	(31,747)					17,968				0003
165166 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	02/17/2023	02/20/2024	53,408,551	4234.09542000		(3,881,715)	1,402,902	(2,478,813)					1,402,902				0003
165181 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG	BFMBT61CT2L10CEMIK50	02/17/2023	02/20/2024	51,236,591	4266.72814000		(3,458,226)	1,249,848	(2,208,378)					1,249,848				0003
165197 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	02/17/2023	02/20/2024	40,512,532	4487.81481800		(1,616,259)	584,137	(1,032,122)					584,137				0003
165231 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	G5GSEF7VJP5170UK5573	02/17/2023	02/20/2024	24,973,199	4191.67288400		(898,579)	324,758	(573,821)					324,758				0003
165238 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	9R7GPTS07KV3UQJZ0078	02/17/2023	08/20/2024	7,200,043	4235.31914700		(677,076)	163,729	(513,347)					163,729				0003
165241 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	9R7GPTS07KV3UQJZ0078	02/17/2023	02/20/2024	57,810,658	4159.04016400		(4,773,399)	1,725,169	(3,048,230)					1,725,169				0003
165253 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	9R7GPTS07KV3UQJZ0078	02/17/2023	02/20/2024	56,015,695	4165.97461700		(4,561,556)	1,648,606	(2,912,950)					1,648,606				0003
165263 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	9R7GPTS07KV3UQJZ0078	02/17/2023	02/20/2024	45,754,286	4200.65000000		(3,470,364)	1,254,235	(2,216,129)					1,254,235				0003
165271 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	9R7GPTS07KV3UQJZ0078	02/17/2023	02/20/2024	65,149,879	4258.16205100		(4,367,385)	1,578,430	(2,788,955)					1,578,430				0003
165273 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	9R7GPTS07KV3UQJZ0078	02/17/2023	02/20/2024	54,394,665	4283.04450000		(3,448,050)											

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165311 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	02/17/2023	02/20/2030		18,378,131	4420.50983300		0											0003
165810 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL	03/06/2023	03/06/2024	.....	49,276,499	181.67693200	.....	(2,536,711)	803,985	(1,732,726)	.....	.....	.....	.....	803,985	.....	.....	.....	0003
165819 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A.	03/06/2023	03/06/2024	.....	30,403,640	93.00188400	.....	(1,883,693)	597,017	(1,286,675)	.....	.....	.....	.....	597,017	.....	.....	.....	0003
165828 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	03/06/2023	03/06/2024	.....	1,479,373	73.76131000	.....	(82,670)	26,201	(56,468)	.....	.....	.....	.....	26,201	.....	.....	.....	0003
165835 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/06/2023	09/06/2024	.....	4,591,313	4173.92102000	.....	(415,217)	87,573	(327,644)	.....	.....	.....	.....	87,573	.....	.....	.....	0003
165838 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/06/2023	03/06/2024	.....	66,915,767	4130.60292600	.....	(4,973,400)	1,576,269	(3,397,131)	.....	.....	.....	.....	1,576,269	.....	.....	.....	0003
165847 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/06/2023	03/06/2024	.....	54,113,343	4167.84839000	.....	(3,696,798)	1,171,663	(2,525,135)	.....	.....	.....	.....	1,171,663	.....	.....	.....	0003
165864 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	03/06/2023	03/06/2028	.....	9,926,288	4378.77107200	.....	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0003
165867 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	03/06/2023	03/06/2030	.....	14,922,988	4373.91296800	.....	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0003
165882 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A.	03/06/2023	03/06/2024	.....	67,446,867	4129.38840000	.....	(5,580,898)	1,768,809	(3,812,089)	.....	.....	.....	.....	1,768,809	.....	.....	.....	0003
165902 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A.	03/06/2023	03/06/2024	.....	49,969,042	4199.42606600	.....	(3,574,379)	1,132,863	(2,441,515)	.....	.....	.....	.....	1,132,863	.....	.....	.....	0003
165906 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A.	03/06/2023	03/06/2024	.....	54,213,738	4301.85109200	.....	(3,081,602)	976,682	(2,104,919)	.....	.....	.....	.....	976,682	.....	.....	.....	0003
165912 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A.	03/06/2023	03/06/2024	.....	83,321,774	4250.84100000	.....	(5,324,658)	1,687,597	(3,637,062)	.....	.....	.....	.....	1,687,597	.....	.....	.....	0003
165921 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A.	03/06/2023	03/06/2024	.....	47,272,559	4434.63926800	.....	(1,916,105)	607,290	(1,308,815)	.....	.....	.....	.....	607,290	.....	.....	.....	0003
165926 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A.	03/06/2023	03/06/2024	.....	67,416,861	4224.12142800	.....	(4,574,577)	1,449,866	(3,124,711)	.....	.....	.....	.....	1,449,866	.....	.....	.....	0003
165930 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA	03/06/2023	03/06/2024	.....	31,676,238	4162.99028600	.....	(1,207,535)	382,716	(824,819)	.....	.....	.....	.....	382,716	.....	.....	.....	0003
165937 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A.	03/06/2023	03/06/2024	.....	39,552,414	4243.55384400	.....	(2,569,662)	814,428	(1,755,233)	.....	.....	.....	.....	814,428	.....	.....	.....	0003
165943 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A.	03/06/2023	03/06/2024	.....	32,827,213	4269.46373200	.....	(2,010,846)	637,317	(1,373,529)	.....	.....	.....	.....	637,317	.....	.....	.....	0003
165945 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A.	03/06/2023	03/06/2024	.....	47,749,734	4286.46709600	.....	(2,814,114)	891,905	(1,922,209)	.....	.....	.....	.....	891,905	.....	.....	.....	0003
166354 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	SOCIETE GENERAL ...	03/20/2023	03/20/2024	.....	47,729,989	194.37403200	.....	(2,934,313)	817,759	(2,116,554)	.....	.....	.....	.....	817,759	.....	.....	.....	0003
166362 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	SOCIETE GENERAL ...	03/20/2023	03/20/2024	.....	32,438,707	87.55445000	.....	(1,906,351)	531,278	(1,375,073)	.....	.....	.....	.....	531,278	.....	.....	.....	0003
166371 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA	03/20/2023	03/20/2024		955,728	72.00994200		(53,428)	14,890	(38,538)					14,890				0003

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166379 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZVZ7FF32TWEFA76	.03/20/2023	.03/20/2024		66,103,902	..4319.46116700		(2,918,085)	813,237	(2,104,848)					813,237				0003
166388 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZVZ7FF32TWEFA76	.03/20/2023	.03/20/2028	.....	11,891,860	..4306.02582900	.....	.....0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0003
166391 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGQFU57RNE97	.03/20/2023	.03/20/2030	.....	14,285,384	..4297.33237500	.....	.....0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0003
166396 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.03/20/2023	.03/20/2024	.....	45,628,419	..4117.14078300	.....	.....(2,877,695)	801,981	(2,075,714)	.....	.....	.....	.....	.....801,981	.....	.....	.....	0003
166402 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.03/20/2023	.03/20/2024	.....	52,323,955	..4127.81002200	.....	.....(3,215,257)	896,055	(2,319,202)	.....	.....	.....	.....	.....896,055	.....	.....	.....	0003
166407 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.03/20/2023	.03/20/2024	.....	50,142,539	..4144.01145900	.....	.....(2,960,144)	824,958	(2,135,186)	.....	.....	.....	.....	.....824,958	.....	.....	.....	0003
166412 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.03/20/2023	.03/20/2024	.....	52,478,430	..4164.95478000	.....	.....(2,937,186)	818,560	(2,118,626)	.....	.....	.....	.....	.....818,560	.....	.....	.....	0003
166419 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.03/20/2023	.03/20/2024	.....	77,041,031	..4188.26904300	.....	.....(4,056,719)	1,130,561	(2,926,158)	.....	.....	.....	.....	.....1,130,561	.....	.....	.....	0003
166442 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIGC71XB11	.03/20/2023	.03/20/2024	.....	28,311,222	..4061.42364600	.....	.....(1,198,227)	333,932	(864,295)	.....	.....	.....	.....	.....333,932	.....	.....	.....	0003
166444 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.03/20/2023	.09/20/2024	.....	4,876,079	..4063.39943100	.....	.....(322,068)	59,729	(262,339)	.....	.....	.....	.....	.....59,729	.....	.....	.....	0003
166447 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.03/20/2023	.03/20/2024	.....	76,148,493	..4029.02077200	.....	.....(5,877,711)	1,638,051	(4,239,660)	.....	.....	.....	.....	.....1,638,051	.....	.....	.....	0003
166453 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.03/20/2023	.03/20/2024	.....	67,625,203	..4032.97234200	.....	.....(5,174,965)	1,442,203	(3,732,762)	.....	.....	.....	.....	.....1,442,203	.....	.....	.....	0003
166459 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.03/20/2023	.03/20/2024	.....	49,258,730	..4068.93162900	.....	.....(3,479,282)	969,636	(2,509,646)	.....	.....	.....	.....	.....969,636	.....	.....	.....	0003
166469 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.03/20/2023	.03/20/2024	.....	51,151,363	..4098.56840400	.....	.....(3,372,801)	939,961	(2,432,840)	.....	.....	.....	.....	.....939,961	.....	.....	.....	0003
167363 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.04/06/2023	.04/05/2024	.....	40,013,788	..89.02054000	.....	.....(2,559,046)	595,942	(1,963,104)	.....	.....	.....	.....	.....595,942	.....	.....	.....	0003
167372 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCUFXT09	.04/06/2023	.04/05/2024	.....	1,895,084	..77.35708200	.....	.....(70,495)	16,417	(54,078)	.....	.....	.....	.....	.....16,417	.....	.....	.....	0003
167377 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUWISFPUM8MPR08K5P83	.04/06/2023	.10/04/2024	.....	3,777,261	..4217.90805000	.....	.....(372,359)	57,862	(314,497)	.....	.....	.....	.....	.....57,862	.....	.....	.....	0003

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
167380 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8PRO8K5P83	.04/06/2023	.04/05/2024	.....	84,576,435	..4185.47839200	.....	....(6,797,802)	1,583,050	(5,214,752)	.....		.....		.....1,583,050		.....	.....	0003
167386 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8PRO8K5P83	.04/06/2023	.04/05/2024	.....	82,540,040	..4189.58341200	.....	....(6,578,294)	1,531,931	(5,046,363)	.....		.....		.....1,531,931		.....	.....	0003
167392 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUHN3JPF6GNF3BB653	.04/06/2023	.04/05/2024	.....	31,531,165	..4283.99887200	.....	....(736,022)	171,402	(564,619)	.....		.....		.....171,402		.....	.....	0003
167399 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUHN3JPF6GNF3BB653	.04/06/2023	.04/05/2024	.....	40,323,413	..4346.39517600	.....	....(927,744)	216,050	(711,694)	.....		.....		.....216,050		.....	.....	0003
167405 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUHN3JPF6GNF3BB653	.04/06/2023	.04/05/2024	.....	81,284,742	..4394.83441200	.....	....(1,849,552)	430,718	(1,418,834)	.....		.....		.....430,718		.....	.....	0003
167411 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZVZ7FF32TWEFA76	.04/06/2023	.04/06/2028	.....	19,187,787	..4472.00878800	.....	.....0	.....	.....	.....		.....		.....		.....	.....	0003
167415 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZVZ7FF32TWEFA76	.04/06/2023	.04/05/2030	.....	21,222,133	..4465.44075600	.....	.....0	.....	.....	.....		.....		.....		.....	.....	0003
167424 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.04/06/2023	.04/05/2024	.....	72,528,189	..4276.19933400	.....	....(4,621,676)	1,076,281	(3,545,395)	.....		.....		.....1,076,281		.....	.....	0003
167433 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8PRO8K5P83	.04/06/2023	.04/05/2024	.....	36,922,405	..4210.92951600	.....	....(1,428,953)	332,770	(1,096,183)	.....		.....		.....332,770		.....	.....	0003
167435 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.04/06/2023	.04/05/2024	.....	46,822,088	..4296.31393200	.....	....(2,845,738)	662,706	(2,183,032)	.....		.....		.....662,706		.....	.....	0003
167442 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.04/06/2023	.04/05/2024	.....	49,695,577	..4321.35455400	.....	....(2,843,375)	662,156	(2,181,219)	.....		.....		.....662,156		.....	.....	0003
167446 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.04/06/2023	.04/05/2024	.....	57,085,229	..4324.63857000	.....	....(3,240,336)	754,599	(2,485,737)	.....		.....		.....754,599		.....	.....	0003
167448 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.04/06/2023	.04/05/2024	.....	44,404,987	..4531.12107600	.....	....(1,422,862)	331,351	(1,091,511)	.....		.....		.....331,351		.....	.....	0003
167458 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.04/06/2023	.04/05/2024	.....	53,543,948	..197.62345300	.....	....(3,367,775)	784,276	(2,583,498)	.....		.....		.....784,276		.....	.....	0003
167462 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.04/06/2023	.04/05/2024	.....	48,294,992	..4259.77925400	.....	....(3,195,911)	744,253	(2,451,658)	.....		.....		.....744,253		.....	.....	0003
167474 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.04/06/2023	.04/05/2024	.....	59,890,855	..4226.12000000	.....	....(4,274,721)	995,483	(3,279,238)	.....		.....		.....995,483		.....	.....	0003
167993 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZVZ7FF32TWEFA76	.04/20/2023	.04/20/2028	.....	16,962,996	..4486.60385600	.....	.....0	.....	.....	.....		.....		.....		.....	.....	0003
167997 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZVZ7FF32TWEFA76	.04/20/2023	.04/18/2030	.....	15,969,531	..4486.19087700	.....	.....0	.....	.....	.....		.....		.....		.....	.....	0003

SCHEDULE DB - PART A - SECTION 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amorti- zation)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
168003 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	04/20/2023	04/19/2024	1,458,979	77.34790800		(51,683)	10,053	(41,630)					10,053				0003
168018 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	04/20/2023	10/18/2024	3,803,041	4225.60112800		(368,739)	47,862	(320,877)					47,862				0003
168021 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	04/20/2023	04/19/2024	66,523,070	4210.32090500		(5,126,626)	997,234	(4,129,392)					997,234				0003
168031 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	04/20/2023	04/19/2024	49,999,935	4265.66009100		(3,406,854)	662,703	(2,744,151)					662,703				0003
168049 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	04/20/2023	04/19/2024	67,484,441	4299.11139000		(4,250,672)	826,843	(3,423,829)					826,843				0003
168061 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	04/20/2023	04/19/2024	56,971,775	4316.04352900		(3,445,200)	670,162	(2,775,038)					670,162				0003
168071 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	04/20/2023	04/19/2024	52,241,081	4348.66887000		(2,912,100)	566,463	(2,345,637)					566,463				0003
168087 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	04/20/2023	04/19/2024	54,521,728	4370.96973600		(2,870,300)	558,332	(2,311,968)					558,332				0003
168099 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	04/20/2023	04/19/2024	62,929,856	4384.59804300		(3,195,293)	621,550	(2,573,743)					621,550				0003
168111 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02RNE81BXP4R0TD8PU41	04/20/2023	04/19/2024	42,790,560	197.79506100		(2,556,404)	497,273	(2,059,131)					497,273				0003
168112 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	04/20/2023	04/19/2024	71,024,919	4471.32363300		(2,828,560)	550,213	(2,278,347)					550,213				0003
168120 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02RNE81BXP4R0TD8PU41	04/20/2023	04/19/2024	29,621,620	89.47350000		(1,801,842)	350,495	(1,451,347)					350,495				0003
168126 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	B4TYDEB6KMZ0031MB27	04/20/2023	04/19/2024	62,678,185	4214.86367400		(4,923,486)	957,719	(3,965,767)					957,719				0003
168130 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUJISFPUBM8PRO8K5P83	04/20/2023	04/19/2024	27,081,227	4240.46837200		(977,699)	190,183	(787,516)					190,183				0003
170969 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUJISFPUBM8PRO8K5P83	05/05/2023	05/06/2024	36,474,172														

SCHEDULE DB - PART A - SECTION 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
170981 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	ROMUWISFPU8MPRO8K5P83	05/05/2023	05/06/2030	17,276,431	4485.76312500		0											0003
171009 Call Options – SPDR Gold shares – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	THROUGH CBO X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	9R7GPTS07KV3UQJZ0078	05/05/2023	05/06/2024	55,213,121	199.28872600		(3,296,906)	503,070	(2,793,836)					503,070				0003
171017 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	THROUGH CBO X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	9R7GPTS07KV3UQJZ0078	05/05/2023	11/06/2024	3,821,275	4245.86062500		(358,227)	36,408	(321,819)					36,408				0003
171019 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	THROUGH CBO X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	9R7GPTS07KV3UQJZ0078	05/05/2023	05/06/2024	70,805,651	4317.41775000		(4,363,876)	665,878	(3,697,998)					665,878				0003
171029 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	THROUGH CBO X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	9R7GPTS07KV3UQJZ0078	05/05/2023	05/06/2024	50,048,438	4354.23037500		(2,818,840)	430,123	(2,388,717)					430,123				0003
171040 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	THROUGH CBO MORGAN STANLEY & CO. INTERNATIONAL	9R7GPTS07KV3UQJZ0078	05/05/2023	05/06/2024	51,540,736	4413.79237500		(2,485,025)	379,186	(2,105,839)					379,186				0003
171069 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	PLC MORGAN STANLEY & CO. INTERNATIONAL	4PQUHN3JPFGFNF3BB653	05/05/2023	05/06/2024	47,507,791	4522.16212500		(1,811,506)	276,415	(1,535,091)					276,415				0003
171094 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	PLC MORGAN STANLEY & CO. INTERNATIONAL	4PQUHN3JPFGFNF3BB653	05/05/2023	05/06/2024	60,383,755	4391.04300000		(3,269,932)	498,954	(2,770,978)					498,954				0003
171108 Call Options – iShares U.S. Real Estate – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	SOCIETE GENERAL ...	02RNE81BXP4R0TD8PU41	05/05/2023	05/06/2024	37,877,141	90.25691400		(2,451,061)	374,004	(2,077,057)					374,004				0003
171115 Call Options – iShares MSCI EAFE – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON MORGAN STANLEY & CO. INTERNATIONAL	ROMUWISFPU8MPRO8K5P83	05/05/2023	05/06/2024	1,973,738	78.71914000		(78,931)	12,044	(66,887)					12,044				0003
171119 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	PLC MORGAN STANLEY & CO. INTERNATIONAL	4PQUHN3JPFGFNF3BB653	05/05/2023	05/06/2024	77,217,739	4217.32050000		(6,201,677)	946,305	(5,255,372)					946,305				0003
171125 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	PLC MORGAN STANLEY & CO. INTERNATIONAL	4PQUHN3JPFGFNF3BB653	05/05/2023	05/06/2024	62,987,198	4221.45675000		(5,016,777)	765,503	(4,251,274)					765,503				0003
171134 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	PLC MORGAN STANLEY & CO. INTERNATIONAL	4PQUHN3JPFGFNF3BB653	05/05/2023	05/06/2024	37,302,771	4258.68300000		(2,745,837)	418,983	(2,326,854)					418,983				0003
171142 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	PLC MORGAN STANLEY & CO. INTERNATIONAL	4PQUHN3JPFGFNF3BB653	05/05/2023	05/06/2024	45,407,700	4300.04550000		(3,052,585)	465,790	(2,586,795)					465,790				0003
171148 Call Options – S&P 500 – USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	PLC MORGAN STANLEY & CO. INTERNATIONAL	4PQUHN3JPFGF																	

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SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
171618 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/19/2023	05/20/2024	.....	71,815,365	4493.38336200	.....	(3,096,124)	354,325	(2,741,799)	.....	.....	.....	.....	.....354,325	.....	.....	.....	0003
171632 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/19/2023	05/20/2024	.....	44,612,664	4569.67739800	.....	(1,526,993)	174,751	(1,352,242)	.....	.....	.....	.....	.....174,751	.....	.....	.....	0003
171637 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	05/19/2023	11/20/2024	.....	2,148,818	4313.54742000	.....	(206,236)	15,720	(190,516)	.....	.....	.....	.....	.....15,720	.....	.....	.....	0003
171643 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	05/19/2023	05/20/2024	.....	71,017,178	4274.56200600	.....	(5,485,947)	627,820	(4,858,127)	.....	.....	.....	.....	.....627,820	.....	.....	.....	0003
171645 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	05/19/2023	05/20/2024	.....	66,055,853	4278.33478800	.....	(5,061,785)	579,278	(4,482,507)	.....	.....	.....	.....	.....579,278	.....	.....	.....	0003
171652 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	05/19/2023	05/20/2024	.....	45,305,558	4327.38095400	.....	(3,120,808)	357,150	(2,763,658)	.....	.....	.....	.....	.....357,150	.....	.....	.....	0003
171663 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	05/19/2023	05/20/2024	.....	86,079,685	4372.65433800	.....	(5,337,765)	610,861	(4,726,903)	.....	.....	.....	.....	.....610,861	.....	.....	.....	0003
171677 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	05/19/2023	05/20/2024	.....	48,554,600	4388.58386200	.....	(2,898,074)	331,660	(2,566,415)	.....	.....	.....	.....	.....331,660	.....	.....	.....	0003
171691 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	05/19/2023	05/20/2024	.....	49,059,023	4426.73088000	.....	(2,666,632)	305,173	(2,361,458)	.....	.....	.....	.....	.....305,173	.....	.....	.....	0003
171699 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A.	05/19/2023	05/20/2024	.....	65,994,380	4466.97388800	.....	(3,201,867)	366,426	(2,835,441)	.....	.....	.....	.....	.....366,426	.....	.....	.....	0003
171719 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	05/19/2023	05/20/2024	.....	30,291,711	87.68697600	.....	(1,927,993)	220,642	(1,707,351)	.....	.....	.....	.....	.....220,642	.....	.....	.....	0003
171725 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	JPMORGAN CHASE BANK, N.A.	05/19/2023	05/20/2024	.....	2,130,470	78.28584800	.....	(85,495)	9,784	(75,711)	.....	.....	.....	.....	.....9,784	.....	.....	.....	0003
171731 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA	05/19/2023	05/20/2024	.....	30,970,387	4309.77463800	.....	(1,030,238)	117,902	(912,336)	.....	.....	.....	.....	.....117,902	.....	.....	.....	0003
171735 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A.	05/19/2023	05/19/2028	.....	16,992,265	4545.78311200	.....	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0003
171737 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/19/2023	05/20/2024	.....	59,582,205	4446.43318600	.....	(2,928,302)	335,119	(2,593,183)	.....	.....	.....	.....	.....335,119	.....	.....	.....	0003
171738 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL	05/19/2023	05/20/2024	.....	47,124,115	196.03570000	.....	(2,590,039)	296,408	(2,293,632)	.....	.....	.....	.....	.....296,408	.....	.....	.....	0003
172271 Call Options - iShares MSCI EAFE - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	06/06/2023	06/06/2024	.....	2,658,877	77.49112000	.....	(106,455)	6,981	(99,474)	.....	.....	.....	.....	.....6,981	.....	.....	.....	0003
172307 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	06/06/2023	06/06/2024	.....	19,755,909	4413.65065500	.....	(1,327,004)	87,017	(1,239,988)	.....	.....	.....	.....	.....87,017	.....	.....	.....	0003
172315 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	WELLS FARGO BANK, N.A.	06/06/2023	06/06/2024	.....	54,867,203	194.61148200	.....	(2,724,596)	178,662	(2,545,934)	.....	.....	.....	.....	.....178,662	.....	.....	.....	0003
172324 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	06/06/2023	06/06/2024	.....	64,028,149	4450.49176500	.....	(3,938,526)	258,264	(3,680,262)	.....	.....	.....	.....	.....258,264	.....	.....	.....	0003
172327 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	06/06/2023	06/06/2024		30,047,650	89.51378800		(1,704,483)	111,769	(1,592,714)					111,769				0003

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	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
172336 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	E570DZIWZ7FF32TWEFA76	06/06/2023	06/06/2028	20,871,807	4639.83793500		0											0003
172341 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RHIGC71XBU11	06/06/2023	06/06/2024	52,218,786	4499.75604000		(2,853,540)	187,117	(2,666,423)					187,117				0003
172355 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUWSPU8MPRO8K5P83	06/06/2023	06/06/2030	19,073,790	4629.55669500		0											0003
172359 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	06/06/2023	12/06/2024	4,395,658	4395.65848500		(401,140)	17,536	(383,604)					17,536				0003
172362 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	06/06/2023	06/06/2024	91,733,079	4368.24184500		(6,564,390)	430,452	(6,133,938)					430,452				0003
172365 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RHIGC71XBU11	06/06/2023	06/06/2024	43,820,840	4521.17529000		(2,267,025)	148,657	(2,118,367)					148,657				0003
172374 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	06/06/2023	06/06/2024	72,576,815	4372.09731000		(5,148,490)	337,606	(4,810,884)					337,606				0003
172378 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	4PQUHNGJPF6FNF3B8653	06/06/2023	06/06/2024	67,853,837	4564.44217500		(3,114,415)	204,224	(2,910,191)					204,224				0003
172384 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RHIGC71XBU11	06/06/2023	06/06/2024	68,177,565	4593.14397000		(2,900,821)	190,218	(2,710,603)					190,218				0003
172390 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	02RNE81BX4R0TD8PU41	06/06/2023	06/06/2024	51,584,964	4664.68426500		(1,830,984)	120,065	(1,710,920)					120,065				0003
172393 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RHIGC71XBU11	06/06/2023	06/06/2024	29,851,389	4402.08426000		(912,158)	59,814	(852,344)					59,814				0003
172399 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	06/06/2023	06/06/2024	46,977,556	4474.05294000		(2,601,690)	170,603	(2,431,087)					170,603				0003
172402 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	06/06/2023	06/06/2024	45,383,910	4483.47741000		(2,452,576)	160,825	(2,291,751)					160,825				0003
172407 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	06/06/2023	06/06/2024	53,163,392	4543.87969500		(2,438,397)	159,895	(2,278,502)					159,895				0003
172809 Call Options - iShares U.S. Real Estate - USD	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGQF57RNE97	06/20/2023	06/20/2024	25,145,347	89.91969000		(1,286,947)	35,163	(1,251,785)					35,163				0003
172819 Call Options - iShares MSCI EAFE - USD	LI																					

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Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

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172871 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32TWFA76	.06/20/2023	.06/20/2030		10,638,767	..4740.24567100		0											0003
172882 Call Options - SPDR Gold shares - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.06/20/2023	.06/20/2024	.....	46,914,240	...190.53500000	.....	(2,445,002)	66,803	(2,378,198)	.....	.....	.....	.....	66,803	.....	.....	.....	0003
172883 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.06/20/2023	.06/20/2024	.....	46,806,119	..4588.83517600	.....	(2,558,364)	69,901	(2,488,463)	.....	.....	.....	.....	69,901	.....	.....	.....	0003
172886 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.06/20/2023	.06/20/2024	.....	55,406,191	..4655.98243900	.....	(2,536,604)	69,306	(2,467,298)	.....	.....	.....	.....	69,306	.....	.....	.....	0003
172893 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.06/20/2023	.12/20/2024	.....	3,617,350	..4521.68791300	.....	(323,112)	5,885	(317,227)	.....	.....	.....	.....	5,885	.....	.....	.....	0003
172897 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.06/20/2023	.06/20/2024	.....	57,260,770	..4679.68147300	.....	(2,454,060)	67,051	(2,387,009)	.....	.....	.....	.....	67,051	.....	.....	.....	0003
172898 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.06/20/2023	.06/20/2024	.....	74,287,782	..4475.16758700	.....	(5,318,972)	145,327	(5,173,645)	.....	.....	.....	.....	145,327	.....	.....	.....	0003
172907 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.06/20/2023	.06/20/2024	.....	70,842,784	..4735.85696100	.....	(2,576,057)	70,384	(2,505,673)	.....	.....	.....	.....	70,384	.....	.....	.....	0003
172912 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.06/20/2023	.06/20/2024	.....	63,419,017	..4479.11742600	.....	(4,500,806)	122,973	(4,377,833)	.....	.....	.....	.....	122,973	.....	.....	.....	0003
172919 Call Options - S&P 500 - USD	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.06/20/2023	.06/20/2024	.....	63,361,235	..4573.91356200	.....	(3,596,033)	98,252	(3,497,781)	.....	.....	.....	.....	98,252	.....	.....	.....	0003
0649999999. Subtotal - Written Options - Hedging Other - Call Options and Warrants										(614,553,607)	(506,399,928)	429,308,413	(529,734,893)	XXX	0	0	0	429,308,413	0	0	XXX	XXX
0709999999. Subtotal - Written Options - Hedging Other										(614,553,607)	(506,399,928)	429,308,413	(529,734,893)	XXX	0	0	0	429,308,413	0	0	XXX	XXX
0779999999. Subtotal - Written Options - Replications										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
0849999999. Subtotal - Written Options - Income Generation										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
0919999999. Subtotal - Written Options - Other										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
0929999999. Total Written Options - Call Options and Warrants										(614,553,607)	(506,399,928)	429,308,413	(529,734,893)	XXX	0	0	0	429,308,413	0	0	XXX	XXX
0939999999. Total Written Options - Put Options										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
0949999999. Total Written Options - Caps										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
0959999999. Total Written Options - Floors										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
0969999999. Total Written Options - Collars										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
0979999999. Total Written Options - Other										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
0989999999. Total Written Options										(614,553,607)	(506,399,928)	429,308,413	(529,734,893)	XXX	0	0	0	429,308,413	0	0	XXX	XXX
1049999999. Subtotal - Swaps - Hedging Effective Excluding Variable Annuity Guarantees Under SSAP No.108										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX

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1109999999. Subtotal - Swaps - Hedging Effective Variable Annuity Guarantees Under SSAP No.108										0	0	0	0	XXX	0	0	0	0	0	XXX	XXX		
Interest Rate Swap /169502 /Pay USD[Quarterly] SOFR [0.26161%]/ Receive USDQuarterly FIXED 2.434%	LIABILITY HEDGE	Exhibit 5 ...	Interest	MORGAN STANLEY CAPITAL SERVICES / MORGAN STANLEY/CLEARED THROUGH CME	.06/04/2015	.06/23/2030		76,000,000	.. 2.434% [SOFR]		19,376		(5,563,866)		(5,563,866)	(5,583,242)					1,004,667		0001
Interest Rate Swap /169504 /Pay USD[Quarterly] SOFR [0.26161%]/ Receive USDQuarterly FIXED 1.618%				9R7GPTS07KV3UQJZ0078																			
Interest Rate Swap /169506 /Pay USD[Monthly] SOFR [0.11448%]/ Receive USDMonthly FIXED 1.385%	LIABILITY HEDGE	Exhibit 5 ...	Interest	MORGAN STANLEY CAPITAL SERVICES / MORGAN STANLEY/CLEARED THROUGH CME	.10/06/2016	.06/23/2030		173,000,000	.. 1.618% [SOFR]		47,172		(18,272,012)		(18,272,012)	(18,319,183)				2,286,940		0001	
Interest Rate Swap /169507 /Pay USD[Quarterly] SOFR [0.26161%]/ Receive USDQuarterly FIXED 2.005%	LIABILITY HEDGE	Exhibit 5 ...	Interest	MORGAN STANLEY CAPITAL SERVICES / MORGAN STANLEY/CLEARED THROUGH CME	.11/10/2016	.12/25/2023		13,000,000	.. 1.385% [SOFR]		665		(202,800)		(202,800)	(203,465)				45,962		0001	
Interest Rate Swap /169501 /Pay USD[Quarterly] SOFR [0.26161%]/ Receive USDQuarterly FIXED 2.233%	LIABILITY HEDGE	Exhibit 5 ...	Interest	BANK OF AMERICA, N.A. / MORGAN STANLEY/CLEARED THROUGH CME	.07/14/2017	.04/15/2024		194,000,000	.. 2.005% [SOFR]		22,117		(4,747,236)		(4,747,236)	(4,769,353)				867,594		0001	
Interest Rate Swap /169503 /Pay USD[Quarterly] SOFR [0.26161%]/ Receive USDQuarterly FIXED 2.4175%	LIABILITY HEDGE	Exhibit 5 ...	Interest	MORGAN STANLEY CAPITAL SERVICES / MORGAN STANLEY/CLEARED THROUGH CME	.10/25/2017	.10/25/2025		88,000,000	.. 2.233% [SOFR]		8,967		(3,361,671)		(3,361,671)	(3,370,639)				671,631		0001	
Interest Rate Swap /169543 /Pay USD[Quarterly] SOFR [0.26161%]/ Receive USDQuarterly FIXED 2.9741%	LIABILITY HEDGE	Exhibit 5 ...	Interest	MORGAN STANLEY CAPITAL SERVICES / MORGAN STANLEY/CLEARED THROUGH CME	.10/25/2017	.06/23/2030		69,000,000	.. 2.4175% [SOFR]		17,735		(4,988,916)		(4,988,916)	(5,006,651)				912,132		0001	
Interest Rate Swap /169500 /Pay USD[Quarterly] SOFR [0.26161%]/ Receive USDQuarterly FIXED 2.998%	LIABILITY HEDGE	Exhibit 5 ...	Interest	BANK OF AMERICA, N.A. / MORGAN STANLEY/CLEARED THROUGH CME	.07/23/2018	.04/15/2024		210,000,000	.. 2.9741% [SOFR]		23,526		(3,779,568)		(3,779,568)	(3,803,094)				939,149		0001	
				MORGAN STANLEY CAPITAL SERVICES / MORGAN STANLEY/CLEARED THROUGH CME	.09/11/2018	.04/15/2024		107,000,000	.. 2.998% [SOFR]		12,892		(2,012,785)		(2,012,785)	(2,025,677)				478,519		0001	

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
Interest Rate Swap /169505 /Pay USD[Quarterly] SOFR [0.26161%]/ Receive USDQuarterly FIXED 3.1675%	LIABILITY HEDGE	Exhibit 5 ...	Interest	BANK OF AMERICA, N.A. / MORGAN STANLEY/CLEARED THROUGH CME 9R7GPTS07KV3UQJZ0078	10/05/2018	05/15/2024	.....	54,000,000	3.1675% [SOFR]	.....	3,378	.....	(882,086)	.....	(882,086)	(885,463)	.....	.....	.....	253,282	.....	0001
Interest Rate Swap /169508 /Pay USD[Quarterly] FIXED [3.1675%]/ Receive USDQuarterly SOFR 0.2616%	LIABILITY HEDGE	Exhibit 5 ...	Interest	BNP PARIBAS LONDON / MORGAN STANLEY/CLEARED THROUGH CME 9R7GPTS07KV3UQJZ0078	12/15/2021	05/15/2024	.....	5,510,204	SOFR [3.1675%]	.....	(402,345)	.....	90,009	.....	90,009	492,353	.....	.....	.....	25,845	.....	0001
Interest Rate Swap /145478 /Pay USD[Annual] SOFR [2.29587%]/ Receive USDAnnual FIXED 1.481%	LIABILITY HEDGE	Exhibit 5 ...	Interest	CITIBANK N.A. / MORGAN STANLEY/CLEARED THROUGH CME 9R7GPTS07KV3UQJZ0078	01/13/2022	01/18/2030	.....	286,000,000	1.481% [SOFR]	.....	0	(4,788,108)	(36,959,136)	.....	(36,959,136)	134,158	.....	.....	.....	3,662,587	.....	0001
Interest Rate Swap /162729 /Pay USD[Annual] FIXED [3.28%]/ Receive USDAnnual SOFR 2.58869%	Portfolio Hedge .....	.....	Interest	THE TORONTO-DOMINION BANK / MORGAN STANLEY/CLEARED THROUGH CME 9R7GPTS07KV3UQJZ0078	12/21/2022	12/23/2042	.....	240,000,000	SOFR [3.28%]	.....	0	1,820,176	5,059,903	.....	5,059,903	(99,985)	.....	.....	.....	5,297,698	.....	0001
Interest Rate Swap /162730 /Pay USD[Annual] FIXED [3.36%]/ Receive USDAnnual SOFR 2.58869%	Portfolio Hedge .....	.....	Interest	THE TORONTO-DOMINION BANK / MORGAN STANLEY/CLEARED THROUGH CME 9R7GPTS07KV3UQJZ0078	12/21/2022	12/23/2032	.....	280,000,000	SOFR [3.36%]	.....	0	2,010,917	4,778,483	.....	4,778,483	1,044,784	.....	.....	.....	4,312,818	.....	0001
Interest Rate Swap /162731 /Pay USD[Annual] SOFR [2.58869%]/ Receive USDAnnual FIXED 4.2535%	Portfolio Hedge .....	.....	Interest	CITIBANK N.A. / MORGAN STANLEY/CLEARED THROUGH CME 9R7GPTS07KV3UQJZ0078	12/21/2022	12/23/2024	.....	855,000,000	4.2535% [SOFR]	.....	0	(2,299,545)	(10,722,759)	.....	(10,722,759)	(7,411,642)	.....	.....	.....	5,218,303	.....	0001
Interest Rate Swap /162732 /Pay USD[Annual] FIXED [3.354%]/ Receive USDAnnual SOFR 2.58869%	Portfolio Hedge .....	.....	Interest	CITIBANK N.A. / MORGAN STANLEY/CLEARED THROUGH CME 9R7GPTS07KV3UQJZ0078	12/21/2022	12/23/2032	.....	195,000,000	SOFR [3.354%]	.....	0	1,406,342	3,420,433	.....	3,420,433	722,789	.....	.....	.....	3,003,570	.....	0001
Interest Rate Swap /162733 /Pay USD[Annual] FIXED [3.276%]/ Receive USDAnnual SOFR 2.58869%	Portfolio Hedge		Interest	THE TORONTO-DOMINION BANK / MORGAN STANLEY/CLEARED THROUGH CME 9R7GPTS07KV3UQJZ0078	12/21/2022	12/23/2042		240,000,000	SOFR [3.276%]		0	1,825,003	5,194,407		5,194,407	(102,796)				5,297,698		0001

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SCHEDULE DB - PART A - SECTION 1

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
Interest Rate Swap /162734 /Pay USD[Annual] SOFR [2.58869%]/ Receive USDAnnual FIXED 4.7705%	Portfolio Hedge .....	.....	Interest	JPMORGAN CHASE BANK, N.A. / MORGAN STANLEY/CLEARED THROUGH CME	. 12/21/2022	. 12/23/2023	.....	.. 1,625,000,000	4.7705% [SOFR]	.....	..... 0	 (146,518)	 (5,679,275)	.....	..... (5,679,275)	 (3,582,838)	.....	.....	.....	..... 5,687,500	.....	0001
Interest Rate Swap /162735 /Pay USD[Annual] FIXED [3.3545%]/ Receive USDAnnual SOFR 2.58869%				THE TORONTO-DOMINION BANK / MORGAN STANLEY/CLEARED THROUGH CME																		
Interest Rate Swap /162736 /Pay USD[Annual] FIXED [3.354%]/ Receive USDAnnual SOFR 2.58869%	Portfolio Hedge .....	.....	Interest	JPMORGAN CHASE BANK, N.A. / MORGAN STANLEY/CLEARED THROUGH CME	. 12/21/2022	. 12/23/2032	.....	.....400,000,000	SOFR [3.3545%]	.....	..... 0	 2,883,799	 7,000,451	.....	..... 7,000,451	 1,483,470	.....	.....	.....	..... 6,161,169	.....	0001
Interest Rate Swap /162736 /Pay USD[Annual] FIXED [3.354%]/ Receive USDAnnual SOFR 2.58869%				JPMORGAN CHASE BANK, N.A. / MORGAN STANLEY/CLEARED THROUGH CME																		
Interest Rate Swap /169542 /Pay USD[Quarterly] LIBOR [5.26029%]/ Receive USDQuarterly FIXED 2.9741%	LIABILITY HEDGE	Exhibit 5 ...	Interest	JPMORGAN CHASE BANK, N.A. / MORGAN STANLEY/CLEARED THROUGH CME	. 04/24/2023	. 07/15/2023	.....	.....0	2.9741% [LIBOR]	.....	..... 0	 (1,038,630)	 (236,490)	.....	..... (236,490)	 (236,490)	.....	.....	.....	..... 263,856	.....	0001
Interest Rate Swap /170547 /Pay USD[Quarterly] LIBOR [5.26029%]/ Receive USDQuarterly FIXED 2.998%				MORGAN STANLEY CAPITAL SERVICES / MORGAN STANLEY/CLEARED THROUGH CME																		
Interest Rate Swap /170548 /Pay USD[Quarterly] LIBOR [5.53957%]/ Receive USDQuarterly FIXED 2.434%	LIABILITY HEDGE	Exhibit 5 ...	Interest	MORGAN STANLEY CAPITAL SERVICES / MORGAN STANLEY/CLEARED THROUGH CME	. 04/24/2023	. 07/15/2023	.....	.....0	2.998% [LIBOR]	.....	..... 0	 (487,927)	 (111,059)	.....	..... (111,059)	 (111,059)	.....	.....	.....	..... 125,220	.....	0001
Interest Rate Swap /170548 /Pay USD[Quarterly] LIBOR [5.53957%]/ Receive USDQuarterly FIXED 2.434%				MORGAN STANLEY CAPITAL SERVICES / MORGAN STANLEY/CLEARED THROUGH CME																		
Interest Rate Swap /170549 /Pay USD[Quarterly] LIBOR [5.53957%]/ Receive USDQuarterly FIXED 2.4175%	LIABILITY HEDGE	Exhibit 5 ...	Interest	MORGAN STANLEY CAPITAL SERVICES / MORGAN STANLEY/CLEARED THROUGH CME	. 04/24/2023	. 09/23/2023	.....	.....0	2.434% [LIBOR]	.....	..... 0	 (394,296)	 (573,724)	.....	..... (573,724)	 (573,724)	.....	.....	.....	..... 188,611	.....	0001
Interest Rate Swap /170549 /Pay USD[Quarterly] LIBOR [5.53957%]/ Receive USDQuarterly FIXED 2.4175%				MORGAN STANLEY CAPITAL SERVICES / MORGAN STANLEY/CLEARED THROUGH CME																		
Interest Rate Swap /170550 /Pay USD[Quarterly] LIBOR [5.25514%]/ Receive USDQuarterly FIXED 2.233%	LIABILITY HEDGE	Exhibit 5 ...	Interest	MORGAN STANLEY CAPITAL SERVICES / MORGAN STANLEY/CLEARED THROUGH CME	. 04/24/2023	. 09/23/2023	.....	.....0	2.4175% [LIBOR]	.....	..... 0	 (366,120)	 (531,715)	.....	..... (531,715)	 (531,715)	.....	.....	.....	..... 173,914	.....	0001
Interest Rate Swap /170550 /Pay USD[Quarterly] LIBOR [5.25514%]/ Receive USDQuarterly FIXED 2.233%				MORGAN STANLEY CAPITAL SERVICES / MORGAN STANLEY/CLEARED THROUGH CME																		
Interest Rate Swap /170551 /Pay USD[Monthly] LIBOR [5.15043%]/ Receive USDMonthly FIXED 1.385%	LIABILITY HEDGE	Exhibit 5 ...	Interest	MORGAN STANLEY CAPITAL SERVICES / MORGAN STANLEY/CLEARED THROUGH CME	. 04/24/2023	. 07/25/2023	.....	.....0	2.233% [LIBOR]	.....	..... 0	 (547,404)	 (188,827)	.....	..... (188,827)	 (188,827)	.....	.....	.....	..... 125,673	.....	0001
Interest Rate Swap /170551 /Pay USD[Monthly] LIBOR [5.15043%]/ Receive USDMonthly FIXED 1.385%				MORGAN STANLEY CAPITAL SERVICES / MORGAN STANLEY/CLEARED THROUGH CME																		
Interest Rate Swap /170551 /Pay USD[Monthly] LIBOR [5.15043%]/ Receive USDMonthly FIXED 1.385%	LIABILITY HEDGE	Exhibit 5 ...	Interest	MORGAN STANLEY CAPITAL SERVICES / MORGAN STANLEY/CLEARED THROUGH CME	. 04/24/2023	. 07/25/2023		0	1.385% [LIBOR]		 0	 (96,781)	 (32,495)		 (32,495)	 (32,495)				 17,197		0001

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SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
Interest Rate Swap /170552 /Pay USD[Quarterly] LIBOR [5.53957%]/ Receive USDQuarterly FIXED 1.618%	LIABILITY HEDGE	Exhibit 5 ...	Interest	MORGAN STANLEY CAPITAL SERVICES / MORGAN STANLEY/CLEARED THROUGH CME	04/24/2023	09/23/2023	.....	.....0	1.618% [LIBOR]	.....	.....0	(1,181,380)	(1,641,883)	.....	.....(1,641,883)	(1,641,883)	.....	.....	.....	.....431,110	.....	0001
Interest Rate Swap /170553 /Pay USD[Quarterly] LIBOR [5.26029%]/ Receive USDQuarterly FIXED 2.005%	LIABILITY HEDGE	Exhibit 5 ...	Interest	BANK OF AMERICA, N.A. / MORGAN STANLEY/CLEARED THROUGH CME	04/24/2023	07/15/2023	.....	.....0	2.005% [LIBOR]	.....	.....0	(1,259,529)	(289,680)	.....	.....(289,680)	(289,680)	.....	.....	.....	.....226,961	.....	0001
Interest Rate Swap /170554 /Pay USD[Quarterly] LIBOR [5.32071%]/ Receive USDQuarterly FIXED 3.1675%	LIABILITY HEDGE	Exhibit 5 ...	Interest	BANK OF AMERICA, N.A. / MORGAN STANLEY/CLEARED THROUGH CME	04/24/2023	08/15/2023	.....	.....0	3.1675% [LIBOR]	.....	.....0	(229,490)	(159,062)	.....	.....(159,062)	(159,062)	.....	.....	.....	.....104,561	.....	0001
Interest Rate Swap /170573 /Pay USD[Quarterly] FIXED [3.1675%]/ Receive USDQuarterly LIBOR 5.32071%	LIABILITY HEDGE	Exhibit 5 ...	Interest	BNP PARIBAS LONDON / MORGAN STANLEY/CLEARED THROUGH CME	04/24/2023	08/15/2023	.....	.....0	LIBOR [3.1675%]	.....	.....0	23,417	16,231	.....	.....16,231	16,231	.....	.....	.....	.....10,669	.....	0001
1119999999. Subtotal - Swaps - Hedging Other - Interest Rate										0	(246,517)	(1,495,789)	(72,044,398)	XXX	(72,044,398)	(54,330,920)	0	0	0	50,721,391	XXX	XXX
Currency Swap /154919 /Pay EUR[Semi-Annual] FIXED [3.33%]/ Receive USD[Semi-Annual] FIXED 5.214%	ASSET HEDGE	Schedule D ..	Currency.....	WELLS FARGO BANK, N.A.	08/04/2022	08/20/2027	.....	.....22,972,500	5.214% [3.33%]	0	.....	.....193,899	(1,062,871)	.....	.....(1,062,871)	(742,008)	2,583	.....	.....	.....233,711	.....	0002
Currency Swap /156715 /Pay GBP[Semi-Annual] FIXED [6.66%]/ Receive USD[Semi-Annual] FIXED 6.78%	ASSET HEDGE	Schedule D ..	Currency.....	WELLS FARGO BANK, N.A.	09/09/2022	09/20/2032	.....	.....19,669,000	6.78% [6.66%]	0	.....	.....(31,204)	(1,122,306)	.....	.....(1,122,306)	(238,297)	7,143	.....	.....	.....298,619	.....	0002
Currency Swap /158392 /Pay EUR[Semi-Annual] FIXED [6.04%]/ Receive USD[Semi-Annual] FIXED 7.672%	ASSET HEDGE	Schedule D ..	Currency.....	ROYAL BANK OF CANADA	10/13/2022	10/30/2027	.....	.....21,802,500	7.672% [6.04%]	0	.....	.....102,071	(2,753,873)	.....	.....(2,753,873)	(535,539)	1,511	.....	.....	.....227,102	.....	0002
Currency Swap /158652 /Pay EUR[Quarterly] FIXED [6.408%]/ Receive USDQuarterly FIXED 7.7987%	ASSET HEDGE	Schedule D ..	Currency.....	CITIBANK N.A.	10/20/2022	10/19/2027	.....	.....4,895,000	7.7987% [6.408%]	0	.....	.....	.....(155,437)	.....	.....(155,437)	(132,907)	0	.....	.....	.....50,752	.....	0002
Currency Swap /158899 /Pay GBP[Semi-Annual] FIXED [6.22%]/ Receive USD[Semi-Annual] FIXED 6.2485%	ASSET HEDGE	Schedule D ..	Currency.....	ROYAL BANK OF CANADA	10/25/2022	01/31/2030		27,528,000	6.2485% [6.22%]	0		(52,042)	(1,969,904)		(1,969,904)	(1,887,158)	22,686			353,067		0002

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Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
Currency Swap /158983 /Pay GBP(Semi-Annual) FIXED [9.2279%]/ Receive USDSemi-Annual FIXED 9.495%	ASSET HEDGE	Schedule D ..	Currency.....	WELLS FARGO BANK, N.A.	KB1H1DSPRFMYMCUFXT09	10/26/2022	05/02/2025	 5,785,000	9.495% [9.2279%]	 0	.....	..... (9,968)	 (496,636)	.....	..... (496,636)	 (234,709)	 2,347	.....	.....	..... 39,236	.....	0002
Currency Swap /159089 /Pay GBP(Semi-Annual) FIXED [6.07%]/ Receive USDSemi-Annual FIXED 6.282%	ASSET HEDGE	Schedule D ..	Currency.....	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGQFUS7RNE97	10/27/2022	11/09/2037	 18,528,000	6.282% [6.07%]	 0	.....	..... (16,886)	 (845,844)	.....	..... (845,844)	 94,038	 2,309	.....	.....	..... 351,055	.....	0002
Currency Swap /159812 /Pay EUR(Quarterly) FIXED [5.01%]/ Receive USDQuarterly FIXED 6.691%	ASSET HEDGE	Schedule D ..	Currency.....	WELLS FARGO BANK, N.A.	KB1H1DSPRFMYMCUFXT09	11/07/2022	01/31/2030	 20,000,000	6.691% [5.01%]	 0	.....	..... 106,830	 (1,688,275)	.....	..... (1,688,275)	 (2,231,700)	 0	.....	.....	..... 256,515	.....	0002
Currency Swap /161475 /Pay EUR(Semi-Annual) FIXED [5.08%]/ Receive USDSemi-Annual FIXED 6.418%	ASSET HEDGE	Schedule D ..	Currency.....	MORGAN STANLEY CAPITAL SERVICES ..	17331LVCZKQKX577XV54	12/02/2022	06/27/2030	 18,445,000	6.418% [5.08%]	 0	.....	..... 2,373	 (651,326)	.....	..... (651,326)	 (1,040,318)	 5	.....	.....	..... 243,830	.....	0002
Currency Swap /162602 /Pay EUR(Semi-Annual) FIXED [5.478%]/ Receive USDSemi-Annual FIXED 6.6425%	ASSET HEDGE	Schedule D ..	Currency.....	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGQFUS7RNE97	12/21/2022	01/04/2032	 21,180,000	 6.6425% [5.478%]	 0	.....	..... 106,126	 (1,055,315)	.....	..... (1,055,315)	 (1,036,554)	 5,851	.....	.....	..... 308,930	.....	0002
Currency Swap /166905 /Pay GBP(Semi-Annual) FIXED [6.2%]/ Receive USDSemi-Annual FIXED 6.13%	ASSET HEDGE	Schedule D ..	Currency.....	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGQFUS7RNE97	03/28/2023	08/23/2029	 17,262,000	.. 6.13% [6.2%]	 0	.....	.....	..... 668,517	.....	..... 668,517	 668,517	 0	.....	.....	..... 214,042	.....	0002
Currency Swap /166906 /Pay GBP(Semi-Annual) FIXED [6.26%]/ Receive USDSemi-Annual FIXED 6.2675%	ASSET HEDGE	Schedule D ..	Currency.....	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGQFUS7RNE97	03/28/2023	08/23/2031	 11,097,000	 6.2675% [6.26%]	 0	.....	.....	..... 495,905	.....	..... 495,905	 495,905	 0	.....	.....	..... 158,497	.....	0002
Currency Swap /166959 /Pay GBP(Semi-Annual) FIXED [6.11%]/ Receive USDSemi-Annual FIXED 6.055%	ASSET HEDGE	Schedule D ..	Currency.....	CITIBANK N.A.	E570DZWZ7FF32TWEFA76	03/30/2023	06/29/2030	 24,760,000	6.055% [6.11%]	 0	.....	..... (267)	 323,233	.....	..... 323,233	 323,197	 36	.....	.....	..... 327,544	.....	0002
Currency Swap /167021 /Pay EUR(Semi-Annual) FIXED [6.01%]/ Receive USDSemi-Annual FIXED 6.839%	ASSET HEDGE	Schedule D ..	Currency.....	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGQFUS7RNE97	03/31/2023	06/30/2028	 27,175,000	6.839% [5.62%]	 0	.....	..... 19,886	 (596,823)	.....	..... (596,823)	 (596,823)	 0	.....	.....	..... 303,826	.....	0002
Currency Swap /167275 /Pay EUR(Semi-Annual) FIXED [4.57%]/ Receive USDSemi-Annual FIXED 5.219%	ASSET HEDGE	Schedule D ..	Currency.....	WELLS FARGO BANK, N.A.	KB1H1DSPRFMYMCUFXT09	04/05/2023	06/19/2029	 24,046,000	5.219% [4.57%]	 0	.....	..... 6,973	 (709,234)	.....	..... (709,234)	 (709,217)	 (17)	.....	.....	..... 293,765	.....	0002
Currency Swap /167714 /Pay EUR(Semi-Annual) FIXED [4.7%]/ Receive USDSemi-Annual FIXED 5.471%	ASSET HEDGE	Schedule D ..	Currency.....	CITIBANK N.A.	E570DZWZ7FF32TWEFA76	04/18/2023	06/07/2029	 21,880,000	5.471% [4.7%]	 0		 11,697	 (471,023)		 (471,023)	 (471,336)	 313			 266,631		0002

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Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)
Currency Swap /167928 /Pay GBP[Semi-Annual] FIXED [7.16%]/ Receive USDSemi-Annual FIXED 6.791%	ASSET HEDGE	Schedule D ..	Currency.....	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGUFU57RNE97	.04/20/2023	.05/12/2030	.....	18,690,000	6.791% [7.16%]	.....	0	 (11,141)	73,030	.....	73,030	70,505	2,525	.....	.....	244,939	.....	0002
Currency Swap /170669 /Pay GBP[Annual] FIXED [6.24%]/ Receive USDSemi-Annual FIXED 5.9265%	ASSET HEDGE	Schedule D ..	Currency.....	MORGAN STANLEY CAPITAL SERVICES .. 17331LVCZKQKX57XV54	.04/27/2023	.05/16/2033	.....	25,563,500	5.9265% [6.24%]	.....	0	 (13,048)	79,332	.....	79,332	76,757	2,574	.....	.....	401,762	.....	0002
Currency Swap /171291 /Pay EUR[Semi-Annual] FIXED [4.27%]/ Receive USDSemi-Annual FIXED 5.08%	ASSET HEDGE	Schedule D ..	Currency.....	BNP PARIBAS LONDON	.05/11/2023	.06/20/2030	.....	18,018,000	5.08% [4.27%]	.....	0	4,469	(418,900)	.....	(418,900)	(418,905)	5	.....	.....	237,844	.....	0002
Currency Swap /171895 /Pay DKK[Semi-Annual] FIXED [5.26%]/ Receive USDSemi-Annual FIXED 6.34%	ASSET HEDGE	Schedule D ..	Currency.....	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGUFU57RNE97	.05/25/2023	.06/30/2030	.....	24,446,362	6.34% [5.26%]	.....	0	2,012	(974,620)	.....	(974,620)	(974,640)	20	.....	.....	323,626	.....	0002
Currency Swap /171910 /Pay CAD[Semi-Annual] FIXED [5.96%]/ Receive USDSemi-Annual FIXED 6.152%	ASSET HEDGE	Schedule D ..	Currency.....	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGUFU57RNE97	.05/26/2023	.06/30/2033	.....	14,684,288	6.152% [5.96%]	.....	0	14	(638,716)	.....	(638,716)	(638,624)	(92)	.....	.....	232,179	.....	0002
1139999999. Subtotal - Swaps - Hedging Other - Foreign Exchange										0	0	421,793	(13,971,085)	XXX	(13,971,085)	(10,159,816)	49,799	0	0	5,367,472	XXX	XXX
1169999999. Subtotal - Swaps - Hedging Other										0	(246,517)	(1,073,996)	(86,015,483)	XXX	(86,015,483)	(64,490,735)	49,799	0	0	56,088,863	XXX	XXX
1229999999. Subtotal - Swaps - Replication										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
1289999999. Subtotal - Swaps - Income Generation										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
1349999999. Subtotal - Swaps - Other										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
1359999999. Total Swaps - Interest Rate										0	(246,517)	(1,495,789)	(72,044,398)	XXX	(72,044,398)	(54,330,920)	0	0	0	50,721,391	XXX	XXX
1369999999. Total Swaps - Credit Default										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
1379999999. Total Swaps - Foreign Exchange										0	0	421,793	(13,971,085)	XXX	(13,971,085)	(10,159,816)	49,799	0	0	5,367,472	XXX	XXX
1389999999. Total Swaps - Total Return										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
1399999999. Total Swaps - Other										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
1409999999. Total Swaps										0	(246,517)	(1,073,996)	(86,015,483)	XXX	(86,015,483)	(64,490,735)	49,799	0	0	56,088,863	XXX	XXX
REC 25630044.84 USD PAY [23032031.67] EUR /166475	Asset Hedge	Schedule BA ..	Currency.....	WELLS FARGO BANK, N.A. KB1H1DSRPFMYMCUFXT09	.03/21/2023	.03/27/2026	.....	25,630,045	1.11280000	.....	0	.....	.....(357,472)	.....	(357,472)	(357,472)	.....	.....	.....	212,126	.....	0002
REC 5769201.63 USD PAY [4646000.00] GBP /167054	Asset Hedge	Schedule D ..	Currency.....	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.04/03/2023	.07/05/2023	.....	5,769,202	1.24175670	.....	0	.....	.....(129,037)	.....	(129,037)	(129,037)	.....	.....	.....	2,885	.....	0002
REC 1166549.95 USD PAY [935000.00] GBP /167239	Asset Hedge	Schedule D ..	Currency.....	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.04/05/2023	.07/06/2023	.....	1,166,550	1.24764701	.....	0	.....	.....(20,469)	.....	(20,469)	(20,469)	.....	.....	.....	825	.....	0002
REC 49295850.59 USD PAY [44680000.00] EUR /167560	Asset Hedge	Schedule D ..	Currency.....	WELLS FARGO BANK, N.A. KB1H1DSRPFMYMCUFXT09	.04/12/2023	.07/13/2023	.....	49,295,851	1.10330910	.....	0	.....	.....521,797	.....	521,797	521,797	.....	.....	.....	49,296	.....	0002
REC 2601652.06 USD PAY [2362000.00] EUR /167938	Asset Hedge	Schedule D ..	Currency.....	CITIBANK N.A. E570DZIWZ7FF32WIEFA76	.04/20/2023	.07/06/2023	.....	2,601,652	1.10146150	.....	0	.....	.....24,569	.....	24,569	24,569	.....	.....	.....	1,840	.....	0002
REC 1470972.29 USD PAY [1329000.00] EUR /170684	Asset Hedge	Schedule D ..	Currency.....	ROYAL BANK OF CANADA ES71P3U3RHI6C71XBU11	.04/27/2023	.07/28/2023	.....	1,470,972	1.10682640	.....	0	.....	.....23,171	.....	23,171	23,171	.....	.....	.....	2,080	.....	0002

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE DB - PART A - SECTION 1

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Open as of Current Statement Date

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
Description	Description of Item(s) Hedged, Used for Income Generation or Replicated	Schedule/ Exhibit Identifier	Type(s) of Risk(s) (a)	Exchange, Counterparty or Central Clearinghouse	Trade Date	Date of Maturity or Expiration	Number of Contracts	Notional Amount	Strike Price, Rate or Index Received (Paid)	Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid	Current Year Initial Cost of Un-discounted Premium (Received) Paid	Current Year Income	Book/ Adjusted Carrying Value	Code	Fair Value	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Adjustment to Carrying Value of Hedged Item	Potential Exposure	Credit Quality of Reference Entity	Hedge Effectiveness at Inception and at Quarter-end (b)	
REC 2119268.36 USD PAY [1907000.00] EUR /170685	Asset Hedge	Schedule D ..	Currency.....	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	.04/27/2023	.10/26/2023	.....	.....2,119,268	1.11131010	.....	.....0	.....	.....32,116	.....	.....32,116	32,116	.....	.....	.....	.....5,994	.....	0002	
REC 1977852.34 USD PAY [1788000.00] EUR /170907	Asset Hedge	Schedule D ..	Currency.....	CANADIAN IMPERIAL BANK OF COMMERCE ... 21GI19DL77OXHC3ZE78	.05/04/2023	.08/07/2023	.....	.....1,977,852	1.10618140	.....	.....0	.....	.....23,503	.....	.....23,503	23,503	.....	.....	.....	.....3,127	.....	0002	
REC 4291886.34 USD PAY [3869000.00] EUR /170984	Asset Hedge	Schedule D ..	Currency.....	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.05/08/2023	.08/08/2023	.....	.....4,291,886	1.10930120	.....	.....0	.....	.....63,032	.....	.....63,032	63,032	.....	.....	.....	.....7,117	.....	0002	
REC 180528.71 USD PAY [145000.00] GBP /171542	Asset Hedge	Schedule BA ..	Currency.....	CANADIAN IMPERIAL BANK OF COMMERCE ... 21GI19DL77OXHC3ZE78	.05/22/2023	.08/22/2023	.....	.....180,529	1.24502559	.....	.....0	.....	.....(3,638)	.....	.....(3,638)	(3,638)	.....	.....	.....	.....338	.....	0002	
REC 14390579.16 USD PAY [11558000.00] GBP /171756	Asset Hedge	Schedule D ..	Currency.....	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	.05/23/2023	.08/23/2023	.....	.....14,390,579	1.24507520	.....	.....0	.....	.....(306,652)	.....	.....(306,652)	(306,652)	.....	.....	.....	.....27,867	.....	0002	
REC 9708230.17 USD PAY [9005000.00] EUR /172117	Asset Hedge	Schedule D ..	Currency.....	SOCIETE GENERAL ... 02RNE81BXP4ROT8DPU41	.06/02/2023	.09/05/2023	.....	.....9,708,230	1.07809330	.....	.....0	.....	.....(147,993)	.....	.....(147,993)	(147,993)	.....	.....	.....	.....20,594	.....	0002	
REC 251567.58 USD PAY [201000.00] GBP /172119	Asset Hedge	Schedule D ..	Currency.....	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	.06/02/2023	.08/23/2023	.....	.....251,568	1.25158000	.....	.....0	.....	.....(4,034)	.....	.....(4,034)	(4,034)	.....	.....	.....	.....487	.....	0002	
REC 99385.04 USD PAY [78000.00] GBP /172679	Asset Hedge	Schedule D ..	Currency.....	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	.06/20/2023	.09/20/2023	.....	.....99,385	1.27416718	.....	.....0	.....	.....346	.....	.....346	346	.....	.....	.....	.....233	.....	0002	
REC 5902413.13 USD PAY [4646000.00] GBP /173219	Asset Hedge	Schedule D ..	Currency.....	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	.06/30/2023	.10/02/2023	.....	.....5,902,413	1.27042900	.....	.....0	.....	.....(6,052)	.....	.....(6,052)	(6,052)	.....	.....	.....	.....15,048	.....	0002	
REC 4646000.00 GBP PAY [5901256.28] USD /173221	Asset Hedge	Schedule D ..	Currency.....	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	.06/30/2023	.07/05/2023	.....	.....5,901,256	1.27018000	.....	.....0	.....	.....557	.....	.....557	557	.....	.....	.....	.....2,951	.....	0002	
REC 2321067.74 USD PAY [3072000.00] CAD /173225	Asset Hedge	Schedule BA ..	Currency.....	BNP PARIBAS LONDON ROMUWISFPU8MPRO8K5P83	.06/30/2023	.08/16/2023	.....	.....2,321,068	75555590	.....	.....0	.....	.....(282)	.....	.....(282)	(282)	.....	.....	.....	.....4,184	.....	0002	
1439999999. Subtotal - Forwards - Hedging Other										0	0	0	(286,539)	XXX	(286,539)	(286,539)	0	0	0	356,992	XXX	XXX	
1479999999. Subtotal - Forwards										0	0	0	(286,539)	XXX	(286,539)	(286,539)	0	0	0	356,992	XXX	XXX	
1509999999. Subtotal - SSAP No. 108 Adjustments										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX
1689999999. Subtotal - Hedging Effective Excluding Variable Annuity Guarantees Under SSAP No.108										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX
1699999999. Subtotal - Hedging Effective Variable Annuity Guarantees Under SSAP No.108										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX
1709999999. Subtotal - Hedging Other										250,333,775	286,224,036	(186,721,655)	200,738,967	XXX	691,235,165	(64,777,274)	49,799	(184,761,084)	0	56,445,855	XXX	XXX	
1719999999. Subtotal - Replication										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX
1729999999. Subtotal - Income Generation										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX
1739999999. Subtotal - Other										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX
1749999999. Subtotal - Adjustments for SSAP No. 108 Derivatives										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX
1759999999 - Totals										250,333,775	286,224,036	(186,721,655)	200,738,967	XXX	691,235,165	(64,777,274)	49,799	(184,761,084)	0	56,445,855	XXX	XXX	

(a)	Code	Description of Hedged Risk(s)
(b)	Code	Financial or Economic Impact of the Hedge at the End of the Reporting Period
	0001	Interest rate hedges reduced the portfolio's interest rate risk (duration, convexity, volatility, yield curve)
	0002	Currency derivatives hedging foreign investments or liabilities back to USD
	0003	Equity derivatives hedging portfolio's exposure to equity markets

Schedule DB - Part B - Section 1 - Futures Contracts Open

N O N E

Schedule DB - Part B - Section 1B - Brokers with whom cash deposits have been made

N O N E

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE DB - PART D - SECTION 1

Counterparty Exposure for Derivative Instruments Open as of Current Statement Date

1	2	3	Counterparty Offset		Book/Adjusted Carrying Value			Fair Value			12	13
			4	5	6	7	8	9	10	11		
Description of Exchange, Counterparty or Central Clearinghouse	Master Agreement (Y or N)	Credit Support Annex (Y or N)	Fair Value of Acceptable Collateral	Present Value of Financing Premium	Contracts With Book/Adjusted Carrying Value >0	Contracts With Book/Adjusted Carrying Value <0	Exposure Net of Collateral	Contracts With Fair Value >0	Contracts With Fair Value <0	Exposure Net of Collateral	Potential Exposure	Off-Balance Sheet Exposure
0199999999 - Aggregate Sum of Exchange Traded Derivatives	XXX	XXX	XXX				0			0		0
Bank Of America NA	B4TYDEB66KMZ0031MB27	Y	50,190,000		27,779,237	(19,802,873)		27,853,179				
BNP Paribas London	ROMUISFPUBMPRO8K5P83	Y			45,999,779	(33,560,815)	12,438,964	37,669,025		37,669,025	242,028	242,028
BNP Paribas London	ROMUISFPUBMPRO8K5P83	Y	87,680,000		8,812,044			10,693,036				
Canadian Imperial Bank of Commerce	21G119DL770XOHC3ZE78	Y			23,503	(3,638)	19,864			19,864	3,465	3,465
Citibank N.A.	E570DZIWZ7FF32TWEFA76	Y			56,821,625	(43,077,762)	13,743,863	67,700,136		67,700,136	646,767	646,767
Citibank N.A.	E570DZIWZ7FF32TWEFA76	Y	77,272,759		11,741,314			12,393,791				
Credit Suisse International	E58DKGMJYYJLNB8C3868	Y										
Goldman Sachs International	W22LROWIP21HZNB6K528	Y	30,450,000		16,767,365	(11,212,915)		16,668,035				
JPMorgan Chase Bank, N.A.	7H6GLXDRUGOFU57RNE97	Y			25,124,931	(10,748,353)	14,376,578	51,427,651		51,427,651	2,137,327	2,137,327
JPMorgan Chase Bank, N.A.	7H6GLXDRUGOFU57RNE97	Y	49,590,000		3,110,312			5,673,018				
Morgan Stanley & Co International PLC	4POUHN3JPPGFNF3BB653	Y	54,725,000		70,958,151	(48,575,453)		52,155,741				
Morgan Stanley Capital Services	I7331LVCZKQKX5T7XV54	Y			79,332	(651,326)			(571,994)		645,592	73,598
Royal Bank of Canada	ES71P3U3RH1GC71XBU11	Y	49,140,000		30,105,133	(23,245,853)		19,177,183			634,596	
Societe Generale	O2RNE81BXP4ROTDBPU41	Y	67,520,000		18,482,433	(11,982,477)		8,675,304			20,594	
UBS AG	BFMBT61CT2L1QCEM1K50	Y	19,140,000		14,022,963	(2,208,378)		19,720,983		580,983		
Wells Fargo Bank, N.A.	KB1H1DSPRFMYMCJFXT09	Y	82,720,000		74,350,841	(43,793,938)		86,640,612		3,920,612	1,383,268	
0299999999. Total NAIC 1 Designation			568,427,759	0	404,178,961	(248,863,780)	40,579,270	416,467,558	(571,994)	161,318,272	5,713,637	3,103,185
Barclays Bank PLC	G5GSEF7VJP5170UK5573	Y	147,670,000		99,939,570	(70,076,770)		120,475,719			10,827	
0399999999. Total NAIC 2 Designation			147,670,000	0	99,939,570	(70,076,770)	0	120,475,719	0	0	10,827	0
0899999999. Aggregate Sum of Central Clearinghouses (Excluding Exchange Traded)					343,879,105	(328,318,120)	87,605,383	226,908,280	(72,044,398)	226,908,280	50,721,391	
0999999999 - Gross Totals			716,097,759	0	847,997,636	(647,258,669)	128,184,653	763,851,557	(72,616,392)	388,226,552	56,445,855	3,103,185
1. Offset per SSAP No. 64												
2. Net after right of offset per SSAP No. 64					847,997,636	(647,258,669)						

Collateral for Derivative Instruments Open as of Current Statement Date

[illegible]

1	2	3	4	5	6	7	8	9
Exchange, Counterparty or Central Clearinghouse	Type of Asset Pledged	CUSIP Identification	Description	Fair Value	Par Value	Book/Adjusted Carrying Value	Maturity Date	Type of Margin (I, V or IV)
Bank Of America NA	B4TYDEB6GKNZ0031MB27	Cash.....	Cash Collateral	50,190,000	50,190,000	XXX		V.....
Barclays Bank Plc	G5GSEF7VJP5170UK5573	Cash.....	Cash Collateral	147,670,000	147,670,000	XXX		V.....
BNP Paribas	ROMJN3FPU8MPRO8K5P83	Cash.....	Cash Collateral	87,680,000	87,680,000	XXX		V.....
Citibank NA	E570DZKZ7FF32TWEFA76	Cash.....	Cash Collateral	77,272,759	77,272,759	XXX		V.....
Goldman Sachs International	W22LR0WP21HZNBB6K528	Cash.....	Cash Collateral	30,450,000	30,450,000	XXX		V.....
JPMorgan Chase Bank, N.A.	7H6GLXDRUGGFU57RNE97	Cash.....	Cash Collateral	49,590,000	49,590,000	XXX		V.....
Morgan Stanley & Co International PLC	4PQUHNG3JPGFNF3BB653	Cash.....	Cash Collateral	54,725,000	54,725,000	XXX		V.....
Royal Bank of Canada	ES71P3U3AH1GC71XB11	Cash.....	Cash Collateral	49,140,000	49,140,000	XXX		V.....
Societe Generale	02RNE81BX4R0TD8PU41	Cash.....	Cash Collateral	67,520,000	67,520,000	XXX		V.....
UBS AG	BFM8T61CT2L10CEMIK50	Cash.....	Cash Collateral	19,140,000	19,140,000	XXX		V.....
Wells Fargo Bank NA	KB1H1DSPRFFMYMCUFXT09	Cash.....	Cash Collateral	82,720,000	82,720,000	XXX		V.....
0299999999 - Total				716,097,759	716,097,759	XXX	XXX	XXX

Schedule DB - Part E - Derivatives Hedging Variable Annuity Guarantees

N O N E

Schedule DL - Part 1 - Reinvested Collateral Assets Owned

N O N E

Schedule DL - Part 2 - Reinvested Collateral Assets Owned

N O N E

SCHEDULE E - PART 1 - CASH

Month End Depository Balances

1	2	3	4	5	Book Balance at End of Each Month During Current Quarter			9
					6	7	8	
					First Month	Second Month	Third Month	
Depository	Code	Rate of Interest	Amount of Interest Received During Current Quarter	Amount of Interest Accrued at Current Statement Date				*
Bank of New York Mellon New York, NY .....	.....	.....	.....	.....	.....65,952,277	31,141,050	79,667,113	..XXX.
PNC Bank Pittsburgh, PA .....	.....	.....	.....	.....	.....(171,438,976)	(130,216,375)	(158,224,093)	..XXX.
Wells Fargo Bank / Norwest Bank Phoenix, AZ .....	.....	.....	.....	.....	.....(736,193)	415,001	250,574	..XXX.
Huntington Bank Columbus, OH .....	.....	.....	.....	.....	.....55,022	52,647	51,446	..XXX.
FHLB Cincinnati, OH .....	.....	4.500	248,704	.....	.....36,335,977	41,806,705	22,686,752	..XXX.
State Street Global Services Kansas City, MO .....	.....	.....	.....	.....	.....10,873,520	7,788,024	12,628,655	..XXX.
Morgan Stanley New York, NY .....	.....	.....	.....	.....	.....135,769	135,769	135,769	..XXX.
0199998. Deposits in ... depositories that do not exceed the allowable limit in any one depository (See instructions) - Open Depositories	XXX	XXX	.....	.....	.....	.....	.....	XXX
0199999. Totals - Open Depositories	XXX	XXX	248,704	0	(58,822,604)	(48,877,179)	(42,803,784)	XXX
0299998. Deposits in ... depositories that do not exceed the allowable limit in any one depository (See instructions) - Suspended Depositories	XXX	XXX	.....	.....	.....	.....	.....	XXX
0299999. Totals - Suspended Depositories	XXX	XXX	0	0	0	0	0	XXX
0399999. Total Cash on Deposit	XXX	XXX	248,704	0	(58,822,604)	(48,877,179)	(42,803,784)	XXX
0499999. Cash in Company's Office	XXX	XXX	XXX	XXX	.....	.....	.....	XXX
.....								
.....								
.....								
.....								
.....								
0599999. Total - Cash	XXX	XXX	248,704	0	(58,822,604)	(48,877,179)	(42,803,784)	XXX

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE E - PART 2 - CASH EQUIVALENTS

Show Investments Owned End of Current Quarter

1	2	3	4	5	6	7	8	9
CUSIP	Description	Code	Date Acquired	Rate of Interest	Maturity Date	Book/Adjusted Carrying Value	Amount of Interest Due and Accrued	Amount Received During Year
0109999999	Total - U.S. Government Bonds					0	0	0
0309999999	Total - All Other Government Bonds					0	0	0
0509999999	Total - U.S. States, Territories and Possessions Bonds					0	0	0
0709999999	Total - U.S. Political Subdivisions Bonds					0	0	0
	FHLBON 07/25/23		06/26/2023	0.000	07/25/2023	7,473,122	0	3,089
0819999999	Subtotal - Bonds - U.S. Special Revenues - Issuer Obligations					7,473,122	0	3,089
0909999999	Total - U.S. Special Revenues Bonds					7,473,122	0	3,089
	AGILENT TECHNOLOGIES INC COMMERCIAL PAPE		06/26/2023	0.000	07/06/2023	19,979,538	0	5,838
	AMCOR FLEXIBLES NORTH AMERICA INC COMMER		06/28/2023	0.000	07/28/2023	42,715,113	0	0
	AMCOR FINANCE USA INC COMMERCIAL PAPER		06/08/2023	0.000	07/07/2023	8,989,065	0	28,578
	AMEREN CORP COMMERCIAL PAPER		06/02/2023	0.000	07/05/2023	3,866,503	0	15,659
	AMEREN CORP COMMERCIAL PAPER		06/16/2023	0.000	07/21/2023	19,933,503	0	39,086
	AMER ELEC POWER FIXED COUPON 0 MATURITY		05/02/2023	0.000	07/06/2023	19,984,583	0	180,139
	AMERICAN HONDA FINANCE CORP COMMERCIAL P		06/14/2023	0.000	07/06/2023	19,979,265	0	44,287
	AVANGRID INC COMMERCIAL PAPER		04/18/2023	0.000	07/18/2023	9,971,193	0	106,193
	AVANGRID INC COMMERCIAL PAPER		06/28/2023	0.000	07/20/2023	3,489,035	0	520
	AVANGRID INC COMMERCIAL PAPER		06/26/2023	0.000	07/27/2023	49,789,937	0	14,937
	BERKSHIRE HATHAWAY ENERGY CO COMMERCIAL		06/27/2023	0.000	07/21/2023	19,935,457	0	2,924
	CRH AMERICA FINANCE INC COMMERCIAL PAPER		06/23/2023	0.000	07/27/2023	9,957,728	0	9,012
	CRH AMERICA FINANCE INC COMMERCIAL PAPER		05/24/2023	0.000	08/07/2023	19,880,704	0	111,857
	CRH AMERICA FINANCE INC COMMERCIAL PAPER		05/23/2023	0.000	08/15/2023	5,957,068	0	33,368
	CENTERPOINT ENERGY INC COMMERCIAL PAPER		06/05/2023	0.000	07/13/2023	4,789,696	0	17,562
	CENTERPOINT ENERGY INC COMMERCIAL PAPER		05/23/2023	0.000	07/24/2023	9,962,092	0	52,592
	CHEVRON PHILLIPS CHEMICAL CO LLC COMMER		06/26/2023	0.000	07/03/2023	19,988,506	0	8,612
	DENTSPLY SIRONA INC COMMERCIAL PAPER		06/14/2023	0.000	07/05/2023	29,972,437	0	68,687
	DENTSPLY SIRONA INC COMMERCIAL PAPER		06/20/2023	0.000	07/20/2023	34,887,554	0	47,970
	DENTSPLY SIRONA INC COMMERCIAL PAPER		06/27/2023	0.000	07/25/2023	44,324,790	0	13,421
	DOVER CORP COMMERCIAL PAPER		06/26/2023	0.000	07/06/2023	21,677,838	0	9,484
	DOVER CORP COMMERCIAL PAPER		06/26/2023	0.000	07/07/2023	6,991,831	0	2,039
	DUKE ENERGY CORP COMMERCIAL PAPER		05/24/2023	0.000	08/15/2023	14,893,280	0	80,722
	ENBRIDGE US INC COMMERCIAL PAPER		06/08/2023	0.000	07/14/2023	8,979,422	0	28,652
	EVERGY KANSAS CENTRAL INC COMMERCIAL PAP		06/21/2023	0.000	07/05/2023	57,948,028	0	69,151
	EVERGY KANSAS CENTRAL INC COMMERCIAL PAP		06/27/2023	0.000	07/26/2023	39,836,475	0	6,031
	FIDELITY NATIONAL INFORMATION SERVICES I		06/02/2023	0.000	07/12/2023	4,890,156	0	20,319
	HEWLETT PACKARD ENTERPRISE CO COMMERCIAL		05/15/2023	0.000	07/26/2023	24,897,492	0	168,992
	HP INC COMMERCIAL PAPER		06/29/2023	0.000	07/14/2023	39,918,321	0	5,821
	LEGGETT & PLATT INC COMMERCIAL PAPER		06/26/2023	0.000	07/10/2023	11,131,731	0	4,972
	MCCORMICK & CO INC/MD COMMERCIAL PAPER		06/26/2023	0.000	07/27/2023	14,688,376	0	4,382
	MOHAWK INDUSTRIES INC COMMERCIAL PAPER		05/11/2023	0.000	07/10/2023	19,967,066	0	145,399
	MOHAWK INDUSTR FIXED COUPON 0 MATURITY		05/05/2023	0.000	08/03/2023	14,923,711	0	129,961
	NATIONAL GRID NORTH AMERICA INC COMMERCI		05/23/2023	0.000	07/11/2023	29,945,699	0	166,199
	NATIONAL RURAL UTILITIES COOPERATIVE FIN		06/26/2023	0.000	07/14/2023	9,977,907	0	4,407
	NATIONAL RURAL UTILITIES COOPERATIVE FIN		06/26/2023	0.000	07/25/2023	19,922,688	0	8,882
	NEXTERA ENERGY CAPITAL HOLDINGS INC COMMI		06/26/2023	0.000	08/02/2023	14,922,757	0	6,777
	OGE ENERGY CORP COMMERCIAL PAPER		06/23/2023	0.000	07/12/2023	15,968,482	0	14,505
	PENSKE TRUCK LEASING CO LP COMMERCIAL PA		06/29/2023	0.000	07/13/2023	19,961,500	0	2,955
	PENSKE TRUCK LEASING CO LP COMMERCIAL PA		06/26/2023	0.000	07/17/2023	14,960,533	0	6,558
	PENSKE TRUCK LEASING CO LP COMMERCIAL PA		06/27/2023	0.000	07/27/2023	19,915,975	0	5,975
	RAYTHEON TECHNOLOGIES CORP COMMERCIAL PA		06/07/2023	0.000	07/05/2023	14,986,455	0	49,455
	SPIRE INC COMMERCIAL PAPER		05/24/2023	0.000	07/06/2023	13,985,083	0	76,219
	SPIRE INC COMMERCIAL PAPER		06/21/2023	0.000	07/19/2023	19,940,262	0	23,795
	TAMPA ELECTRIC CO COMMERCIAL PAPER		06/01/2023	0.000	07/05/2023	29,972,130	0	129,380
	TAMPA ELECTRIC CO COMMERCIAL PAPER		06/05/2023	0.000	07/06/2023	4,994,584	0	18,480
	TAMPA ELECTRIC CO COMMERCIAL PAPER		06/22/2023	0.000	07/20/2023	17,942,188	0	19,188
	THERMO FISHER SCIENTIFIC INC COMMERCIAL		05/25/2023	0.000	07/24/2023	24,904,001	0	133,167

STATEMENT AS OF JUNE 30, 2023 OF THE MassMutual Ascend Life Insurance Company

SCHEDULE E - PART 2 - CASH EQUIVALENTS

Show Investments Owned End of Current Quarter

1	2	3	4	5	6	7	8	9
CUSIP	Description	Code	Date Acquired	Rate of Interest	Maturity Date	Book/Adjusted Carrying Value	Amount of Interest Due and Accrued	Amount Received During Year
	UNITEDHEALTH GROUP INC COMMERCIAL PAPER		06/26/2023	0.000	07/03/2023	4,997,882	0	2,821
	VW CREDIT INC COMMERCIAL PAPER		06/14/2023	0.000	07/14/2023	13,968,429	0	31,429
	VULCAN MATERIALS CO COMMERCIAL PAPER		06/27/2023	0.000	07/18/2023	24,929,389	0	7,410
	WASTE MANAGEMENT INC COMMERCIAL PAPER		05/09/2023	0.000	07/17/2023	19,945,584	0	152,584
	XCEL ENERGY INC COMMERCIAL PAPER		06/26/2023	0.000	07/10/2023	19,967,474	0	8,852
	XYLEM INC/NY COMMERCIAL PAPER		05/05/2023	0.000	07/27/2023	14,936,713	0	122,771
	ALIMENTATION COUCHE-TARD INC COMMERCIAL		06/01/2023	0.000	07/05/2023	18,982,509	0	81,203
	ALIMENTATION COUCHE-TARD INC COMMERCIAL		06/27/2023	0.000	07/13/2023	41,694,719	0	12,439
	ALIMENTATION COUCHE-TARD INC COMMERCIAL		06/05/2023	0.000	07/20/2023	24,520,495	0	90,235
	MAGNA INTERNATIONAL INC COMMERCIAL PAPER		05/24/2023	0.000	07/18/2023	39,886,055	0	202,289
	NUTRIEN LTD COMMERCIAL PAPER		05/18/2023	0.000	08/16/2023	10,918,070	0	70,695
	THOMSON REUTERS CORP COMMERCIAL PAPER		06/05/2023	0.000	07/05/2023	21,979,944	0	79,860
	THOMSON REUTERS CORP COMMERCIAL PAPER		06/05/2023	0.000	07/12/2023	9,980,178	0	34,878
	TRANSCANADA PIPELINES LTD COMMERCIAL PAP		05/05/2023	0.000	08/03/2023	9,945,284	0	84,784
	HYUNDAI CAPITAL AMERICA COMMERCIAL PAPER		06/05/2023	0.000	08/22/2023	9,916,894	0	36,494
	MUFG BANK LTD/NEW YORK NY COMMERCIAL PAP		06/26/2023	0.000	07/26/2023	49,822,096	0	35,429
	SOCIETE GENERALE SA COMMERCIAL PAPER		06/26/2023	0.000	07/31/2023	12,192,914	0	5,324
1019999999	Subtotal - Bonds - Industrial and Miscellaneous (Unaffiliated) - Issuer Obligations					1,299,982,367	0	3,202,606
1109999999	Total - Industrial and Miscellaneous (Unaffiliated) Bonds					1,299,982,367	0	3,202,606
1309999999	Total - Hybrid Securities					0	0	0
1509999999	Total - Parent, Subsidiaries and Affiliates Bonds					0	0	0
1909999999	Subtotal - Unaffiliated Bank Loans					0	0	0
2419999999	Total - Issuer Obligations					1,307,455,489	0	3,205,695
2429999999	Total - Residential Mortgage-Backed Securities					0	0	0
2439999999	Total - Commercial Mortgage-Backed Securities					0	0	0
2449999999	Total - Other Loan-Backed and Structured Securities					0	0	0
2459999999	Total - SVO Identified Funds					0	0	0
2469999999	Total - Affiliated Bank Loans					0	0	0
2479999999	Total - Unaffiliated Bank Loans					0	0	0
2509999999	Total Bonds					1,307,455,489	0	3,205,695
09248U-71-8	BLACKROCK LIQUIDITY FUND-EXEMPT MONEY MA		06/30/2023	0.000		462,000,000	0	0
825252-40-6	INVESCO ADVISERS TREASURY PORT INSTL CL		06/30/2023	0.000		26,172,154	0	0
8209999999	Subtotal - Exempt Money Market Mutual Funds - as Identified by the SVO					488,172,154	0	0
8609999999	Total Cash Equivalents					1,795,627,643	0	3,205,695