



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

ANNUAL STATEMENT

FOR THE YEAR ENDED DECEMBER 31, 2022

OF THE CONDITION AND AFFAIRS OF THE SEPARATE ACCOUNTS OF THE

MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

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

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

Country of Domicile United States of America

Type of Separate Accounts Insulated [X] Non-Insulated []

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

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

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

Mail Address Post Office Box 5420 Cincinnati, OH, US 45201
(Street and Number or P.O. Box) (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 513-361-9000
(City or Town, State, Country and Zip Code) (Area Code) (Telephone Number)

Internet Website Address www.massmutualascend.com

Statutory Statement Contact Robert Mayhew Earle II 513-361-9077
(Name) (Area Code) (Telephone Number)
rearle@mmscend.com 513-345-9484
(E-mail Address) (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 Robert Fanning Michael Harrison Haney

DIRECTORS OR TRUSTEES

Dominic Lusean Blue Elizabeth Ward Chicares Susan Marie Cicco
Geoffrey James Craddock Roger William Crandall Michael Robert Fanning
Paul Anthony Lapiana Sears Andrew Merritt # Mark Francis Muething
Michael James O'Connor Eric William Partlan Arthur William Wallace III

State of Ohio SS
County of Hamilton

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.

[Signature] [Signature] [Signature]
Mark Francis Muething President John Paul Gruber Secretary Brian Patrick Sponaugle Treasurer

Subscribed and sworn to before me this 24th day of February 2023
[Signature]

- 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



KELLY BULLER
Notary Public, State of Ohio
My Commission Expires 10-14-2023

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

ASSETS

	Current Year			Prior Year
	1 General Account Basis	2 Fair Value Basis	3 Total (Cols. 1 + 2)	4 Total
1. Bonds (Schedule D).....			0	0
2. Stocks (Schedule D):				
2.1 Preferred stocks			0	0
2.2 Common stocks			0	0
3. Mortgage loans on real estate (Schedule B)			0	0
4. Real estate (Schedule A):				
4.1 Properties held for the production of income (less \$ encumbrances)			0	0
4.2 Properties held for sale (less \$ encumbrances)			0	0
5. Cash (\$ Schedule E - Part 1), and cash equivalents (\$, Schedule E - Part 2)			0	0
6. Short-term investments (Schedule DA)			0	0
7. Derivatives (Schedule DB)		103,698,994	103,698,994	67,583,584
8. Other invested assets (Schedule BA)			0	0
9. Securities lending reinvested collateral assets (Schedule DL)			0	0
10. Aggregate write-ins for invested assets	0	0	0	0
11. Subtotals, cash and invested assets (Lines 1 to 10)	0	103,698,994	103,698,994	67,583,584
12. Investment income due and accrued			0	0
13. Receivables for securities			0	0
14. Net adjustment in assets and liabilities due to foreign exchange rates			0	0
15. Aggregate write-ins for other than invested assets.....	0	0	0	0
16. Total (Lines 11 to 15)	0	103,698,994	103,698,994	67,583,584
DETAILS OF WRITE-INS				
1001.				
1002.				
1003.				
1098. Summary of remaining write-ins for Line 10 from overflow page	0	0	0	0
1099. Totals (Lines 1001 thru 1003 plus 1098)(Line 10 above)	0	0	0	0
1501.				
1502.				
1503.				
1598. Summary of remaining write-ins for Line 15 from overflow page	0	0	0	0
1599. Totals (Lines 1501 thru 1503 plus 1598)(Line 15 above)	0	0	0	0

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

LIABILITIES AND SURPLUS

	Current Year			Prior Year
	1 General Account Basis	2 Fair Value Basis	3 Total (Cols. 1 + 2)	4 Total
1. Aggregate reserve for life, annuity and accident and health contracts (Exhibit 3, Line 9999999, Col. 2)		30,644,554	30,644,554	52,691,607
2. Liability for deposit-type contracts (Exhibit 4, Line 9, Col. 1)			0	0
3. Interest Maintenance Reserve			0	0
4. Charges for investment management, administration and contract guarantees due or accrued			0	0
5. Investment expenses due or accrued (Exhibit 1, Line 24)			0	0
6. Investment taxes, licenses and fees due or accrued, excluding federal income taxes (Exhibit 2, Line 8)			0	0
7. Federal and foreign income taxes due or accrued (excluding deferred taxes)			0	0
8. Reserve for future federal income taxes			0	0
9. Unearned investment income			0	0
10. Other transfers to general account due or accrued (net) (including \$ accrued expense allowances recognized in reserves).....			0	0
11. Remittances and items not allocated			0	0
12. Derivatives		73,054,440	73,054,440	14,891,977
13. Payable for securities			0	0
14. Payable for securities lending			0	0
15. Net adjustment in assets and liabilities due to foreign exchange rates			0	0
16. Aggregate write-ins for liabilities	0	0	0	0
17. Total liabilities (including \$ due or accrued net transfers to or (from) the general account)	0	103,698,994	103,698,994	67,583,584
18. Contributed surplus			0	0
19. Aggregate write-ins for special surplus funds	0	0	0	0
20. Unassigned funds			0	0
21. Surplus (Lines 18 through 20)	0	0	0	0
22. Totals	0	103,698,994	103,698,994	67,583,584
DETAILS OF WRITE-INS				
1601.				
1602.				
1603.				
1698. Summary of remaining write-ins for Line 16 from overflow page	0	0	0	0
1699. Totals (Lines 1601 thru 1603 plus 1698)(Line 16 above)	0	0	0	0
1901.				
1902.				
1903.				
1998. Summary of remaining write-ins for Line 19 from overflow page	0	0	0	0
1999. Totals (Lines 1901 thru 1903 plus 1998)(Line 19 above)	0	0	0	0

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SUMMARY OF OPERATIONS

	1 Current Year	2 Prior Year
1. Transfers to Separate Accounts:		
1.1 Net premiums and annuity considerations for life and accident and health contracts	0	0
1.2 Considerations for supplementary contracts with life contingencies	0	0
1.3 Aggregate write-ins for other transfers to Separate Accounts	0	0
1.4 Totals (Lines 1.1 to 1.3)	0	0
2. Transfers on account of deposit-type contracts (including \$ deposits less \$ withdrawals)	0	0
3. Net investment income and capital gains and losses	0	0
4. Aggregate write-ins for other income	0	0
5. Totals (Lines 1.4 to 4)	0	0
DEDUCT:		
6. Transfers from the Separate Account on account of contract benefits:		
6.1 Death benefits	0	0
6.2 Matured endowments	0	0
6.3 Annuity benefits	0	0
6.4 Payments on supplementary contracts with life contingencies	0	0
6.5 Accident and health benefits	0	0
6.6 Surrender benefits and withdrawals for life contracts	0	0
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits	0	0
7. Transfers on account of policy loans	0	0
8. Net transfer of reserves from or (to) Separate Accounts	22,047,053	(36,813,703)
9. Other transfers from the Separate Accounts:		
9.1 Federal and foreign income taxes incurred	0	0
9.2 Change in expense allowances recognized in reserves	0	0
9.3 Aggregate write-ins for other transfers from Separate Accounts	0	0
10. Subtotals (Lines 6.1 to 9.3)	22,047,053	(36,813,703)
11. Fees associated with charges for investment management, administration and contract guarantees	0	0
12. Increase in aggregate reserve for life and accident and health contracts	(22,047,053)	36,813,703
13. Increase in liability for deposit-type contracts	0	0
14. Increase in reserve for future federal income taxes	0	0
15. Aggregate write-ins for reserves and funds	0	0
16. Totals (Lines 10 to 15)	0	0
17. Net gain from operations (including \$ unrealized capital gains) (Line 5 minus Line 16)	0	0
SURPLUS ACCOUNT		
18. Surplus, December 31, prior year	0	0
19. Net gain from operations (Line 17)	0	0
20. Surplus contributed or (withdrawn) during year		
21. Change in reserve on account of change in valuation basis, (increase) or decrease		
22. Transfer from Separate Accounts of the change in expense allowances recognized in Line 21		
23. Aggregate write-ins for gains and losses in surplus	0	0
24. Surplus, December 31, current year (Page 3, Line 21)	0	0
DETAILS OF WRITE-INS		
01.301.		
01.302.		
01.303.		
01.398. Summary of remaining write-ins for Line 1.3 from overflow page	0	0
01.399. Totals (Lines 01.301 thru 01.303 plus 01.398)(Line 1.3 above)	0	0
0401.		
0402.		
0403.		
0498. Summary of remaining write-ins for Line 4 from overflow page	0	0
0499. Totals (Lines 0401 thru 0403 plus 0498)(Line 4 above)	0	0
06.701.		
06.702.		
06.703.		
06.798. Summary of remaining write-ins for Line 6.7 from overflow page	0	0
06.799. Totals (Lines 06.701 thru 06.703 plus 06.798)(Line 6.7 above)	0	0
09.301.		
09.302.		
09.303.		
09.398. Summary of remaining write-ins for Line 9.3 from overflow page	0	0
09.399. Totals (Lines 09.301 thru 09.303 plus 09.398)(Line 9.3 above)	0	0
1501.		
1502.		
1503.		
1598. Summary of remaining write-ins for Line 15 from overflow page	0	0
1599. Totals (Lines 1501 thru 1503 plus 1598)(Line 15 above)	0	0
2301.		
2302.		
2303.		
2398. Summary of remaining write-ins for Line 23 from overflow page	0	0
2399. Totals (Lines 2301 thru 2303 plus 2398)(Line 23 above)	0	0

**ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - SUMMARY**

	1	2	3	4	5	6	7
	Total	Individual Life	Group Life	Individual Annuities	Group Annuities	Accident and Health	Other Lines of Business
1. Transfers to Separate Accounts:							
1.1 Net premiums and annuity considerations for life and accident and health contracts	0			0			
1.2 Considerations for supplementary contracts with life contingencies	0	XXX	XXX			XXX	
1.3 Aggregate write-ins for other transfers to Separate Accounts	0	0	0	0	0	0	0
1.4 Totals (Lines 1.1 to 1.3)	0	0	0	0	0	0	0
2. Transfers on account of deposit-type contracts (including \$ deposits less \$ withdrawals)	0			0			
3. Net investment income and capital gains and losses	0			0			
4. Aggregate write-ins for other income	0	0	0	0	0	0	0
5. Totals (Lines 1.4 to 4)	0	0	0	0	0	0	0
DEDUCT:							
6. Transfers from the Separate Account on account of contract benefits:							
6.1 Death benefits	0			0		XXX	
6.2 Matured endowments	0			0		XXX	
6.3 Annuity benefits	0	XXX	XXX	0		XXX	
6.4 Payments on supplementary contracts with life contingencies	0	XXX	XXX			XXX	
6.5 Accident and health benefits	0	XXX	XXX	XXX	XXX		
6.6 Surrender benefits and withdrawals for life contracts	0			0		XXX	
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits	0	0	0	0	0	0	0
7. Transfers on account of policy loans	0			0		XXX	
8. Net transfer of reserves from or (to) Separate Accounts	22,047,053			22,047,053			
9. Other transfers from the Separate Accounts:							
9.1 Federal and foreign income taxes incurred	0			0		XXX	
9.2 Change in expense allowances recognized in reserves	0			0		XXX	
9.3 Aggregate write-ins for other transfers from Separate Accounts	0	0	0	0	0	0	0
10. Subtotals (Lines 6.1 to 9.3)	22,047,053	0	0	22,047,053	0	0	0
11. Fees associated with charges for investment management, administration and contract guarantees	0			0			
12. Increase in aggregate reserve for life and accident and health contracts	(22,047,053)			(22,047,053)			
13. Increase in liability for deposit-type contracts	0			0		XXX	
14. Increase in reserve for future federal income taxes	0			0			
15. Aggregate write-ins for reserves and funds	0	0	0	0	0	0	0
16. Totals (Lines 10 to 15)	0	0	0	0	0	0	0
17. Net gain from operations (including \$ unrealized capital gains) (Line 5 minus Line 16)	0	0	0	0	0	0	0
18. Policies/certificates in force end of year	0			0			
DETAILS OF WRITE-INS							
01.301.							
01.302.							
01.303.							
01.398. Summary of remaining write-ins for Line 1.3 from overflow page	0	0	0	0	0	0	0
01.399. Totals (Lines 01.301 thru 01.303 plus 01.398) (Line 1.3 above)	0	0	0	0	0	0	0
0401.							
0402.							
0403.							
0498. Summary of remaining write-ins for Line 4 from overflow page	0	0	0	0	0	0	0
0499. Totals (Lines 0401 thru 0403 plus 0498) (Line 4 above)	0	0	0	0	0	0	0
06.701.							
06.702.							
06.703.							
06.798. Summary of remaining write-ins for Line 6.7 from overflow page	0	0	0	0	0	0	0
06.799. Totals (Lines 06.701 thru 06.703 plus 06.798) (Line 6.7 above)	0	0	0	0	0	0	0
09.301.							
09.302.							
09.303.							
09.398. Summary of remaining write-ins for Line 9.3 from overflow page	0	0	0	0	0	0	0
09.399. Totals (Lines 09.301 thru 09.303 plus 09.398) (Line 9.3 above)	0	0	0	0	0	0	0
1501.							
1502.							
1503.							
1598. Summary of remaining write-ins for Line 15 from overflow page	0	0	0	0	0	0	0
1599. Totals (Lines 1501 thru 1503 plus 1598) (Line 15 above)	0	0	0	0	0	0	0

Analysis of Operations by Lines of Business - Individual Life Insurance

N O N E

Analysis of Operations by Lines of Business - Group Life Insurance

N O N E

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - INDIVIDUAL ANNUITIES (a)

	1 Total	Deferred			6 Life Contingent Payout (Immediate and Annuitizations)	7 Other Annuities
		2 Fixed Annuities	3 Indexed Annuities	4 Variable Annuities With Guarantees			5 Variable Annuities Without Guarantees
1. Transfers to Separate Accounts:						
1.1 Net annuity considerations for annuity contracts	0					
1.2 Considerations for supplementary contracts with life contingencies	0	XXX	XXX	XXX	XXX	XXX
1.3 Aggregate write-ins for other transfers to Separate Accounts	0	0	0	0	0	0
1.4 Totals (Lines 1.1 to 1.3)	0	0	0	0	0	0
2. Transfers on account of deposit-type contracts (including \$ deposits less \$ withdrawals)	0					
3. Net investment income and capital gains and losses	0					
4. Aggregate write-ins for other income	0	0	0	0	0	0
5. Totals (Lines 1.4 to 4)	0	0	0	0	0	0
DEDUCT:						
6. Transfers from the Separate Account on account of contract benefits:						
6.1 Death benefits	0					
6.2 Matured endowments	0					
6.3 Annuity benefits	0					
6.4 Payments on supplementary contracts with life contingencies	0	XXX	XXX	XXX	XXX	XXX
6.5 Accident and health benefits	XXX	XXX	XXX	XXX	XXX	XXX
6.6 Surrender benefits and withdrawals for life contracts	0					
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits	0	0	0	0	0	0
7. Transfers on account of policy loans	0					
8. Net transfer of reserves from or (to) Separate Accounts	22,047,053		22,047,053			
9. Other transfers from the Separate Accounts:						
9.1 Federal and foreign income taxes incurred	0					
9.2 Change in expense allowances recognized in reserves	0					
9.3 Aggregate write-ins for other transfers from Separate Accounts	0	0	0	0	0	0
10. Subtotals (Lines 6.1 to 9.3)	22,047,053	0	22,047,053	0	0	0
11. Fees associated with charges for investment management, administration and contract guarantees	0					
12. Increase in aggregate reserve for life and accident and health contracts	(22,047,053)		(22,047,053)			
13. Increase in liability for deposit-type contracts	0					
14. Increase in reserve for future federal income taxes	0					
15. Aggregate write-ins for reserves and funds	0	0	0	0	0	0
16. Totals (Lines 10 to 15)	0	0	0	0	0	0
17. Net gain from operations (including \$ unrealized capital gains) (Line 5 minus Line 16)	0	0	0	0	0	0
18. Policies/certificates in force end of year	0					
DETAILS OF WRITE-INS						
01.301.						
01.302.						
01.303.						
01.398. Summary of remaining write-ins for Line 1.3 from overflow page	0	0	0	0	0	0
01.399. Totals (Lines 01.301 thru 01.303 plus 01.398) (Line 1.3 above)	0	0	0	0	0	0
0401.						
0402.						
0403.						
0498. Summary of remaining write-ins for Line 4 from overflow page	0	0	0	0	0	0
0499. Totals (Lines 0401 thru 0403 plus 0498) (Line 4 above)	0	0	0	0	0	0
06.701.						
06.702.						
06.703.						
06.798. Summary of remaining write-ins for Line 6.7 from overflow page	0	0	0	0	0	0
06.799. Totals (Lines 06.701 thru 06.703 plus 06.798) (Line 6.7 above)	0	0	0	0	0	0
09.301.						
09.302.						
09.303.						
09.398. Summary of remaining write-ins for Line 9.3 from overflow page	0	0	0	0	0	0
09.399. Totals (Lines 09.301 thru 09.303 plus 09.398) (Line 9.3 above)	0	0	0	0	0	0
1501.						
1502.						
1503.						
1598. Summary of remaining write-ins for Line 15 from overflow page	0	0	0	0	0	0
1599. Totals (Lines 1501 thru 1503 plus 1598) (Line 15 above)	0	0	0	0	0	0

(a) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected.

Analysis of Operations by Lines of Business - Group Annuities

N O N E

Analysis of Operations by Lines of Business - Accident and Health

N O N E

Analysis of Increase in Reserves During the Year - Individual Life Insurance

N O N E

Analysis of Increase in Reserves During the Year - Group Life Insurance

N O N E

**ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY
ANALYSIS OF INCREASE IN RESERVES DURING THE YEAR - INDIVIDUAL ANNUITIES (a)**

	1 Total	Deferred				6 Life Contingent Payout (Immediate and Annuizations)	7 Other Annuities
		2 Fixed Annuities	3 Indexed Annuities	4 Variable Annuities With Guarantees	5 Variable Annuities Without Guarantees		
1. Reserve December 31 of prior year	52,691,607	0	52,691,607	0	0	0	0
2. Tabular net premiums and considerations	0						
3. Increase or (decrease) from investment results after provision for federal income taxes	0						
4. Tabular less actual reserve released	0						
5. Increase in reserve on account of change in valuation basis	0						
6. Other increases (net)	(22,047,053)		(22,047,053)				
7. Totals (Lines 1 to 6)	30,644,554	0	30,644,554	0	0	0	0
8. Net transfer of reserves from or (to) Separate Accounts	0						
9. Tabular cost	0						
10. Reserves released by death .....	.XXX	.XXX	.XXX	.XXX	.XXX	.XXX	.XXX
11. Reserves released by other terminations (net)	0						
12. Transfers on account of annuity and supplementary contract payments involving life contingencies	0						
13. Charges for investment management, administration and contract guarantees	0						
14. Aggregate write-ins for other decreases in reserves	0	0	0	0	0	0	0
15. Total deductions (Lines 8 to 14)	0	0	0	0	0	0	0
16. Reserve December 31 of current year	30,644,554	0	30,644,554	0	0	0	0
Cash Surrender Value and Policy Loans							
17. CSV ending balance December 31, current year	0						
18. Amount available for policy loans based upon line 17 CSV	0						
DETAILS OF WRITE-INS							
1401.							
1402.							
1403.							
1498. Summary of remaining write-ins for Line 14 from overflow page	0	0	0	0	0	0	0
1499. TOTALS (Lines 1401 thru 1403 plus 1498) (Line 14 above)	0	0	0	0	0	0	0

(a) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected.

Analysis of Increase in Reserves During the Year - Group Annuities

NONE

Analysis of Reserves During the Year - Accident and Health

NONE

Exhibit of Net Investment Income

NONE

Exhibit of Capital Gains (Losses)

NONE

Exhibit 1

NONE

Exhibit 2

NONE

EXHIBIT 3 - AGGREGATE RESERVE FOR LIFE, ANNUITY AND ACCIDENT AND HEALTH CONTRACTS

1	2	3	4
Description of Valuation Basis	Total ^(a)	Ordinary	Group
0200001. 2012 IAR 3.50% 2017-2018 (Def)	392,008	392,008	0
0200002. 2012 IAR 3.75% 2019 (Def)	(1,171,595)	(1,171,595)	0
0200003. 2012 IAR 3.50% 2020 (Def)	(2,053,787)	(2,053,787)	0
0200004. 2012 IAR 3.00% 2021 (Def)	(2,647,983)	(2,647,983)	0
0200005. 2012 IAR 3.25% 2022 (Def)	36,125,911	36,125,911	0
0299999. Annuities: Totals	30,644,554	30,644,554	0
9999999. Totals (to Page 3, Line 1)	30,644,554	30,644,554	0

(a) Included in the above table are amounts of deposit-type contracts that originally contained a mortality risk. Amounts of deposit-type contracts that no longer contain a mortality risk in Column 2 are: Life Insurance \$; Annuities \$; Supplementary Contracts with Life Contingencies \$; Accident and Health Contracts \$; Miscellaneous Reserves \$

EXHIBIT 3 - INTERROGATORIES

- 1.1 Has the reporting entity ever issued both participating and non-participating variable life insurance contracts?..... Yes [] No [X]
- 2.1 Does the reporting entity at present issue both participating and non-participating variable life insurance contracts?..... Yes [] No [X]
- 2.2 If not, state which kind is issued
- 3.1 Is any surrender value promised in excess of the reserve as legally computed? Yes [] No [X] N/A []
- 3.2 If so, the amount of such excess must be included in surrender values in excess of reserves otherwise required and carried in this schedule. Has this been done? Yes [] No [] N/A [X]
 Attach a statement of methods employed in the valuation of variable life insurance contracts issued at, or subsequently subject to, an extra premium or in the valuation of contracts otherwise issued on lives classified as substandard for the plan of contract issued or on special class lives (including paid-up variable life insurance).

EXHIBIT 3A - CHANGES IN BASIS OF VALUATION DURING THE YEAR

(Including supplementary contracts set up on a basis other than that used to determine benefits)

1	Valuation Basis		4
	2	3	
Description of Valuation Class	Changed From	Changed To	Increase in Actuarial Reserve Due to Change
NONE			
9999999 - Totals (Page 6, Line 5, Analysis of Increase in Reserves)			

Exhibit 4

NONE

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

EXHIBIT 5 - RECONCILIATION OF CASH AND INVESTED ASSETS

DEVELOPMENT OF INCREASE IN CASH		1 Amount
1. Transfers to Separate Accounts on account of:		
1.1 Net premiums and considerations for annuities and supplementary contracts with life contingencies		
1.2 Aggregate write-ins for other transfers to Separate Accounts		0
2. Deposits on deposit-type contract funds and other liabilities without life or disability contingencies		
3. Investment income collected		
4. Consideration on disposal of short-term bonds net of purchases		
5. Consideration on disposal of investments (excluding short-term bonds)		
6. Aggregate write-ins for other increases in funds from operations		0
7. Total (Lines 1 to 6)		0
8. Cost of investments acquired (excluding short-term bonds)		
9. Transfers from Separate Accounts on account of contract benefits:		
9.1 Death benefits		
9.2 Matured endowments		
9.3 Annuity benefits		
9.4 Supplementary contract benefits with life contingencies		
9.5 Accident and health benefits		
9.6 Surrender benefits and withdrawals for life contracts		
9.7 Policy loans (net)		
9.8 Transfers of reserves (net)		
9.9 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits		0
10. Other transfers from Separate Accounts:		
10.1 Federal income taxes		
10.2 Aggregate write-ins for other transfers from Separate Accounts		0
11. Withdrawals on deposit-type contract funds and other liabilities without life or disability contingencies		
12. Investment expenses (Exhibit 1, Line 25)		
12.1 Fees associated with investment management, administration and contract guarantees		
13. Investment taxes, licenses and fees, excluding federal income taxes (Exhibit 2, Line 9)		
14. Total (Lines 8 to 13)		0
15. Funds from operations (Line 7 minus Line 14)		0
16. Surplus contributed or (withdrawn) during year		
17. Aggregate write-ins for other changes in funds		0
18. Total funds (includes \$ net transfers from general account) (Lines 15 to 17)		0
19. Increase in payable for investments acquired, net of receivable for investments sold		
20. Decrease in policy loans		
21. Aggregate write-ins for other reconciling items		0
22. Increase in cash (Line 18 to 21)		0
RECONCILIATION BETWEEN YEARS		
23. Cash and invested assets, December 31st of prior year		67,583,584
24. Increase in cash (Line 22)		0
25. Cost of invested assets acquired		178,689,394
26. Adjusted cost of assets disposed of		25,348,913
27. Increase in policy loans		
28. Accrual of discount less amortization of premium		
29. Depreciation on real estate and other invested assets		
30. Increase in net unrealized gains		(117,225,071)
31. Aggregate write-ins for other reconciling items		0
32. Cash and invested assets, December 31st of current year		103,698,994
DETAILS OF WRITE-INS		
01.201.		
01.202.		
01.203.		
01.298. Summary of remaining write-ins for Line 1.2 from overflow page		0
01.299. Totals (Lines 01.201 thru 01.203 plus 01.298) (Line 1.2 above)		0
0601.		
0602.		
0603.		
0698. Summary of remaining write-ins for Line 6 from overflow page		0
0699. Totals (Lines 0601 thru 0603 plus 0698) (Line 6 above)		0
09.901.		
09.902.		
09.903.		
09.998. Summary of remaining write-ins for Line 9.9 from overflow page		0
09.999. Totals (Lines 09.901 thru 09.903 plus 09.998) (Line 9.9 above)		0
10.201.		
10.202.		
10.203.		
10.298. Summary of remaining write-ins for Line 10.2 from overflow page		0
10.299. Totals (Lines 10.201 thru 10.203 plus 10.298) (Line 10.2 above)		0
1701.		
1702.		
1703.		
1798. Summary of remaining write-ins for Line 17 from overflow page		0
1799. Totals (Lines 1701 thru 1703 plus 1798) (Line 17 above)		0
2101.		
2102.		
2103.		
2198. Summary of remaining write-ins for Line 21 from overflow page		0
2199. Totals (Lines 2101 thru 2103 plus 2198) (Line 21 above)		0
3101.		
3102.		
3103.		
3198. Summary of remaining write-ins for Line 31 from overflow page		0
3199. Totals (Lines 3101 thru 3103 plus 3198) (Line 31 above)		0

EXHIBIT 6 - GUARANTEED INSURANCE AND ANNUITY PRODUCTS

	1 Amount	2 Percent of Total
1. Aggregate reserve for life, annuity and accident and health contracts (Included in Exhibit 3):		
1.1 Life insurance		0.0
1.2 Annuities	30,644,554	29.6
1.3 Supplementary contracts with life contingencies		0.0
1.4 Accident and health		0.0
1.5 Miscellaneous reserves		0.0
1.6 Total	30,644,554	29.6
2. Liability for deposit-type contracts (included in Exhibit 4):		
2.1 Guaranteed interest contracts		0.0
2.2 Annuities certain		0.0
2.3 Supplemental contracts		0.0
2.4 Dividend accumulations or refunds		0.0
2.5 Premium and other deposit funds		0.0
2.6 Total	0	0.0
3. Other liabilities (included in Page 3, Lines 4, 10, 13 & 14)		0.0
4. Total liabilities associated with guarantees (Lines 1.6 + 2.6 + 3)	30,644,554	29.6
5. Total liabilities not associated with guarantees	73,054,440	70.4
6. Total Separate Accounts liabilities (Lines 4 + 5 = Page 3, Line 17)	103,698,994	100.0 %

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

GENERAL INTERROGATORIES

Product Mix

1.01 Identify the product types in the separate account, quantify the assets associated with those products, indicate if there are any guarantees associated with those products, quantify seed money and quantify other fees and expenses due to the general account. For the products (and related assets) that are not registered with the SEC, identify whether the products are considered private placement variable annuity products or private placement life insurance.

Note: A distinct disaggregated product identifier shall be used for each product and shall be used consistently throughout the interrogatory. Disaggregation of reporting shall be such that each product filing or policy form is separately identified. For example, if a company has 5 different separate group annuities, each annuity shall be separately reported. (Companies may eliminate proprietary information however such elimination will require the use of unique reporting identifiers).

Additional Required Surplus Amounts is defined as additional or permanent surplus that is required to be retained in the separate account in accordance with state law or regulation. These amounts should not include reinvested separate account investment proceeds that have not been allocated to separate account contract holders.

1 Product Identifier	Separate Account Assets		4 Guarantees Associated with the Product Yes/No	5 Seed Money	6 Fees and Expenses Due to the General Account	7 Additional Required Surplus Amounts	Not Registered with SEC		
	2 Registered with SEC	3 Not Registered with SEC					Private Placement Variable Annuity	Private Placement Life Insurance	Other (Not PPVA or PPLI)
1.01A0001 Pension Risk Transfer Group Annuities									
1.01A9999 Total Pension Risk Transfer Group Annuities	0	0	XXX	0	0	0	0	0	0
1.01B0001 All Other Group Annuities									
1.01B9999 Total All Other Group Annuities	0	0	XXX	0	0	0	0	0	0
1.01C0001 Registered Index Linked Annuities Individual Annuities	103,698,994		YES						
1.01C9999 Total Registered Index Linked Annuities Individual Annuities	103,698,994	0	XXX	0	0	0	0	0	0
1.01D0001 All Other Individual Annuities									
1.01D9999 Total All Other Individual Annuities	0	0	XXX	0	0	0	0	0	0
1.01E0001 Life Insurance									
1.01E9999 Total Life Insurance	0	0	XXX	0	0	0	0	0	0
1.01F9999 Totals	103,698,994	0	XXX	0	0	0	0	0	0

- 1.02 Did the reporting entity remit seed money, other fees and expenses or additional required surplus amounts to the general account during the current year? Yes [] No [X]
- 1.03 If yes, provide information on the total gross amount of seed money, other fees and expenses or additional required surplus amounts remitted to the general account during the current year (these amounts should not be reflected in the seed money totals in 1.01):
- 1.031 Seed Money.....\$
- 1.032 Other Fees and Expenses.....\$
- 1.033 Additional Required Surplus Amounts ..\$
- 1.04 Did the reporting entity receive seed money from the general account in the current year? Yes [] No [X]
- 1.05 If yes, provide information on the total gross amount of seed money received in the current year: (If amounts were both received and remitted in the current year, include the gross amounts in both 1.031 and 1.051.)
- 1.051 Seed Money Received.....\$
- 1.06 Does the reporting entity consider any of the seed money reflected in separate accounts to be insulated from the general account? Yes [] No [] N/A [X]
- 1.07 If yes, provide information on the amount of seed money the reporting entity considers insulated from the general account:
- 1.071 Insulated Seed Money \$

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

GENERAL INTERROGATORIES

1.08 Does the reporting entity have a policy for repatriating seed money or remitting fees and expenses due and additional required surplus amounts to the general account:

1.081 Seed Money..... Yes [] No [X]
 1.082 Other Fees and Expenses..... Yes [] No [X]
 1.083 Additional Required Surplus Amounts ... Yes [] No [X]

1.09 Provide detail on the time duration for which seed money, other fees and expenses due to the general account and additional required surplus amounts have been held in the separate account:

	1 Seed Money	2 Fees and Expenses Due to the General Account	3 Additional Required Surplus Amounts
1.091 Under 1 Year			
1.092 1 Year - 3 Years			
1.093 Over 3 Years - 5 Years			
1.094 Over 5 Years			
1.095 Total	0	0	0

1.10 For seed money, other fees and expenses, and additional required surplus amounts held in the separate account, does the reporting entity invest these funds in accordance with investment directives of the general account:

1.101 Seed Money..... Yes [] No [X] N/A []
 1.102 Other Fees and Expenses..... Yes [] No [X] N/A []
 1.103 Additional Required Surplus Amounts ... Yes [] No [X] N/A []

1.11 If no, does the reporting entity have stated policy and procedure for the investment of seed money, other fees and expenses, and additional required surplus amounts that are retained with the separate account?

1.111 Seed Money..... Yes [] No [] N/A [X]
 1.112 Other Fees and Expenses..... Yes [] No [] N/A [X]
 1.113 Additional Required Surplus Amounts ... Yes [] No [] N/A [X]

Separate Account Products with General Account Guarantees

2.1 Does the reporting entity have products with guarantees provided by the general account? Yes [X] No []

2.2 Has the separate account collected amounts from the general account within the past five years related to separate account guarantees? Yes [] No [X]

2.3 If yes, provide detail on these guarantees paid by the general account:

	1 Year	2 Amount
2.301 As of December 31, 2022		\$
2.302 As of December 31, 2021		\$
2.303 As of December 31, 2020		\$
2.304 As of December 31, 2019		\$
2.305 As of December 31, 2018		\$

2.4 To compensate the general account for the risk taken, for any separate account products with general account guarantees, does the separate account remit risk charges to the general account related to separate account guarantees? Yes [] No [X]

2.5 If yes, identify the separate account products with risk charges that are remitted to the general account and whether the risk charge for that product is reviewed and opined upon:

1 Product Identifier with Risk Charges	2 Risk Charge Reviewed and Opined Upon	3 Name and Title of Individual who Provided Opinion on Risk Charges
2.5A00001 Pension Risk Transfer Group Annuities		
2.5B00001 All Other Group Annuities		
2.5C00001 Registered Index Linked Annuities Individual Annuities		
2.5D00001 All Other Individual Annuities		
2.5E00001 Life Insurance		

GENERAL INTERROGATORIES

2.6 Provide detail on the risk charges paid to the general account related to separate account guarantees for the past five years:

	1 Year		2 Amount
2.601	As of December 31, 2022	\$	.....
2.602	As of December 31, 2021	\$	.....
2.603	As of December 31, 2020	\$	.....
2.604	As of December 31, 2019	\$	.....
2.605	As of December 31, 2018	\$	.....

Investment Directive of Separate Account Activity

- 3.1 Does the reporting entity have products classified within the separate account for which the investment directive is not determined by the contract holder? (Situations in which the investments directive mirrors the general account would not be considered determined by the contract holder; however, having the contract holder select an investment direction from multiple options would meet this criteria.) Yes [X] No []
- 3.2 If yes, if these investments would have been included in the general account, would the reporting entity have exceeded the investment limitations imposed on the general account? Yes [] No [X] N/A []
- 3.3 Provide detail on the separate account investment portfolio and state investment limitations. (This includes the combined separate account and general investments, excluding separate account assets with investment direction determined by the contract holder):

1 Investment Type	2 State Investment Limitation	3 Combined Investment (Separate and General Account)

Allocation of Investment Proceeds of Separate Account Activity

- 4.1 Does the reporting entity have separate account assets in which less than 100% of investment proceeds (net of contract fees and assessments) are attributed to a contract holder? (This should identify any situations where there is a ceiling on investment performance results.) Yes [X] No []
- 4.2 If yes, provide detail on the net investment proceeds that were attributed to the contract holder, transferred to the general account and reinvested within the separate account:

1 Product Identifier	2 Net Investment Proceeds	3 Attributed to Contract Holder	4 Transferred to General Account	5 Reinvested Within the Separate Account
4.2A00001 Pension Risk Transfer Group Annuities				
4.2A99999 Total Pension Risk Transfer Group Annuities	0	0	0	0
4.2B00001 All Other Group Annuities				
4.2B99999 Total All Other Group Annuities	0	0	0	0
4.2C00001 Registered Index Linked Annuities Individual Annuities				
4.2C99999 Total Registered Index Linked Annuities Individual Annuities	0	0	0	0
4.2D00001 All Other Individual Annuities				
4.2D99999 Total All Other Individual Annuities	0	0	0	0
4.2E00001 Life Insurance				
4.2E99999 Total Life Insurance	0	0	0	0
4.2F99999 Totals	0	0	0	0

- 4.3 For items reinvested within the Separate Account, does the reporting entity invest these assets in accordance with investment directives of the general account? Yes [] No [] N/A [X]
- 4.4 If no, does the reporting entity have a stated policy and procedure for the reinvestment of investment proceeds within the separate account? Yes [] No [] N/A [X]
- 4.5 Did the reinvestment of investment proceeds within the separate account result with the company having a combined investment portfolio that exceeded the state investment limitations imposed on the general account? Yes [] No [] N/A [X]

GENERAL INTERROGATORIES

Measurement of Separate Account Assets

5.1 Does the reporting entity report all separate account assets at fair value? Yes No

5.2 For items not reported at fair value, does the reporting entity report separate account assets at amortized cost, and/or under different measurement methods?
 5.21 Amortized Cost Yes No
 5.22 Other Measurement Methods..... Yes No

5.3 If other measurement methods are used, provide explanation on these measurement methods.

5.4 Identify the assets measured at fair value, amortized cost or another measurement method and the percentage of separate account assets measured under each measurement method:

Description	1 Amount	2 Percentage
5.41 Fair Value	\$ 103,698,994	100.0 %
5.42 Amortized Cost	\$	0.0 %
5.43 Other Measurement Methods	\$	0.0 %

5.5 For the assets not measured at fair value, provide a comparison of the reported value to current fair value and identify the unrealized gain or loss that would have been recorded if the assets had been reported at fair value:

1 Assets Held at Amortized Cost	2 Fair Value	3 Unrecorded Unrealized Gain/Loss
5.51... \$	\$	\$

1 Assets Held at Other Measurement Method	2 Fair Value	3 Unrecorded Unrealized Gain/Loss
5.52... \$	\$	\$

Securities Lending Transactions Within Separate Accounts

6.1 Does the reporting entity engage in securities lending transactions with separate account assets? Yes No

6.2 If yes, does the reporting entity have written policies and procedures for such transactions? Yes No N/A

6.3 Does the reporting entity obtain approval, or otherwise provide notification to contract holders, regarding securities lending transactions that occur with separate account assets? Yes No N/A

6.4 Are all securities lending transactions reported on balance sheet? Yes No N/A

6.5 Provide a description of the reporting entity's securities lending transaction program, specifically identifying any variations from the securities lending transaction program administered by the general account.

6.6 Provide detail on the current status of separate account transactions by separate account product:

6.61 Amount of any loaned securities within the separate account and the percentage of separate account assets lent
 6.611 Amount \$
 6.612 Percentage..... %
 6.62 Identify whether securities lent are reported at book value or market value
 6.621 Book Value \$
 6.622 Market Value..... \$

6.63 Detail on collateral received:

6.631 Aggregate Amount Collateral Received
 6.6311 Open\$
 6.6312 30 Days or Less.....\$
 6.6313 31 to 60 Days..... \$
 6.6314 61 to 90 Days..... \$
 6.6315 Greater than 90 Days..... \$
 6.6316 Total Collateral Received.... \$ 0

6.632 The aggregate fair value of all securities acquired from the sale, trade or use of the accepted collateral (reinvested collateral) \$

6.633 Narrative discussion about sources and uses of collateral:

6.634 Collateral for transactions that extend beyond one year from the reporting date\$

6.7 For the reporting entity's security lending program state the amount of the following as December 31 of the current year:

6.71 Total fair value of reinvested collateral assets reported on Schedule DL, Parts 1 and 2 (Sum of Schedule DL, Parts 1 and 2, Column 5) \$ 0
 6.72 Total book adjusted/carrying value of reinvested collateral assets reported on Schedule DL, Parts 1 and 2 (Sum of Schedule DL, Parts 1 and 2, Column 6) \$ 0
 6.73 Total payable for securities lending reported on the liability page (Page 3, Line 14, Column 3) \$ 0

GENERAL INTERROGATORIES

FHLB Funding Agreements

7.1 Does the reporting entity report Federal Home Loan Bank (FHLB) funding agreements within the separate account? Yes [] No [X]

7.2 Provide detail on the elements that support the classification of FHLB funding agreements within the separate account
.....

7.3 Provide detail regarding the FHLB funding agreements classified within the separate account:

1 Amount of FHLB Stock Purchased or Owned	2 Amount of Collateral Pledged to the FHLB	3 Total Borrowing or Funding Capacity Currently Available	4 Total Reserves Related to FHLB Agreements
\$	\$	\$	\$

7.4 For funding agreements within the separate account, provide a general description on the nature of the agreement, type of funding (lines of credit, borrowed money, etc) and intended use of funding.
.....

Reporting Differences Between GAAP and SAP Financial Statements (This disclosure is applicable to all reporting entities regardless if they file GAAP financial statements)

8.1 Does the reporting entity file GAAP financial statements? Yes [X] No []

8.2 In accordance with the different separate account reporting requirements between GAAP (SOP 03-1) and statutory accounting, does the reporting entity have products that are classified within the separate account that were, or would have been if GAAP financial statements had been completed, required to be reported within the general account under GAAP financials? Pursuant to SOP 03-1, all of the following conditions must be met to receive separate account reporting classification under GAAP: Yes [] No [X] N/A []

- a. Legal Recognition - The separate account is legally recognized. That is, the separate account is established, approved, and regulated under special rules such as state insurance laws, federal securities laws, or similar foreign laws.
- b. Legally Insulated - The separate account assets supporting the contract liabilities are legally insulated from the general account liabilities of the insurance enterprise (that is, the contract holder is not subject to insurer default risk to the extent of the assets held in the separate account).
- c. Investment Directive - The insurer must, as a result of contractual, statutory, or regulatory requirements, invest the contract holder's funds within the separate account as directed by the contract holder in designated investment alternatives or in accordance with specific investment objectives or policies.
- d. Investment Performance - All investment performance, net of contract fees and assessments, must as a result of contractual, statutory, or regulatory requirements be passed through to the individual contract holder. Contracts may specify conditions under which there may be a minimum guarantee, but not a ceiling, as a ceiling would prohibit all investment performance from being passed through to the contract holder.

8.3 Identify all separate account products and identify whether each product was classified within a separate account for GAAP reporting purposes. (For non-GAAP filers, this disclosure should reflect whether the GAAP classification would have been the same if GAAP financials had been completed.) For products that were (or would have been) reported differently, identify which SOP 03-1 condition prevented separate account GAAP classification for that particular product.

1 Product Identifier	2 Same as GAAP / Condition that Requires GAAP General Account Reporting
Registered Index Linked Annuities	Investment Directive

Interest Maintenance Reserve

N O N E

Interest Maintenance Reserve - Amortization

N O N E

ASSET VALUATION RESERVE
BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS
DEFAULT COMPONENT

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols.4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
LONG-TERM BONDS												
1.		Exempt Obligations		XXX	XXX	0	0.0000	0	0.0000	0	0.0000	0
2.1	1	NAIC Designation Category 1.A		XXX	XXX	0	0.0002	0	0.0007	0	0.0013	0
2.2	1	NAIC Designation Category 1.B		XXX	XXX	0	0.0004	0	0.0011	0	0.0023	0
2.3	1	NAIC Designation Category 1.C		XXX	XXX	0	0.0006	0	0.0018	0	0.0035	0
2.4	1	NAIC Designation Category 1.D		XXX	XXX	0	0.0007	0	0.0022	0	0.0044	0
2.5	1	NAIC Designation Category 1.E		XXX	XXX	0	0.0009	0	0.0027	0	0.0055	0
2.6	1	NAIC Designation Category 1.F		XXX	XXX	0	0.0011	0	0.0034	0	0.0068	0
2.7	1	NAIC Designation Category 1.G		XXX	XXX	0	0.0014	0	0.0042	0	0.0085	0
2.8		Subtotal NAIC 1 (2.1+2.2+2.3+2.4+2.5+2.6+2.7)	0	XXX	XXX	0	XXX	0	XXX	0	XXX	0
3.1	2	NAIC Designation Category 2.A		XXX	XXX	0	0.0021	0	0.0063	0	0.0105	0
3.2	2	NAIC Designation Category 2.B		XXX	XXX	0	0.0025	0	0.0076	0	0.0127	0
3.3	2	NAIC Designation Category 2.C		XXX	XXX	0	0.0036	0	0.0108	0	0.0180	0
3.4		Subtotal NAIC 2 (3.1+3.2+3.3)	0	XXX	XXX	0	XXX	0	XXX	0	XXX	0
4.1	3	NAIC Designation Category 3.A		XXX	XXX	0	0.0069	0	0.0183	0	0.0262	0
4.2	3	NAIC Designation Category 3.B		XXX	XXX	0	0.0099	0	0.0264	0	0.0377	0
4.3	3	NAIC Designation Category 3.C		XXX	XXX	0	0.0131	0	0.0350	0	0.0500	0
4.4		Subtotal NAIC 3 (4.1+4.2+4.3)	0	XXX	XXX	0	XXX	0	XXX	0	XXX	0
5.1	4	NAIC Designation Category 4.A		XXX	XXX	0	0.0184	0	0.0430	0	0.0615	0
5.2	4	NAIC Designation Category 4.B		XXX	XXX	0	0.0238	0	0.0555	0	0.0793	0
5.3	4	NAIC Designation Category 4.C		XXX	XXX	0	0.0310	0	0.0724	0	0.1034	0
5.4		Subtotal NAIC 4 (5.1+5.2+5.3)	0	XXX	XXX	0	XXX	0	XXX	0	XXX	0
6.1	5	NAIC Designation Category 5.A		XXX	XXX	0	0.0472	0	0.0846	0	0.1410	0
6.2	5	NAIC Designation Category 5.B		XXX	XXX	0	0.0663	0	0.1188	0	0.1980	0
6.3	5	NAIC Designation Category 5.C		XXX	XXX	0	0.0836	0	0.1498	0	0.2496	0
6.4		Subtotal NAIC 5 (6.1+6.2+6.3)	0	XXX	XXX	0	XXX	0	XXX	0	XXX	0
7.	6	NAIC 6		XXX	XXX	0	0.0000	0	0.2370	0	0.2370	0
8.		Total Unrated Multi-class Securities Acquired by Conversion		XXX	XXX	0	XXX	0	XXX	0	XXX	0
9.		Total Long-Term Bonds (1+2.8+3.4+4.4+5.4+6.4+7+8)	0	XXX	XXX	0	XXX	0	XXX	0	XXX	0
PREFERRED STOCKS												
10.	1	Highest Quality		XXX	XXX	0	0.0005	0	0.0016	0	0.0033	0
11.	2	High Quality		XXX	XXX	0	0.0021	0	0.0064	0	0.0106	0
12.	3	Medium Quality		XXX	XXX	0	0.0099	0	0.0263	0	0.0376	0
13.	4	Low Quality		XXX	XXX	0	0.0245	0	0.0572	0	0.0817	0
14.	5	Lower Quality		XXX	XXX	0	0.0630	0	0.1128	0	0.1880	0
15.	6	In or Near Default		XXX	XXX	0	0.0000	0	0.2370	0	0.2370	0
16.		Affiliated Life with AVR		XXX	XXX	0	0.0000	0	0.0000	0	0.0000	0
17.		Total Preferred Stocks (Sum of Lines 10 through 16)	0	XXX	XXX	0	XXX	0	XXX	0	XXX	0

ASSET VALUATION RESERVE (Continued)
BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS
DEFAULT COMPONENT

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols. 4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
SHORT-TERM BONDS												
18.		Exempt Obligations		XXX	XXX	0	0.0000	0	0.0000	0	0.0000	0
19.1	1	NAIC Designation Category 1.A		XXX	XXX	0	0.0002	0	0.0007	0	0.0013	0
19.2	1	NAIC Designation Category 1.B		XXX	XXX	0	0.0004	0	0.0011	0	0.0023	0
19.3	1	NAIC Designation Category 1.C		XXX	XXX	0	0.0006	0	0.0018	0	0.0035	0
19.4	1	NAIC Designation Category 1.D		XXX	XXX	0	0.0007	0	0.0022	0	0.0044	0
19.5	1	NAIC Designation Category 1.E		XXX	XXX	0	0.0009	0	0.0027	0	0.0055	0
19.6	1	NAIC Designation Category 1.F		XXX	XXX	0	0.0011	0	0.0034	0	0.0068	0
19.7	1	NAIC Designation Category 1.G		XXX	XXX	0	0.0014	0	0.0042	0	0.0085	0
19.8		Subtotal NAIC 1 (19.1+19.2+19.3+19.4+19.5+19.6+19.7)	0	XXX	XXX	0	XXX	0	XXX	0	XXX	0
20.1	2	NAIC Designation Category 2.A		XXX	XXX	0	0.0021	0	0.0063	0	0.0105	0
20.2	2	NAIC Designation Category 2.B		XXX	XXX	0	0.0025	0	0.0076	0	0.0127	0
20.3	2	NAIC Designation Category 2.C		XXX	XXX	0	0.0036	0	0.0108	0	0.0180	0
20.4		Subtotal NAIC 2 (20.1+20.2+20.3)	0	XXX	XXX	0	XXX	0	XXX	0	XXX	0
21.1	3	NAIC Designation Category 3.A		XXX	XXX	0	0.0069	0	0.0183	0	0.0262	0
21.2	3	NAIC Designation Category 3.B		XXX	XXX	0	0.0099	0	0.0264	0	0.0377	0
21.3	3	NAIC Designation Category 3.C		XXX	XXX	0	0.0131	0	0.0350	0	0.0500	0
21.4		Subtotal NAIC 3 (21.1+21.2+21.3)	0	XXX	XXX	0	XXX	0	XXX	0	XXX	0
22.1	4	NAIC Designation Category 4.A		XXX	XXX	0	0.0184	0	0.0430	0	0.0615	0
22.2	4	NAIC Designation Category 4.B		XXX	XXX	0	0.0238	0	0.0555	0	0.0793	0
22.3	4	NAIC Designation Category 4.C		XXX	XXX	0	0.0310	0	0.0724	0	0.1034	0
22.4		Subtotal NAIC 4 (22.1+22.2+22.3)	0	XXX	XXX	0	XXX	0	XXX	0	XXX	0
23.1	5	NAIC Designation Category 5.A		XXX	XXX	0	0.0472	0	0.0846	0	0.1410	0
23.2	5	NAIC Designation Category 5.B		XXX	XXX	0	0.0663	0	0.1188	0	0.1980	0
23.3	5	NAIC Designation Category 5.C		XXX	XXX	0	0.0836	0	0.1498	0	0.2496	0
23.4		Subtotal NAIC 5 (23.1+23.2+23.3)	0	XXX	XXX	0	XXX	0	XXX	0	XXX	0
24.	6	NAIC 6		XXX	XXX	0	0.0000	0	0.2370	0	0.2370	0
25.		Total Short-Term Bonds (18+19.8+20.4+21.4+22.4+23.4+24)	0	XXX	XXX	0	XXX	0	XXX	0	XXX	0
DERIVATIVE INSTRUMENTS												
26.		Exchange Traded		XXX	XXX	0	0.0005	0	0.0016	0	0.0033	0
27.	1	Highest Quality	35,587,181	XXX	XXX	35,587,181	0.0005	17,794	0.0016	56,939	0.0033	117,438
28.	2	High Quality		XXX	XXX	0	0.0021	0	0.0064	0	0.0106	0
29.	3	Medium Quality		XXX	XXX	0	0.0099	0	0.0263	0	0.0376	0
30.	4	Low Quality		XXX	XXX	0	0.0245	0	0.0572	0	0.0817	0
31.	5	Lower Quality		XXX	XXX	0	0.0630	0	0.1128	0	0.1880	0
32.	6	In or Near Default		XXX	XXX	0	0.0000	0	0.2370	0	0.2370	0
33.		Total Derivative Instruments	35,587,181	XXX	XXX	35,587,181	XXX	17,794	XXX	56,939	XXX	117,438
34.		Total (Lines 9 + 17 + 25 + 33)	35,587,181	XXX	XXX	35,587,181	XXX	17,794	XXX	56,939	XXX	117,438

ASSET VALUATION RESERVE (Continued)
BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS
DEFAULT COMPONENT

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols.4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
		MORTGAGE LOANS										
		In Good Standing:										
35.		Farm Mortgages - CM1 - Highest Quality			XXX	0	0.0011	0	0.0057	0	0.0074	0
36.		Farm Mortgages - CM2 - High Quality			XXX	0	0.0040	0	0.0114	0	0.0149	0
37.		Farm Mortgages - CM3 - Medium Quality			XXX	0	0.0069	0	0.0200	0	0.0257	0
38.		Farm Mortgages - CM4 - Low Medium Quality			XXX	0	0.0120	0	0.0343	0	0.0428	0
39.		Farm Mortgages - CM5 - Low Quality			XXX	0	0.0183	0	0.0486	0	0.0628	0
40.		Residential Mortgages - Insured or Guaranteed			XXX	0	0.0003	0	0.0007	0	0.0011	0
41.		Residential Mortgages - All Other			XXX	0	0.0015	0	0.0034	0	0.0046	0
42.		Commercial Mortgages - Insured or Guaranteed			XXX	0	0.0003	0	0.0007	0	0.0011	0
43.		Commercial Mortgages - All Other - CM1 - Highest Quality			XXX	0	0.0011	0	0.0057	0	0.0074	0
44.		Commercial Mortgages - All Other - CM2 - High Quality			XXX	0	0.0040	0	0.0114	0	0.0149	0
45.		Commercial Mortgages - All Other - CM3 - Medium Quality			XXX	0	0.0069	0	0.0200	0	0.0257	0
46.		Commercial Mortgages - All Other - CM4 - Low Medium Quality			XXX	0	0.0120	0	0.0343	0	0.0428	0
47.		Commercial Mortgages - All Other - CM5 - Low Quality			XXX	0	0.0183	0	0.0486	0	0.0628	0
		Overdue, Not in Process:										
48.		Farm Mortgages			XXX	0	0.0480	0	0.0868	0	0.1371	0
49.		Residential Mortgages - Insured or Guaranteed			XXX	0	0.0006	0	0.0014	0	0.0023	0
50.		Residential Mortgages - All Other			XXX	0	0.0029	0	0.0066	0	0.0103	0
51.		Commercial Mortgages - Insured or Guaranteed			XXX	0	0.0006	0	0.0014	0	0.0023	0
52.		Commercial Mortgages - All Other			XXX	0	0.0480	0	0.0868	0	0.1371	0
		In Process of Foreclosure:										
53.		Farm Mortgages			XXX	0	0.0000	0	0.1942	0	0.1942	0
54.		Residential Mortgages - Insured or Guaranteed			XXX	0	0.0000	0	0.0046	0	0.0046	0
55.		Residential Mortgages - All Other			XXX	0	0.0000	0	0.0149	0	0.0149	0
56.		Commercial Mortgages - Insured or Guaranteed			XXX	0	0.0000	0	0.0046	0	0.0046	0
57.		Commercial Mortgages - All Other			XXX	0	0.0000	0	0.1942	0	0.1942	0
58.		Total Schedule B Mortgages (Sum of Lines 35 through 57)	0	0	XXX	0	XXX	0	XXX	0	XXX	0
59.		Schedule DA Mortgages			XXX	0	0.0034	0	0.0114	0	0.0149	0
60.		Total Mortgage Loans on Real Estate (Lines 58 + 59)	0	0	XXX	0	XXX	0	XXX	0	XXX	0

ASSET VALUATION RESERVE
BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS
EQUITY AND OTHER INVESTED ASSET COMPONENT

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols. 4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
COMMON STOCK												
1.		Unaffiliated - Public		XXX	XXX	0	0.0000	0	0.1580 (a)	0	0.1580 (a)	0
2.		Unaffiliated - Private		XXX	XXX	0	0.0000	0	0.1945	0	0.1945	0
3.		Federal Home Loan Bank		XXX	XXX	0	0.0000	0	0.0061	0	0.0097	0
4.		Affiliated - Life with AVR		XXX	XXX	0	0.0000	0	0.0000	0	0.0000	0
Affiliated - Investment Subsidiary:												
5.		Fixed Income - Exempt Obligations				0	XXX		XXX		XXX	
6.		Fixed Income - Highest Quality				0	XXX		XXX		XXX	
7.		Fixed Income - High Quality				0	XXX		XXX		XXX	
8.		Fixed Income - Medium Quality				0	XXX		XXX		XXX	
9.		Fixed Income - Low Quality				0	XXX		XXX		XXX	
10.		Fixed Income - Lower Quality				0	XXX		XXX		XXX	
11.		Fixed Income - In/Near Default				0	XXX		XXX		XXX	
12.		Unaffiliated Common Stock - Public				0	0.0000	0	0.1580 (a)	0	0.1580 (a)	0
13.		Unaffiliated Common Stock - Private				0	0.0000	0	0.1945	0	0.1945	0
14.		Real Estate				0	(b)	0	(b)	0	(b)	0
15.		Affiliated - Certain Other (See SVO Purposes and Procedures Manual)		XXX	XXX	0	0.0000	0	0.1580	0	0.1580	0
16.		Affiliated - All Other		XXX	XXX	0	0.0000	0	0.1945	0	0.1945	0
17.		Total Common Stock (Sum of Lines 1 through 16)	0	0	0	0	XXX	0	XXX	0	XXX	0
REAL ESTATE												
18.		Home Office Property (General Account only)				0	0.0000	0	0.0912	0	0.0912	0
19.		Investment Properties				0	0.0000	0	0.0912	0	0.0912	0
20.		Properties Acquired in Satisfaction of Debt				0	0.0000	0	0.1337	0	0.1337	0
21.		Total Real Estate (Sum of Lines 18 through 20)	0	0	0	0	XXX	0	XXX	0	XXX	0
OTHER INVESTED ASSETS												
INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF BONDS												
22.		Exempt Obligations		XXX	XXX	0	0.0000	0	0.0000	0	0.0000	0
23.	1	Highest Quality		XXX	XXX	0	0.0005	0	0.0016	0	0.0033	0
24.	2	High Quality		XXX	XXX	0	0.0021	0	0.0064	0	0.0106	0
25.	3	Medium Quality		XXX	XXX	0	0.0099	0	0.0263	0	0.0376	0
26.	4	Low Quality		XXX	XXX	0	0.0245	0	0.0572	0	0.0817	0
27.	5	Lower Quality		XXX	XXX	0	0.0630	0	0.1128	0	0.1880	0
28.	6	In or Near Default		XXX	XXX	0	0.0000	0	0.2370	0	0.2370	0
29.		Total with Bond Characteristics (Sum of Lines 22 through 28)	0	XXX	XXX	0	XXX	0	XXX	0	XXX	0

ASSET VALUATION RESERVE (Continued)
BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS
EQUITY AND OTHER INVESTED ASSET COMPONENT

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols. 4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF PREFERRED STOCKS												
30.	1	Highest Quality		XXX	XXX	0	0.0005	0	0.0016	0	0.0033	0
31.	2	High Quality		XXX	XXX	0	0.0021	0	0.0064	0	0.0106	0
32.	3	Medium Quality		XXX	XXX	0	0.0099	0	0.0263	0	0.0376	0
33.	4	Low Quality		XXX	XXX	0	0.0245	0	0.0572	0	0.0817	0
34.	5	Lower Quality.....		XXX	XXX	0	0.0630	0	0.1128	0	0.1880	0
35.	6	In or Near Default		XXX	XXX	0	0.0000	0	0.2370	0	0.2370	0
36.		Affiliated Life with AVR		XXX	XXX	0	0.0000	0	0.0000	0	0.0000	0
37.		Total with Preferred Stock Characteristics (Sum of Lines 30 through 36)	0	XXX	XXX	0	XXX	0	XXX	0	XXX	0
INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF MORTGAGE LOANS												
In Good Standing Affiliated:												
38.		Mortgages - CM1 - Highest Quality			XXX	0	0.0011	0	0.0057	0	0.0074	0
39.		Mortgages - CM2 - High Quality			XXX	0	0.0040	0	0.0114	0	0.0149	0
40.		Mortgages - CM3 - Medium Quality			XXX	0	0.0069	0	0.0200	0	0.0257	0
41.		Mortgages - CM4 - Low Medium Quality			XXX	0	0.0120	0	0.0343	0	0.0428	0
42.		Mortgages - CM5 - Low Quality			XXX	0	0.0183	0	0.0486	0	0.0628	0
43.		Residential Mortgages - Insured or Guaranteed			XXX	0	0.0003	0	0.0007	0	0.0011	0
44.		Residential Mortgages - All Other		XXX	XXX	0	0.0015	0	0.0034	0	0.0046	0
45.		Commercial Mortgages - Insured or Guaranteed			XXX	0	0.0003	0	0.0007	0	0.0011	0
Overdue, Not in Process Affiliated:												
46.		Farm Mortgages			XXX	0	0.0480	0	0.0868	0	0.1371	0
47.		Residential Mortgages - Insured or Guaranteed			XXX	0	0.0006	0	0.0014	0	0.0023	0
48.		Residential Mortgages - All Other			XXX	0	0.0029	0	0.0066	0	0.0103	0
49.		Commercial Mortgages - Insured or Guaranteed			XXX	0	0.0006	0	0.0014	0	0.0023	0
50.		Commercial Mortgages - All Other			XXX	0	0.0480	0	0.0868	0	0.1371	0
In Process of Foreclosure Affiliated:												
51.		Farm Mortgages			XXX	0	0.0000	0	0.1942	0	0.1942	0
52.		Residential Mortgages - Insured or Guaranteed			XXX	0	0.0000	0	0.0046	0	0.0046	0
53.		Residential Mortgages - All Other			XXX	0	0.0000	0	0.0149	0	0.0149	0
54.		Commercial Mortgages - Insured or Guaranteed			XXX	0	0.0000	0	0.0046	0	0.0046	0
55.		Commercial Mortgages - All Other			XXX	0	0.0000	0	0.1942	0	0.1942	0
56.		Total Affiliated (Sum of Lines 38 through 55)	0	0	XXX	0	XXX	0	XXX	0	XXX	0
57.		Unaffiliated - In Good Standing With Covenants			XXX	0	(c)	0	(c)	0	(c)	0
58.		Unaffiliated - In Good Standing Defeased With Government Securities			XXX	0	0.0011	0	0.0057	0	0.0074	0
59.		Unaffiliated - In Good Standing Primarily Senior			XXX	0	0.0040	0	0.0114	0	0.0149	0
60.		Unaffiliated - In Good Standing All Other			XXX	0	0.0069	0	0.0200	0	0.0257	0
61.		Unaffiliated - Overdue, Not in Process			XXX	0	0.0480	0	0.0868	0	0.1371	0
62.		Unaffiliated - In Process of Foreclosure			XXX	0	0.0000	0	0.1942	0	0.1942	0
63.		Total Unaffiliated (Sum of Lines 57 through 62)	0	0	XXX	0	XXX	0	XXX	0	XXX	0
64.		Total with Mortgage Loan Characteristics (Lines 56 + 63)	0	0	XXX	0	XXX	0	XXX	0	XXX	0

ASSET VALUATION RESERVE (Continued)
BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS
EQUITY AND OTHER INVESTED ASSET COMPONENT

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols. 4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF COMMON STOCK												
65.		Unaffiliated Public		XXX	XXX	0	0.0000	0	0.1580 (a)	0	0.1580 (a)	0
66.		Unaffiliated Private		XXX	XXX	0	0.0000	0	0.1945	0	0.1945	0
67.		Affiliated Life with AVR		XXX	XXX	0	0.0000	0	0.0000	0	0.0000	0
68.		Affiliated Certain Other (See SVO Purposes & Procedures Manual)		XXX	XXX	0	0.0000	0	0.1580	0	0.1580	0
69.		Affiliated Other - All Other		XXX	XXX	0	0.0000	0	0.1945	0	0.1945	0
70.		Total with Common Stock Characteristics (Sum of Lines 65 through 69)	0	XXX	XXX	0	XXX	0	XXX	0	XXX	0
INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF REAL ESTATE												
71.		Home Office Property (General Account only)				0	0.0000	0	0.0912	0	0.0912	0
72.		Investment Properties				0	0.0000	0	0.0912	0	0.0912	0
73.		Properties Acquired in Satisfaction of Debt				0	0.0000	0	0.1337	0	0.1337	0
74.		Total with Real Estate Characteristics (Sum of Lines 71 through 73)	0	0	0	0	XXX	0	XXX	0	XXX	0
LOW INCOME HOUSING TAX CREDIT INVESTMENTS												
75.		Guaranteed Federal Low Income Housing Tax Credit	0			0	0.0003	0	0.0006	0	0.0010	0
76.		Non-guaranteed Federal Low Income Housing Tax Credit	0			0	0.0063	0	0.0120	0	0.0190	0
77.		Guaranteed State Low Income Housing Tax Credit	0			0	0.0003	0	0.0006	0	0.0010	0
78.		Non-guaranteed State Low Income Housing Tax Credit	0			0	0.0063	0	0.0120	0	0.0190	0
79.		All Other Low Income Housing Tax Credit	0			0	0.0273	0	0.0600	0	0.0975	0
80.		Total LIHTC (Sum of Lines 75 through 79)	0	0	0	0	XXX	0	XXX	0	XXX	0
RESIDUAL TRANCHES OR INTERESTS												
81.		Fixed Income Instruments - Unaffiliated		XXX	XXX	0	0.0000	0	0.1580	0	0.1580	0
82.		Fixed Income Instruments - Affiliated		XXX	XXX	0	0.0000	0	0.1580	0	0.1580	0
83.		Common Stock - Unaffiliated		XXX	XXX	0	0.0000	0	0.1580	0	0.1580	0
84.		Common Stock - Affiliated		XXX	XXX	0	0.0000	0	0.1580	0	0.1580	0
85.		Preferred Stock - Unaffiliated		XXX	XXX	0	0.0000	0	0.1580	0	0.1580	0
86.		Preferred Stock - Affiliated		XXX	XXX	0	0.0000	0	0.1580	0	0.1580	0
87.		Real Estate - Unaffiliated				0	0.0000	0	0.1580	0	0.1580	0
88.		Real Estate - Affiliated				0	0.0000	0	0.1580	0	0.1580	0
89.		Mortgage Loans - Unaffiliated		XXX	XXX	0	0.0000	0	0.1580	0	0.1580	0
90.		Mortgage Loans - Affiliated		XXX	XXX	0	0.0000	0	0.1580	0	0.1580	0
91.		Other - Unaffiliated		XXX	XXX	0	0.0000	0	0.1580	0	0.1580	0
92.		Other - Affiliated		XXX	XXX	0	0.0000	0	0.1580	0	0.1580	0
93.		Total Residual Tranches or Interests (Sum of Lines 81 through 92)	0	0	0	0	XXX	0	XXX	0	XXX	0
ALL OTHER INVESTMENTS												
94.		NAIC 1 Working Capital Finance Investments		XXX		0	0.0000	0	0.0042	0	0.0042	0
95.		NAIC 2 Working Capital Finance Investments		XXX		0	0.0000	0	0.0137	0	0.0137	0
96.		Other Invested Assets - Schedule BA		XXX		0	0.0000	0	0.1580	0	0.1580	0
97.		Other Short-Term Invested Assets - Schedule DA		XXX		0	0.0000	0	0.1580	0	0.1580	0
98.		Total All Other (Sum of Lines 94, 95, 96 and 97)	0	XXX	0	0	XXX	0	XXX	0	XXX	0
99.		Total Other Invested Assets - Schedules BA & DA (Sum of Lines 29, 37, 64, 70, 74, 80, 93 and 98)	0	0	0	0	XXX	0	XXX	0	XXX	0

(a) Times the company's weighted average portfolio beta (Minimum .1215, Maximum .2431).

(b) Determined using the same factors and breakdowns used for directly owned real estate.

(c) This will be the factor associated with the risk category determined in the company generated worksheet.

ASSET VALUATION RESERVE

BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS REPLICATIONS (SYNTHETIC) ASSETS

1 RSAT Number	2 Type	3 CUSIP	4 Description of Asset(s)	5 NAIC Designation or Other Description of Asset	6 Value of Asset	7 AVR Basic Contribution	8 AVR Reserve Objective	9 AVR Maximum Reserve
NONE								
0599999 - Total								

OVERFLOW PAGE FOR WRITE-INS

NONE

Schedule A - Verification - Real Estate

N O N E

Schedule B - Verification - Mortgage Loans

N O N E

Schedule BA - Verification - Other Long-Term Invested Assets

N O N E

Schedule D - Verification - Bonds and Stock

N O N E

Schedule D - Summary By Country

N O N E

Schedule DA - Verification - Short-Term Investments

N O N E

SCHEDULE DB - PART A - VERIFICATION BETWEEN YEARS

Options, Caps, Floors, Collars, Swaps and Forwards

1. Book/adjusted carrying value, December 31, prior year (Line 10, prior year)	52,691,607
2. Cost paid/(consideration received) on additions:	
2.1 Current year paid/(consideration received) at time of acquisition, still open, Section 1, Column 12	78,012,534
2.2 Current year paid/(consideration received) at time of acquisition, terminated, Section 2, Column 14	0
3. Unrealized valuation increase/(decrease):	
3.1 Section 1, Column 17	(50,504,041)
3.2 Section 2, Column 19	(35,733,372)
4. SSAP No. 108 Adjustments	
5. Total gain (loss) on termination recognized, Section 2, Column 22	(25,489,183)
6. Considerations received/(paid) on terminations, Section 2, Column 15	(11,667,009)
7. Amortization:	
7.1 Section 1, Column 19	0
7.2 Section 2, Column 21	0
8. Adjustment to the book/adjusted carrying value of hedged item:	
8.1 Section 1, Column 20	0
8.2 Section 2, Column 23	0
9. Total foreign exchange change in book/adjusted carrying value:	
9.1 Section 1, Column 18	0
9.2 Section 2, Column 20	0
10. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6+7+8+9)	30,644,553
11. Deduct nonadmitted assets	
12. Statement value at end of current period (Line 10 minus Line 11)	30,644,553

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 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 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 (Section 2, Column 15)	
4.2 Less:	
4.21 Amount used to adjust basis of hedged item (Section 2, Column 17)	
4.22 Amount recognized (Section 2, Column 16)	
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.....	30,644,554
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)	30,644,554
4.	Part D, Section 1, Column 6	103,699,342
5.	Part D, Section 1, Column 7	(73,054,788)
6.	Total (Line 3 minus Line 4 minus Line 5)	0
		Fair Value Check
7.	Part A, Section 1, Column 16	30,644,554
8.	Part B, Section 1, Column 13	0
9.	Total (Line 7 plus Line 8)	30,644,554
10.	Part D, Section 1, Column 9	103,699,342
11.	Part D, Section 1, Column 10	(73,054,788)
12.	Total (Line 9 minus Line 10 minus Line 11)	0
		Potential Exposure Check
13.	Part A, Section 1, Column 21	0
14.	Part B, Section 1, Column 20	0
15.	Part D, Section 1, Column 12	0
16.	Total (Line 13 plus Line 14 minus Line 15)	0

Schedule E - Part 2 - Verification - Cash Equivalents

N O N E

Schedule A - Part 1 - Real Estate Owned

N O N E

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

Schedule B - Part 1 - Mortgage Loans Owned

N O N E

Schedule B - Part 2 - Mortgage Loans Acquired and Additions Made

N O N E

Schedule B - Part 3 - Mortgage Loans Disposed, Transferred or Repaid

N O N E

Schedule BA - Part 1 - Other Long-Term Invested Assets Owned

N O N E

Schedule BA - Part 2 - Other Long-Term Invested Assets Acquired and Additions Made

N O N E

Schedule BA - Part 3 - Other Long-Term Invested Assets Disposed, Transferred or Repaid

N O N E

Schedule D - Part 1 - Long Term Bonds Owned

N O N E

Schedule D - Part 2 - Section 1 - Preferred Stocks Owned

N O N E

Schedule D - Part 2 - Section 2 - Common Stocks Owned

N O N E

Schedule D - Part 3 - Long-Term Bonds and Stocks Acquired

N O N E

Schedule D - Part 4 - Long-Term Bonds and Stocks Sold, Redeemed or Otherwise Disposed Of

N O N E

Schedule D - Part 5 - Long Term Bonds and Stocks Acquired and Fully Disposed Of

N O N E

Schedule DA - Part 1 - Short-Term Investments Owned

N O N E

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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 Year-end (b)			
007999999. Subtotal - Purchased Options - Hedging Effective Excluding Variable Annuity Guarantees Under SSAP No.108										0	0	0	0	XXX	0	0	0	0	0	XXX	XXX				
014999999. Subtotal - Purchased Options - Hedging Effective Variable Annuity Guarantees Under SSAP No.108										0	0	0	0	XXX	0	0	0	0	0	0	0	0	0	XXX	XXX
139607 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	B4TYDEB6GMZ0031MB27	01/06/2021	01/06/2023	168,205	3748.14000000	18,200		4,722		XXX	4,722	(31,818)	0		0	0	XXX	0003			
140259 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	CREDIT SUISSE INTERNATIONAL	E58DKGMJYYYJLN8C3868	01/06/2021	01/06/2023	85,207	82.69000000	11,656		2,088		XXX	2,088	(31,997)	0		0	0	XXX	0003			
141057 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	CREDIT SUISSE INTERNATIONAL	E58DKGMJYYYJLN8C3868	01/06/2021	01/06/2023	146,968	74.95000000	18,665		3		XXX	3	(15,198)	0		0	0	XXX	0003			
141260 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	B4TYDEB6GMZ0031MB27	01/06/2021	01/06/2023	632,372	3748.14000000	72,976		17,752		XXX	17,752	(177,134)	0		0	0	XXX	0003			
139603 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUISFPUBMPRO8K5P83	01/20/2021	01/20/2023	93,514	3851.85000000	10,202		1,715		XXX	1,715	(18,303)	0		0	0	XXX	0003			
140614 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	01/20/2021	01/20/2023	131,250	75.45000000	15,008		19		XXX	19	(13,038)	0		0	0	XXX	0003			
142339 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL	02RNE81BXP4R0TD8PU41	01/20/2021	01/20/2023	465,428	3851.85000000	51,476		8,606		XXX	8,606	(121,185)	0		0	0	XXX	0003			
140148 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUISFPUBMPRO8K5P83	02/05/2021	02/06/2023	181,800	3886.83000000	21,325		3,908		XXX	3,908	(34,035)	0		0	0	XXX	0003			
140260 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	CREDIT SUISSE INTERNATIONAL	E58DKGMJYYYJLN8C3868	02/05/2021	02/06/2023	88,191	88.24000000	11,385		951		XXX	951	(27,326)	0		0	0	XXX	0003			
140309 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSRPFMYMCFXT09	02/05/2021	02/06/2023	372,729	74.71000000	41,746		552		XXX	552	(40,080)	0		0	0	XXX	0003			
142342 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL	02RNE81BXP4R0TD8PU41	02/05/2021	02/06/2023	1,155,121	3886.83000000	133,763		24,950		XXX	24,950	(287,984)	0		0	0	XXX	0003			
139608 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CREDIT SUISSE INTERNATIONAL	E58DKGMJYYYJLN8C3868	02/19/2021	02/17/2023	140,203	3906.71000000	17,035		3,337		XXX	3,337	(25,669)	0		0	0	XXX	0003			
140618 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	02/19/2021	02/17/2023	238,149	76.25000000	25,339		81		XXX	81	(22,273)	0		0	0	XXX	0003			
142341 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	02/19/2021	02/17/2023	549,898	3906.71000000	65,031		13,256		XXX	13,256	(133,370)	0		0	0	XXX	0003			
140166 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RHI1G71XBU11	03/05/2021	03/06/2023	495,857	3841.94000000	55,139		19,147		XXX	19,147	(87,261)	0		0	0	XXX	0003			
140372 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSRPFMYMCFXT09	03/05/2021	03/06/2023	257,571	74.63000000	29,054		579		XXX	579	(28,394)	0		0	0	XXX	0003			
142347 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RHI1G71XBU11	03/05/2021	03/06/2023	789,214	3841.94000000	88,708		30,480		XXX	30,480	(196,074)	0		0	0	XXX	0003			
139558 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSRPFMYMCFXT09	03/19/2021	03/20/2023	105,401	90.04000000	13,808		1,643		XXX	1,643	(29,882)	0		0	0	XXX	0003			
140162 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RHI1G71XBU11	03/19/2021	03/20/2023	261,869	3913.10000000	28,701		8,568		XXX	8,568	(45,874)	0		0	0	XXX	0003			
140370 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSRPFMYMCFXT09	03/19/2021	03/20/2023	734,353	76.43000000	77,107		1,199		XXX	1,199	(68,432)	0		0	0	XXX	0003			
142344 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RHI1G71XBU11	03/19/2021	03/20/2023	1,644,850	3913.10000000	180,276		53,836		XXX	53,836	(387,808)	0		0	0	XXX	0003			
140193 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RHI1G71XBU11	04/06/2021	04/06/2023	101,316	4073.94000000	10,172		1,962		XXX	1,962	(17,201)	0		0	0	XXX	0003			
141060 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	CREDIT SUISSE INTERNATIONAL	E58DKGMJYYYJLN8C3868	04/06/2021	04/06/2023	41,397	77.15000000	4,653		67		XXX	67	(3,625)	0		0	0	XXX	0003			
142351 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RHI1G71XBU11	04/06/2021	04/06/2023	568,329	4073.94000000	57,060		11,007		XXX	11,007	(118,600)	0		0	0	XXX	0003			
140183 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RHI1G71XBU11	04/20/2021	04/20/2023	143,799	4134.94000000	14,581		2,451		XXX	2,451	(23,409)	0		0	0	XXX	0003			

E18

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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 Year-end (b)	
140241 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.04/20/2021	.04/20/2023		37,334	97.56000000	4,480			156		156	(7,877)	0					0003	
140619 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.04/20/2021	.04/20/2023		37,334	77.73000000	3,987			80		80	(3,086)	0					0003	
142349 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G071XBU11	.04/20/2021	.04/20/2023		380,496	4134.94000000	38,582			6,488		6,488	(75,187)	0					0003	
140199 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G071XBU11	.05/06/2021	.05/05/2023		115,414	4201.62000000	11,495			1,729		1,729	(17,461)	0					0003	
140629 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.05/06/2021	.05/05/2023		160,000	79.51000000	15,469			349		349	(10,922)	0					0003	
142389 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G071XBU11	.05/06/2021	.05/05/2023		510,659	4201.62000000	50,811			7,659		7,659	(94,776)	0					0003	
139561 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPRFMYMCFXT09	.05/20/2021	.05/19/2023		37,400	98.48000000	4,473			245		245	(7,521)	0					0003	
140195 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8P08K5P83	.05/20/2021	.05/19/2023		136,173	4159.12000000	13,304			2,828		2,828	(20,848)	0					0003	
140628 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.05/20/2021	.05/19/2023		37,400	79.92000000	4,186			111		111	(2,441)	0					0003	
142387 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.05/20/2021	.05/19/2023		284,044	4159.12000000	29,472			5,979		5,979	(54,264)	0					0003	
140268 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROIP21HZNBB6K528	.06/04/2021	.06/06/2023		55,531	102.80000000	4,706			198		198	(9,165)	0					0003	
141072 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROIP21HZNBB6K528	.06/04/2021	.06/06/2023		47,831	81.68000000	3,941			121		121	(2,579)	0					0003	
141287 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8P08K5P83	.06/04/2021	.06/06/2023		438,044	4229.89000000	42,333			7,926		7,926	(78,629)	0					0003	
141975 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROIP21HZNBB6K528	.06/04/2021	.06/06/2023		382,602	4229.89000000	36,977			6,826		6,826	(52,918)	0					0003	
139563 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPRFMYMCFXT09	.06/18/2021	.06/20/2023		29,942	101.41000000	3,892			157		157	(5,286)	0					0003	
140390 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPRFMYMCFXT09	.06/18/2021	.06/20/2023		333,675	78.52000000	28,362			1,605		1,605	(25,842)	0					0003	
141783 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A. ES70DZVZ7F32TWEFA76	.06/18/2021	.06/20/2023		240,071	4166.45000000	23,451			5,609		5,609	(32,865)	0					0003	
141984 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL 02RNE81BXP4R0TD8PU41	.06/18/2021	.06/20/2023		923,698	4166.45000000	93,940			23,735		23,735	(173,761)	0					0003	
139566 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPRFMYMCFXT09	.07/06/2021	.07/06/2023		108,941	103.46000000	12,397			488		488	(17,456)	0					0003	
140862 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.07/06/2021	.07/06/2023		193,133	78.82000000	21,102			1,148		1,148	(14,455)	0					0003	
141123 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/06/2021	.07/06/2023		868,708	4343.54000000	84,108			12,910		12,910	(139,733)	0					0003	
141350 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.07/06/2021	.07/06/2023		538,903	4343.54000000	53,890			7,737		7,737	(69,547)	0					0003	
140248 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUH3JPFQNF3BB653	.07/20/2021	.07/20/2023		81,359	106.27000000	6,916			217		217	(11,409)	0					0003	
140865 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.07/20/2021	.07/20/2023		403,811	77.46000000	37,797			3,553		3,553	(34,610)	0					0003	

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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141748 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	07/20/2021	07/20/2023	51,867	4323.06000000	5,051				921		921	(6,704)	0					0003	
142484 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL	07/20/2021	07/20/2023	830,033	4323.06000000	84,746				14,830		14,830	(135,850)	0					0003	
140179 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/06/2021	08/04/2023	1,120,911	107.08000000	93,036				4,019		4,019	(150,290)	0					0003	
140869 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/06/2021	08/04/2023	918,532	80.31000000	84,891				6,196		6,196	(58,720)	0					0003	
141284 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	08/06/2021	08/04/2023	1,341,971	4436.52000000	128,319				17,777		17,777	(196,028)	0					0003	
141616 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/06/2021	08/04/2023	260,075	4436.52000000	26,008				3,287		3,287	(30,145)	0					0003	
139508 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	08/20/2021	08/18/2023	71,024	4441.67000000	7,493				1,010		1,010	(8,727)	0					0003	
140182 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/20/2021	08/18/2023	169,165	107.00000000	17,999				718		718	(22,807)	0					0003	
140873 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/20/2021	08/18/2023	399,699	79.45000000	38,171				3,522		3,522	(27,880)	0					0003	
141559 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/20/2021	08/18/2023	603,578	4441.67000000	61,324				8,678		8,678	(87,675)	0					0003	
140189 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	09/03/2021	09/06/2023	249,456	111.27000000	25,769				643		643	(26,896)	0					0003	
140878 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	09/03/2021	09/06/2023	303,244	82.07000000	32,902				2,195		2,195	(15,915)	0					0003	
141279 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	09/03/2021	09/06/2023	209,178	4535.43000000	24,077				2,365		2,365	(22,331)	0					0003	
141643 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	09/03/2021	09/06/2023	460,826	4535.43000000	47,488				5,263		5,263	(60,682)	0					0003	
142825 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	09/20/2021	09/20/2023	135,690	4357.73000000	16,720				3,270		3,270	(21,179)	0					0003	
142826 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	09/20/2021	09/20/2023	10,450	106.23000000	1,426				70		70	(1,463)	0					0003	
142827 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	09/20/2021	09/20/2023	69,322	79.01000000	8,099				859		859	(5,001)	0					0003	
142859 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	10/06/2021	10/06/2023	442,028	4363.55000000	53,130				11,496		11,496	(68,269)	0					0003	
142860 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/06/2021	10/06/2023	112,853	104.05000000	11,102				1,039		1,039	(17,567)	0					0003	
142863 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/06/2021	10/06/2023	63,205	77.39000000	6,645				867		867	(5,508)	0					0003	
142875 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	10/06/2021	10/06/2023	105,292	4363.55000000	11,605				2,613		2,613	(11,306)	0					0003	
142520 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	10/20/2021	10/20/2023	281,425	4536.19000000	29,353				4,215		4,215	(28,114)	0					0003	
142689 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/20/2021	10/20/2023	136,153	80.40000000	12,394				1,194		1,194	(9,023)	0					0003	
142693 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/20/2021	10/20/2023	112,556	109.26000000	11,155				532		532	(13,680)	0					0003	
142700 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/20/2021	10/20/2023	965,347	4536.19000000	101,458				15,703		15,703	(126,121)	0					0003	

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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 Year-end (b)	
143634 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8P08K5P83	11/05/2021	11/06/2023		580,775	4697.53000000	61,620			5,903		5,903	(56,621)	0					0003	
143754 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8P08K5P83	11/05/2021	11/06/2023		1,044,562	81.83000000	87,325			8,024		8,024	(60,054)	0					0003	
143757 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/05/2021	11/06/2023		1,067,972	110.24000000	98,040			4,861		4,861	(123,799)	0					0003	
143763 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6KM20031MB27	11/05/2021	11/06/2023		1,367,412	4697.53000000	150,005			14,376		14,376	(148,527)	0					0003	
143809 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8P08K5P83	11/19/2021	11/20/2023		277,623	80.34000000	26,013			3,062		3,062	(18,447)	0					0003	
143817 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL 02RNE81BXP4ROTD8PU41	11/19/2021	11/20/2023		1,106,457	4697.96000000	124,587			12,546		12,546	(120,447)	0					0003	
143821 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCJFXTO9	11/19/2021	11/20/2023		121,157	109.88000000	15,908			699		699	(14,279)	0					0003	
143830 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8P08K5P83	11/19/2021	11/20/2023		838,321	4697.96000000	92,634			9,361		9,361	(81,863)	0					0003	
144159 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	12/06/2021	12/06/2023		1,317,604	4591.67000000	157,849			23,069		23,069	(165,757)	0					0003	
144171 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	12/06/2021	12/06/2023		299,093	110.00000000	30,208			2,001		2,001	(35,567)	0					0003	
144181 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	12/06/2021	12/06/2023		280,732	77.77000000	26,361			5,868		5,868	(24,978)	0					0003	
144199 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	12/06/2021	12/06/2023		119,249	4591.67000000	14,191			2,022		2,022	(10,593)	0					0003	
144649 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	12/20/2021	12/20/2023		832,799	4568.02000000	99,603			16,572		16,572	(78,256)	0					0003	
144678 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	12/20/2021	12/20/2023		1,636,287	4568.02000000	199,463			33,411		33,411	(209,333)	0					0003	
144687 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8P08K5P83	12/20/2021	12/20/2023		327,822	76.48000000	33,838			7,536		7,536	(32,648)	0					0003	
144689 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8P08K5P83	12/20/2021	12/20/2023		251,976	110.32000000	26,752			1,461		1,461	(29,881)	0					0003	
145224 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	01/06/2022	01/06/2023		2,475,219	4696.05000000			194,057	0		0	(194,057)	0					0003	
145228 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	01/06/2022	01/05/2024		301,568	4696.05000000			35,344	4,385		4,385	(30,958)	0					0003	
145231 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL 02RNE81BXP4ROTD8PU41	01/06/2022	01/06/2023		19,685,070	4696.05000000			1,541,341	0		0	(1,541,341)	0					0003	
145233 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	01/06/2022	01/06/2023		10,412,449	4696.05000000			811,130	1		1	(811,129)	0					0003	
145243 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/06/2022	01/06/2023		1,613,250	166.99000000			110,508	30,413		30,413	(80,095)	0					0003	
145247 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/06/2022	01/06/2023		35,351,783	166.99000000			18,859	5,295		5,295	(13,564)	0					0003	
145252 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/06/2022	01/06/2023		1,091,706	78.54000000			15,815	0		0	(15,815)	0					0003	
145253 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	01/06/2022	01/06/2023		1,301,275	111.61000000			86,405	226		226	(86,178)	0					0003	

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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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 Year-end (b)		
145260 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	01/06/2022	01/06/2023	47,737,863	4696.05000000			21,968		0		0	(21,968)	0					0003		
145262 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	01/06/2022	01/06/2023	44,450,597	4696.05000000			40,228		0		0	(40,228)	0						0003	
145266 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	01/06/2022	01/06/2023	786,636	78.54000000			50,895		0		0	(50,895)	0						0003	
145272 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	01/06/2022	01/06/2023	49,788,688	4696.05000000			29,356		0		0	(29,356)	0						0003	
145273 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/06/2022	01/06/2023	46,490,895	4696.05000000			1,164		0		0	(1,164)	0						0003	
145278 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/06/2022	01/06/2023	63,396,675	4696.05000000			14,384		0		0	(14,384)	0						0003	
145282 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/06/2022	01/06/2023	46,490,895	4696.05000000			220,994		0		0	(220,994)	0						0003	
145312 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	01/06/2022	01/06/2023	8,327,088	4696.05000000			654,509		0		0	(654,509)	0						0003	
145313 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	01/06/2022	01/05/2024	1,063,220	4696.05000000			124,184		15,813		15,813	(108,372)	0						0003	
145314 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	01/06/2022	01/06/2023	911,586	111.61000000			63,173		559		559	(62,614)	0						0003	
145315 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	01/06/2022	01/05/2024	252,751	111.61000000			26,412		1,514		1,514	(24,898)	0						0003	
145316 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	01/06/2022	01/06/2023	969,486	78.54000000			60,321		0		0	(60,321)	0						0003	
145317 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	01/06/2022	01/05/2024	292,532	78.54000000			27,779		5,468		5,468	(22,311)	0						0003	
145320 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	01/06/2022	01/06/2023	19,184,739	111.61000000			23,743		0		0	(23,743)	0						0003	
145776 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	01/20/2022	01/20/2023	17,846,532	105.62000000			39,561		9		9	(39,553)	0						0003	
145777 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	01/20/2022	01/20/2023	940,760	77.39000000			15,715		2		2	(15,713)	0						0003	
145781 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	01/20/2022	01/20/2023	55,137,579	4482.73000000			87,696		19		19	(87,677)	0						0003	
145794 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	01/20/2022	01/20/2023	9,891,040	4482.73000000			799,196		11		11	(799,185)	0						0003	
145797 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	01/20/2022	01/20/2023	1,048,213	105.62000000			73,270		775		775	(72,495)	0						0003	
145798 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	01/20/2022	01/20/2023	2,057,804	77.39000000			128,407		10		10	(128,397)	0						0003	
145801 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	01/20/2022	01/20/2023	2,615,857	4482.73000000			211,884		3		3	(211,881)	0						0003	

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 Year-end (b)	
145803 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	01/20/2022	01/19/2024		1,131,416	4482.73000000		134,752		33,680		33,680	(101,072)	0						0003
145805 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	01/20/2022	01/19/2024		321,180	105.62000000		31,604		4,102		4,102	(27,503)	0						0003
145806 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8PRO8K5P83	01/20/2022	01/19/2024		289,447	77.39000000		26,962		6,993		6,993	(19,970)	0						0003
145812 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8PRO8K5P83	01/20/2022	01/19/2024		257,820	4482.73000000		30,503		7,298		7,298	(23,204)	0						0003
145834 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6KMZ0031MB27	01/20/2022	01/20/2023		12,263,681	4482.73000000		991,327		238		238	(991,089)	0						0003
145839 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	01/20/2022	01/20/2023		28,768,540	171.65000000		7,303		987		987	(6,316)	0						0003
145872 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	01/20/2022	01/20/2023		5,771,387	4482.73000000		467,482		7		7	(467,476)	0						0003
145879 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	01/20/2022	01/20/2023		47,965,211	4482.73000000		20,487		4		4	(20,483)	0						0003
145881 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	01/20/2022	01/20/2023		55,137,579	4482.73000000		19,457		4		4	(19,454)	0						0003
145883 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	01/20/2022	01/20/2023		50,654,849	4482.73000000		26,899		6		6	(26,893)	0						0003
145884 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	01/20/2022	01/20/2023		1,231,579	171.65000000		84,733		12,969		12,969	(71,763)	0						0003
145886 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	01/20/2022	01/20/2023		37,206,659	4482.73000000		94,320		20		20	(94,300)	0						0003
145894 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	01/20/2022	01/20/2023		774,857	77.39000000		50,056		7		7	(50,049)	0						0003
145896 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	01/20/2022	01/20/2023		659,047	105.62000000		45,013		(348)		(348)	(45,361)	0						0003
146371 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 02RNE81BXP4R0TD8PU41	02/04/2022	02/06/2023		2,730,252	4500.53000000		229,068		290		290	(228,778)	0						0003
146372 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	02/04/2022	02/06/2023		44,021,802	168.86000000		11,663		3,239		3,239	(8,424)	0						0003
146375 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8PRO8K5P83	02/04/2022	02/06/2024		765,287	4500.53000000		96,449		22,030		22,030	(74,420)	0						0003
146377 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6KMZ0031MB27	02/04/2022	02/06/2023		12,007,888	4500.53000000		1,007,462		1,124		1,124	(1,006,338)	0						0003
146381 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	01/20/2022	01/20/2023		9,097,125	4500.53000000		763,249		919		919	(762,330)	0						0003
146382 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 02RNE81BXP4R0TD8PU41	02/04/2022	02/06/2023		12,105,185	4500.53000000		1,015,625		1,135		1,135	(1,014,490)	0						0003
146386 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6KMZ0031MB27	02/04/2022	02/06/2023		871,012	4500.53000000		66,136		0		0	(66,136)	0						0003

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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 Year-end (b)	
146389 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	02/04/2022	02/06/2023	1,816,645	168.86000000	126,983				43,080		43,080	(83,903)	0					0003	
146390 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8P8K5P83	02/04/2022	02/06/2023	1,359,568	76.07000000	86,441				127		127	(86,315)	0					0003	
146392 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G71XBU11	02/04/2022	02/06/2024	908,850	4500.53000000	112,607				27,758		27,758	(84,848)	0					0003	
146396 Call Options - IShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8P8K5P83	02/04/2022	02/06/2024	358,308	105.13000000	36,748				5,476		5,476	(31,272)	0					0003	
146399 Call Options - IShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	02/04/2022	02/06/2023	792,377	105.13000000	55,783				8		8	(55,775)	0					0003	
146401 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8P8K5P83	02/04/2022	02/06/2024	231,495	76.07000000	21,675				7,213		7,213	(14,461)	0					0003	
146407 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8P8K5P83	02/04/2022	02/06/2023	650,618	76.07000000	41,236				61		61	(41,176)	0					0003	
146413 Call Options - IShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0WP21HZNB6K528	02/04/2022	02/06/2023	27,717,684	105.13000000	26,777				15		15	(26,762)	0					0003	
146418 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	02/04/2022	02/06/2023	1,678,918	76.07000000	15,058				46		46	(15,012)	0					0003	
146428 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	02/04/2022	02/06/2023	83,259,805	4500.53000000	26,127				22		22	(26,106)	0					0003	
146432 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	02/04/2022	02/06/2023	62,557,367	4500.53000000	4,340				4		4	(4,336)	0					0003	
146434 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSRPFMYMCJFXT09	02/04/2022	02/06/2023	53,979,284	4500.53000000	76,217				13		13	(76,205)	0					0003	
146436 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	02/04/2022	02/06/2023	41,854,929	4500.53000000	12,432				13		13	(12,420)	0					0003	
146445 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	02/04/2022	02/06/2023	52,206,148	4500.53000000	111,679				126		126	(111,553)	0					0003	
147058 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G71XBU11	02/18/2022	02/17/2023	15,525,947	4348.87000000	1,358,520				12,410		12,410	(1,346,110)	0					0003	
147060 Call Options - IShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G71XBU11	02/18/2022	02/17/2023	531,502	101.51000000	42,520				93		93	(42,427)	0					0003	
147061 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	02/18/2022	02/17/2023	39,373,776	177.12000000	26,479				2,459		2,459	(24,019)	0					0003	
147064 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G71XBU11	02/18/2022	02/17/2023	952,720	75.30000000	65,166				426		426	(64,740)	0					0003	
147065 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8P8K5P83	02/18/2022	02/17/2023	1,529,161	75.30000000	107,332				597		597	(106,735)	0					0003	
147068 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G71XBU11	02/18/2022	02/20/2024	940,610	4348.87000000	117,670				42,739		42,739	(74,931)	0					0003	

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
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147070 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	02/18/2022	02/20/2024	147,396	101.51000000		15,963			3,472		3,472	(12,491)	0						0003
147075 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	02/18/2022	02/17/2023	23,901,070	101.51000000		39,467			36		36	(39,431)	0						0003
147084 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	02/18/2022	02/17/2023	1,393,321	75.30000000		23,558			169		169	(23,389)	0						0003
147088 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	02/18/2022	02/20/2024	128,474	75.30000000		12,917			4,649		4,649	(8,267)	0						0003
147105 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	02/18/2022	02/17/2023	62,862,971	4348.87000000		24,132			128		128	(24,004)	0						0003
147106 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/18/2022	02/17/2023	44,793,361	4348.87000000		229,196			1,711		1,711	(227,485)	0						0003
147123 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	02/18/2022	02/17/2023	57,013,977	4348.87000000		25,057			159		159	(24,898)	0						0003
147133 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	02/18/2022	02/17/2023	51,951,067	4348.87000000		9,549			66		66	(9,483)	0						0003
147135 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	02/18/2022	02/17/2023	46,260,342	4348.87000000		22,271			166		166	(22,105)	0						0003
147137 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	02/18/2022	02/17/2023	53,337,704	4348.87000000		188,776			1,484		1,484	(187,292)	0						0003
147151 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	02/18/2022	02/17/2023	3,053,991	4348.87000000		270,584			2,251		2,251	(268,332)	0						0003
147155 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	02/18/2022	02/20/2024	84,874	4348.87000000		10,652			3,633		3,633	(7,019)	0						0003
147158 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	02/18/2022	02/17/2023	15,707,500	4348.87000000		1,391,685			11,920		11,920	(1,379,764)	0						0003
147160 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	02/18/2022	02/17/2023	10,333,829	4348.87000000		905,243			7,904		7,904	(897,339)	0						0003
147164 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	02/18/2022	02/17/2023	1,362,190	177.12000000		101,619			12,604		12,604	(89,015)	0						0003
147169 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	02/18/2022	02/17/2023	1,249,194	101.51000000		97,937			219		219	(97,718)	0						0003
147803 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/04/2022	03/03/2023	1,746,459	69.03000000		36,476			3,947		3,947	(32,529)	0						0003
147822 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	03/04/2022	03/03/2023	43,202,304	4328.87000000		25,812			348		348	(25,463)	0						0003
147827 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/04/2022	03/03/2023	79,651,208	4328.87000000		21,011			235		235	(20,776)	0						0003
147835 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/04/2022	03/03/2023	10,464,586	4328.87000000		978,439			19,443		19,443	(958,996)	0						0003
147838 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/04/2022	03/03/2023	814,859	104.54000000		66,737			95		95	(66,642)	0						0003

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
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147839 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	03/04/2022	03/03/2023		57,789,541	4328.87000000		109,035		1,386		1,386	(107,649)	0					0003		
147841 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	03/04/2022	03/03/2023		1,483,812	.69.03000000		125,812		19,423		19,423	(106,390)	0						0003	
147845 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/04/2022	03/04/2024		660,255	4328.87000000		87,286		32,451		32,451	(54,835)	0						0003	
147847 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	03/04/2022	03/03/2023		49,270,605	4328.87000000		36,879		479		479	(36,400)	0						0003	
147849 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/04/2022	03/04/2024		258,003	104.54000000		28,613		4,644		4,644	(23,969)	0						0003	
147854 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	03/04/2022	03/04/2024		226,872	.69.03000000		24,586		17,674		17,674	(6,912)	0						0003	
147858 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/04/2022	03/03/2023		2,939,195	4328.87000000		274,521		5,424		5,424	(269,097)	0						0003	
147871 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/04/2022	03/04/2024		697,761	4328.87000000		90,221		32,455		32,455	(57,766)	0						0003	
147875 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/04/2022	03/03/2023		16,357,073	4328.87000000		1,529,386		30,390		30,390	(1,498,997)	0						0003	
147879 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	03/04/2022	03/03/2023		9,841,986	4328.87000000		925,147		15,676		15,676	(909,471)	0						0003	
147883 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	03/04/2022	03/03/2023		2,315,446	183.68000000		208,390		11,496		11,496	(196,894)	0						0003	
147887 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/04/2022	03/03/2023		578,797	104.54000000		46,767		68		68	(46,699)	0						0003	
147895 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/04/2022	03/03/2023		1,161,884	.69.03000000		98,295		15,079		15,079	(83,216)	0						0003	
147899 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	03/04/2022	03/03/2023		44,898,901	183.68000000		22,493		914		914	(21,579)	0						0003	
147901 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	03/04/2022	03/03/2023		27,899,315	104.54000000		27,306		3		3	(27,303)	0						0003	
147905 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	03/04/2022	03/03/2023		55,487,615	4328.87000000		57,585		420		420	(57,166)	0						0003	
148430 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	03/18/2022	03/20/2023		43,480,250	179.30000000		35,600		3,140		3,140	(32,460)	0						0003	
148431 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/18/2022	03/20/2023		9,421,264	4463.12000000		832,840		12,265		12,265	(820,574)	0						0003	
148433 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/18/2022	03/20/2023		2,320,045	4463.12000000		205,092		2,984		2,984	(202,108)	0						0003	
148435 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	03/18/2022	03/20/2023		865,455	105.83000000		71,140		104		104	(71,036)	0						0003	
148437 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/18/2022	03/20/2024		355,514	4463.12000000		46,572		12,316		12,316	(34,256)	0						0003	
148439 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	03/18/2022	03/20/2023		17,935,730	4463.12000000		1,569,376		21,906		21,906	(1,547,470)	0						0003	
148442 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	03/18/2022	03/20/2023		7,030,909	4463.12000000		615,205		7,769		7,769	(607,436)	0						0003	
148448 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	03/18/2022	03/20/2023		1,405,520	179.30000000		119,329		16,930		16,930	(102,398)	0						0003	
148455 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	03/18/2022	03/20/2023		946,559	73.77000000		72,128		3,933		3,933	(68,195)	0						0003	

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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 Year-end (b)	
148457 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	03/18/2022	03/20/2023	1,437,084	105.83000000			118,128		165		165	(117,963)	0						0003
148459 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO ROYAL BANK OF CANADA	03/18/2022	03/20/2023	62,929,992	4463.12000000			7,966		73		73	(7,893)	0						0003
148461 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/18/2022	03/20/2024	1,460,645	4463.12000000			191,344		56,123		56,123	(135,222)	0						0003
148466 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/18/2022	03/20/2024	478,202	105.83000000			53,224		8,200		8,200	(45,024)	0						0003
148468 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/18/2022	03/20/2023	558,501	73.77000000			45,239		1,728		1,728	(43,511)	0						0003
148471 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	03/18/2022	03/20/2024	549,529	73.77000000			59,349		26,227		26,227	(33,122)	0						0003
148480 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL JPMORGAN CHASE	03/18/2022	03/20/2023	31,168,881	105.83000000			33,473		51		51	(33,422)	0						0003
148483 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK, N.A.	03/18/2022	03/20/2023	1,204,688	73.77000000			15,605		471		471	(15,134)	0						0003
148490 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	03/18/2022	03/20/2023	48,640,908	4463.12000000			7,581		52		52	(7,529)	0						0003
148498 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	03/18/2022	03/20/2023	82,238,088	4463.12000000			21,758		193		193	(21,565)	0						0003
148502 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	03/18/2022	03/20/2023	53,367,426	4463.12000000			62,921		669		669	(62,252)	0						0003
148504 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	03/18/2022	03/20/2023	57,105,383	4463.12000000			121,749		1,355		1,355	(120,394)	0						0003
148508 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	03/18/2022	03/20/2023	56,165,871	4463.12000000			164,419		1,633		1,633	(162,786)	0						0003
149294 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	04/06/2022	04/06/2023	5,038,636	4481.15000000			458,516		9,485		9,485	(449,031)	0						0003
149296 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/06/2022	04/05/2024	86,208	4481.15000000			12,090		2,905		2,905	(9,185)	0						0003
149297 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	04/06/2022	04/06/2023	50,322,766	179.66000000			10,114		1,031		1,031	(9,082)	0						0003
149299 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO ROYAL BANK OF CANADA	04/06/2022	04/06/2023	31,492,819	4481.15000000			2,865,847		59,995		59,995	(2,805,852)	0						0003
149301 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	04/06/2022	04/06/2023	11,848,638	4481.15000000			1,067,562		19,622		19,622	(1,047,940)	0						0003
149305 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC WELLS FARGO BANK, N.A.	04/06/2022	04/06/2023	1,210,210	179.66000000			97,785		17,825		17,825	(79,960)	0						0003
149309 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC BNP PARIBAS LONDON	04/06/2022	04/06/2023	1,235,693	110.55000000			98,361		126		126	(98,235)	0						0003
149321 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/06/2022	04/06/2023	535,510	72.70000000			44,474		3,711		3,711	(40,764)	0						0003
149325 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	04/06/2022	04/06/2023	40,309,869	110.55000000			37,558		6		6	(37,553)	0						0003

E18.9

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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149327 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	04/06/2022	04/06/2023		1,309,381	72.70000000		18,194		1,167		1,167	(17,028)	0						0003
149335 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	04/06/2022	04/06/2023		40,330,350	4481.15000000		158,222		1,940		1,940	(156,282)	0						0003
149338 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIWZ7FF321WEFA76	04/06/2022	04/06/2023		80,083,097	4481.15000000		7,922		69		69	(7,852)	0						0003
149339 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	04/06/2022	04/06/2023		47,500,190	4481.15000000		11,731		157		157	(11,574)	0						0003
149342 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	04/06/2022	04/06/2023		53,325,685	4481.15000000		14,020		193		193	(13,827)	0						0003
149346 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	04/06/2022	04/06/2023		49,740,765	4481.15000000		151,538		2,135		2,135	(149,404)	0						0003
149349 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	04/06/2022	04/06/2023		51,085,110	4481.15000000		244,253		3,552		3,552	(240,700)	0						0003
149368 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XB11	04/06/2022	04/06/2023		12,017,650	4481.15000000		1,097,211		22,899		22,899	(1,074,313)	0						0003
149370 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XB11	04/06/2022	04/05/2024		1,920,717	4481.15000000		263,714		74,358		74,358	(189,356)	0						0003
149372 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XB11	04/06/2022	04/06/2023		1,178,611	110.55000000		98,414		122		122	(98,293)	0						0003
149374 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XB11	04/06/2022	04/05/2024		294,130	110.55000000		35,707		3,213		3,213	(32,494)	0						0003
149376 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMJISFPUB8MPRO8K5P83	04/06/2022	04/06/2023		2,161,481	72.70000000		175,188		15,275		15,275	(159,913)	0						0003
149378 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMJISFPUB8MPRO8K5P83	04/06/2022	04/05/2024		682,723	72.70000000		80,636		38,538		38,538	(42,099)	0						0003
149936 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6GKMZ0031MB27	04/20/2022	04/20/2023		2,352,979	4459.45000000		213,180		6,072		6,072	(207,107)	0						0003
149938 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6GKMZ0031MB27	04/20/2022	04/19/2024		374,938	4459.45000000		51,404		14,389		14,389	(37,015)	0						0003
149940 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6GKMZ0031MB27	04/20/2022	04/20/2023		12,062,989	4459.45000000		1,092,907		33,145		33,145	(1,059,762)	0						0003
149942 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	04/20/2022	04/20/2023		6,771,684	4459.45000000		603,357		16,618		16,618	(586,739)	0						0003
149944 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	04/20/2022	04/20/2023		51,729,620	4459.45000000		16,653		229		229	(16,424)	0						0003
149948 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	04/20/2022	04/20/2023		60,202,575	4459.45000000		64,693		1,193		1,193	(63,500)	0						0003

E18.10

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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149951 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/20/2022	04/20/2023	1,238,634	182.71000000	102,435				16,347		16,347	(86,088)	0					0003	
149955 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	STANLEY/CLEARED THROUGH CBO	04/20/2022	04/20/2023	65,999,860	4459.45000000	20,729				441		441	(20,288)	0					0003	
149960 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC ROYAL BANK OF CANADA	04/20/2022	04/20/2023	1,626,758	112.38000000	131,117				217		217	(130,900)	0					0003	
149964 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	04/20/2022	04/20/2023	435,894	72.42000000	34,741				4,370		4,370	(30,370)	0					0003	
149968 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/20/2022	04/20/2023	39,103,137	182.71000000	14,434				1,329		1,329	(13,105)	0					0003	
149970 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	STANLEY/CLEARED THROUGH CBO	04/20/2022	04/20/2023	52,621,510	4459.45000000	8,021				189		189	(7,832)	0					0003	
149973 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/20/2022	04/20/2023	29,919,315	112.38000000	23,585				29		29	(23,557)	0					0003	
149974 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	STANLEY/CLEARED THROUGH CBO	04/20/2022	04/20/2023	53,959,345	4459.45000000	101,569				2,486		2,486	(99,083)	0					0003	
149976 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/20/2022	04/20/2023	1,568,899	72.42000000	20,406				1,825		1,825	(18,581)	0					0003	
149982 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	STANLEY/CLEARED THROUGH CBO	04/20/2022	04/20/2023	70,905,255	4459.45000000	101,368				2,555		2,555	(98,813)	0					0003	
149999 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	04/20/2022	04/20/2023	7,565,609	4459.45000000	683,175				21,533		21,533	(661,642)	0					0003	
150001 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	04/20/2022	04/19/2024	1,026,438	4459.45000000	141,238				42,489		42,489	(98,749)	0					0003	
150003 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/20/2022	04/20/2023	932,497	72.42000000	73,574				8,709		8,709	(64,865)	0					0003	
150005 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/20/2022	04/19/2024	330,906	72.42000000	38,607				19,921		19,921	(18,686)	0					0003	
150007 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/20/2022	04/19/2024	299,307	112.38000000	36,839				2,915		2,915	(33,924)	0					0003	
150015 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/20/2022	04/20/2023	651,035	112.38000000	55,143				61		61	(55,082)	0					0003	
150359 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/06/2022	05/05/2023	2,798,806	4123.34000000	287,437				55,708		55,708	(231,729)	0					0003	
150361 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	05/06/2022	05/06/2024	231,379	4123.34000000	33,342				16,125		16,125	(17,216)	0					0003	
150363 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	05/06/2022	05/05/2023	21,086,898	4123.34000000	2,152,972				445,991		445,991	(1,706,981)	0					0003	
150366 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/06/2022	05/05/2023	6,226,160	4123.34000000	630,710				114,875		114,875	(515,835)	0					0003	
150370 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/06/2022	05/05/2023	1,782,715	175.42000000	154,740				48,000		48,000	(106,740)	0					0003	
150375 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/06/2022	05/05/2023	1,049,507	99.83000000	104,951				3,872		3,872	(101,079)	0					0003	

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

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150380 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	.05/06/2022	.05/05/2023		496,201	67.27000000		44,261		20,716		20,716	(23,545)	0					0003	
150384 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.05/06/2022	.05/05/2023		47,679,735	175.42000000		38,075		6,566		6,566	(31,509)	0					0003	
150386 Call Options - Ishares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.05/06/2022	.05/05/2023		36,058,801	99.83000000		30,022		794		794	(29,228)	0					0003	
150388 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	.05/06/2022	.05/05/2023		1,267,327	67.27000000		17,257		4,527		4,527	(12,730)	0					0003	
150413 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	.05/06/2022	.05/05/2023		52,510,943	4123.34000000		72,875		10,636		10,636	(62,239)	0					0003	
150422 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.05/06/2022	.05/05/2023		51,541,750	4123.34000000		52,913		6,634		6,634	(46,280)	0					0003	
150432 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBMPRO8K5P83	.05/06/2022	.05/05/2023		784,633	67.27000000		63,030		32,613		32,613	(30,417)	0					0003	
150433 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBMPRO8K5P83	.05/06/2022	.05/05/2023		8,302,348	4123.34000000		820,272		177,654		177,654	(642,618)	0					0003	
150435 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBMPRO8K5P83	.05/06/2022	.05/06/2024		1,253,264	4123.34000000		177,750		103,099		103,099	(74,652)	0					0003	
150437 Call Options - Ishares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBMPRO8K5P83	.05/06/2022	.05/06/2024		219,510	99.83000000		29,370		7,870		7,870	(21,501)	0					0003	
150439 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBMPRO8K5P83	.05/06/2022	.05/06/2024		242,884	67.27000000		28,211		25,139		25,139	(3,072)	0					0003	
150442 Call Options - Ishares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	.05/06/2022	.05/05/2023		535,618	99.83000000		54,258		2,089		2,089	(52,169)	0					0003	
150999 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.05/20/2022	.05/19/2023		39,618,509	172.03000000		34,884		8,371		8,371	(26,513)	0					0003	
151000 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	.05/20/2022	.05/19/2023		1,564,708	3901.36000000		160,539		69,497		69,497	(91,042)	0					0003	
151002 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.05/20/2022	.05/19/2023		1,423,170	67.77000000		29,096		8,251		8,251	(20,844)	0					0003	
151004 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	.05/20/2022	.05/20/2024		296,951	3901.36000000		42,464		25,752		25,752	(16,712)	0					0003	
151006 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6KMZ0031MB27	.05/20/2022	.05/19/2023		16,491,783	3901.36000000		1,685,460		838,822		838,822	(846,638)	0					0003	
151008 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL 02RNE81BXP490TD8PU41	.05/20/2022	.05/19/2023		6,259,926	3901.36000000		632,253		239,702		239,702	(392,551)	0					0003	
151026 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPRFMYMCJFT09	.05/20/2022	.05/19/2023		2,306,292	172.03000000		242,622		88,324		88,324	(154,298)	0					0003	
151030 Call Options - Ishares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	.05/20/2022	.05/19/2023		622,034	94.88000000		60,026		7,216		7,216	(52,811)	0					0003	
151034 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	.05/20/2022	.05/19/2023		386,931	67.77000000		30,026		15,035		15,035	(14,991)	0					0003	
151038 Call Options - Ishares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG BFM6T61CT2L10CEMIK50	.05/20/2022	.05/19/2023		30,611,764	94.88000000		39,572		3,817		3,817	(35,755)	0					0003	

E18.12

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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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 Year-end (b)	
151040 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	05/20/2022	05/19/2023		60,330,213	3901.36000000		7,423		1,341		1,341	(6,081)	0						0003
151042 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	05/20/2022	05/19/2023		40,032,578	3901.36000000		24,627		4,821		4,821	(19,806)	0						0003
151050 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	05/20/2022	05/19/2023		46,024,903	3901.36000000		2,359		573		573	(1,787)	0						0003
151052 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	05/20/2022	05/19/2023		57,596,373	3901.36000000		107,476		28,012		28,012	(79,464)	0						0003
151054 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	05/20/2022	05/19/2023		50,257,133	3901.36000000		355,542		96,879		96,879	(258,663)	0						0003
151063 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2022	05/19/2023		42,914,960	3901.36000000		61,763		9,186		9,186	(52,577)	0						0003
151075 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/20/2022	05/19/2023		353,001	94.88000000		34,312		4,614		4,614	(29,698)	0						0003
151078 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/20/2022	05/20/2024		63,972	94.88000000		8,457		3,485		3,485	(4,972)	0						0003
151081 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/20/2022	05/19/2023		6,404,504	3901.36000000		673,113		331,621		331,621	(341,492)	0						0003
151083 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/20/2022	05/20/2024		1,314,194	3901.36000000		190,427		156,116		156,116	(34,310)	0						0003
151085 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/20/2022	05/19/2028		539,985	3901.36000000		134,024		134,030		134,030	6	0						0003
151087 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	05/20/2022	05/19/2023		707,452	67.77000000		59,214		29,342		29,342	(29,872)	0						0003
151089 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	05/20/2022	05/20/2024		128,259	67.77000000		15,327		12,951		12,951	(2,376)	0						0003
151618 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/06/2022	06/06/2023		46,064,942	171.82000000		41,612		10,888		10,888	(30,724)	0						0003
151619 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/06/2022	06/06/2023		3,680,274	4121.43000000		360,667		94,800		94,800	(265,867)	0						0003
151623 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/06/2022	06/06/2024		291,415	4121.43000000		40,973		20,842		20,842	(20,131)	0						0003
151625 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/06/2022	06/06/2023		17,693,431	4121.43000000		1,733,956		477,829		477,829	(1,256,127)	0						0003
151627 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/06/2022	06/06/2023		7,715,108	4121.43000000		756,081		178,617		178,617	(577,463)	0						0003
151631 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	06/06/2022	06/06/2023		1,210,980	171.82000000		102,207		45,285		45,285	(56,922)	0						0003
151633 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/06/2022	06/06/2023		1,441,588	69.98000000		19,079		4,303		4,303	(14,775)	0						0003
151639 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/06/2022	06/06/2023		41,733,980	4121.43000000		79,168		8,291		8,291	(70,877)	0						0003

E18.13

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
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151640 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/06/2022	06/06/2023	49,869,303	4121.43000000			39,543		4,955		4,955	(34,588)	0						0003
151642 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/06/2022	06/06/2023	476,022	98.01000000			43,604		4,123		4,123	(39,480)	0						0003
151644 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/06/2022	06/06/2023	46,984,302	4121.43000000			23,171		3,079		3,079	(20,093)	0						0003
151653 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/06/2022	06/06/2023	30,384,255	98.01000000			27,988		2,094		2,094	(25,893)	0						0003
151654 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/06/2022	06/06/2023	884,915	69.98000000			69,032		26,512		26,512	(42,520)	0						0003
151658 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/06/2022	06/06/2023	293,432	69.98000000			24,384		7,744		7,744	(16,640)	0						0003
151663 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/06/2022	06/06/2024	69,682	69.98000000			7,671		5,891		5,891	(1,781)	0						0003
151671 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/06/2022	06/06/2023	5,946,138	4121.43000000			586,468		164,778		164,778	(421,689)	0						0003
151675 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	06/06/2022	06/06/2023	48,166,560	4121.43000000			24,517		4,096		4,096	(20,421)	0						0003
151677 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/06/2022	06/06/2024	563,246	4121.43000000			79,964		48,718		48,718	(31,246)	0						0003
151681 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	06/06/2022	06/06/2023	67,070,602	4121.43000000			40,011		6,635		6,635	(33,376)	0						0003
151682 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/06/2022	06/06/2024	54,030	98.01000000			7,361		2,472		2,472	(4,889)	0						0003
151684 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	06/06/2022	06/06/2023	50,949,901	4121.43000000			292,084		49,881		49,881	(242,202)	0						0003
151694 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/06/2022	06/06/2028	1,500,757	4121.43000000			377,290		316,387		316,387	(60,903)	0						0003
151696 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/06/2022	06/06/2023	399,110	98.01000000			37,197		3,895		3,895	(33,302)	0						0003
152964 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/17/2022	06/20/2023	2,688,374	3674.84000000			288,400		179,445		179,445	(108,955)	0						0003
152966 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/17/2022	06/20/2024	284,548	3674.84000000			42,386		29,841		29,841	(12,545)	0						0003
152968 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/17/2022	06/20/2023	17,704,698	3674.84000000			1,898,779		1,588,323		1,588,323	(310,456)	0						0003
152972 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/17/2022	06/20/2023	5,850,145	3674.84000000			627,691		345,601		345,601	(282,090)	0						0003
152978 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	06/17/2022	06/20/2023	2,042,589	171.27000000			187,305		82,936		82,936	(104,369)	0						0003
152985 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/17/2022	06/20/2023	1,476,117	87.66000000			145,398		51,147		51,147	(94,250)	0						0003
152989 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/17/2022	06/20/2023	610,755	61.48000000			54,418		46,294		46,294	(8,124)	0						0003
153010 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	06/17/2022	06/20/2023	27,595,849	87.66000000			56,830		13,631		13,631	(43,199)	0						0003

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153014 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	06/17/2022	06/20/2023	1,739,991	61.48000000	47,390	18,002	18,002				18,002	(29,388)	0					0003	
153019 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	06/17/2022	06/20/2023	56,866,149	3674.84000000	18,912	2,421	2,421				2,421	(16,490)	0					0003	
153023 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	06/17/2022	06/20/2023	67,197,150	3674.84000000	82,901	17,070	17,070				17,070	(65,831)	0					0003	
153034 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/17/2022	06/20/2023	41,618,610	171.27000000	62,956	15,366	15,366				15,366	(47,589)	0					0003	
153050 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/17/2022	06/20/2023	50,345,308	3674.84000000	10,603	2,554	2,554				2,554	(8,048)	0					0003	
153052 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/17/2022	06/20/2023	50,712,792	3674.84000000	4,272	1,106	1,106				1,106	(3,166)	0					0003	
153054 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/17/2022	06/20/2023	59,899,892	3674.84000000	21,445	5,969	5,969				5,969	(15,476)	0					0003	
153057 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/17/2022	06/20/2023	60,267,376	3674.84000000	145,961	52,041	52,041				52,041	(93,921)	0					0003	
153061 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/17/2022	06/20/2023	47,037,952	3674.84000000	71,324	27,380	27,380				27,380	(43,944)	0					0003	
153063 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	06/17/2022	06/20/2023	7,096,801	3674.84000000	761,274	712,763	712,763				712,763	(48,511)	0					0003	
153067 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/17/2022	06/20/2023	262,423	87.66000000	26,164	12,033	12,033				12,033	(14,130)	0					0003	
153081 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/17/2022	06/20/2023	808,076	61.48000000	68,589	88,166	88,166				88,166	19,576	0					0003	
153089 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/17/2022	06/20/2024	357,900	3674.84000000	53,281	59,696	59,696				59,696	6,415	0					0003	
153095 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/17/2022	06/20/2024	63,220	87.66000000	8,358	6,054	6,054				6,054	(2,304)	0					0003	
153097 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/17/2022	06/20/2024	4,631	61.48000000	649	768	768				768	119	0					0003	
153099 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/17/2022	06/20/2028	7,022,908	3674.84000000	1,785,153	2,077,795	2,077,795				2,077,795	292,642	0					0003	
153774 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	07/06/2022	07/05/2024	385,914	3845.08000000	55,494	52,086	52,086				52,086	(3,408)	0					0003	
153776 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/06/2022	07/05/2024	39,473	93.31000000	6,012	2,649	2,649				2,649	(3,363)	0					0003	
153777 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/06/2022	07/06/2023	7,338,478	3845.08000000	758,872	532,320	532,320				532,320	(226,552)	0					0003	
153779 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/06/2022	07/05/2024	453,088	61.35000000	57,637	76,898	76,898				76,898	19,261	0					0003	

E18.15

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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 Year-end (b)	
153781 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8PRO8K5P83	07/06/2022	07/06/2028		14,195,221	3845.08000000		3,490,889		3,692,673		3,692,673	201,784	0					0003	
153787 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	07/06/2022	07/06/2023		353,194	93.31000000		34,401		8,286		8,286	(26,115)	0					0003	
153790 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8PRO8K5P83	07/06/2022	07/06/2023		899,988	61.35000000		75,131		104,383		104,383	29,252	0					0003	
153798 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT07KV3U0JZ0078	07/06/2022	07/06/2023		1,950,930	61.35000000		41,918		20,664		20,664	(21,254)	0					0003	
153800 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8PRO8K5P83	07/06/2022	07/06/2023		2,405,126	3845.08000000		248,137		142,640		142,640	(105,497)	0					0003	
153813 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8PRO8K5P83	07/06/2022	07/05/2024		346,378	3845.08000000		49,484		34,148		34,148	(15,336)	0					0003	
153821 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8PRO8K5P83	07/06/2022	07/06/2023		20,554,740	3845.08000000		2,104,805		1,389,437		1,389,437	(715,368)	0					0003	
153827 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL MORGAN STANLEY & CO. INTERNATIONAL W22LROIW21HZNB6K528	07/06/2022	07/06/2023		8,371,196	3845.08000000		860,559		397,136		397,136	(463,423)	0					0003	
153828 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	4PQUH9JPF6FN3B8653	07/06/2022	07/06/2023		41,631,148	3845.08000000		169,280		27,700		27,700	(141,580)	0					0003	
153832 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZVZ7FF32WIEFA76	07/06/2022	07/06/2023		54,109,284	3845.08000000		22,811		4,561		4,561	(18,250)	0					0003	
153835 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZVZ7FF32WIEFA76	07/06/2022	07/06/2023		52,124,593	3845.08000000		2,145		448		448	(1,697)	0					0003	
153838 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	07/06/2022	07/06/2023		48,619,159	3845.08000000		46,662		10,544		10,544	(36,118)	0					0003	
153841 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZVZ7FF32WIEFA76	07/06/2022	07/06/2023		61,324,498	3845.08000000		32,172		7,439		7,439	(24,733)	0					0003	
153843 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROIW21HZNB6K528	07/06/2022	07/06/2023		2,282,606	162.14000000		204,293		154,869		154,869	(49,425)	0					0003	
153844 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZVZ7FF32WIEFA76	07/06/2022	07/06/2023		63,090,037	3845.08000000		43,490		10,768		10,768	(32,722)	0					0003	
153847 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZVZ7FF32WIEFA76	07/06/2022	07/06/2023		62,086,159	3845.08000000		172,518		50,043		50,043	(122,475)	0					0003	
153851 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZVZ7FF32WIEFA76	07/06/2022	07/06/2023		54,859,498	3845.08000000		170,545		53,040		53,040	(117,505)	0					0003	
153860 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROIW21HZNB6K528	07/06/2022	07/06/2023		986,300	93.31000000		91,233		19,944		19,944	(71,289)	0					0003	
153895 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. K81H1DSRFHMYCJFX09	07/06/2022	07/06/2023		638,646	61.35000000		48,920		44,862		44,862	(4,058)	0					0003	
153898 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROIW21HZNB6K528	07/06/2022	07/06/2023		47,374,956	162.14000000		88,489		36,483		36,483	(52,006)	0					0003	
153907 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	07/06/2022	07/06/2023		30,929,112	93.31000000		45,249		6,498		6,498	(38,751)	0					0003	
154435 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	07/20/2022	07/20/2023		1,498,335	3959.90000000		154,478		73,955		73,955	(80,524)	0					0003	
154438 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8PRO8K5P83	07/20/2022	07/19/2024		237,750	3959.90000000		35,037		22,094		22,094	(12,943)	0					0003	
154443 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	07/20/2022	07/20/2023		16,569,305	3959.90000000		1,708,295		896,016		896,016	(812,279)	0					0003	
154447 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	07/20/2022	07/20/2023		6,098,181	3959.90000000		609,818		249,431		249,431	(360,387)	0					0003	

E18.16

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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154453 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	07/20/2022	07/20/2023	1,293,663	158.04000000		115,136			103,186		103,186	(11,950)	0					0003	
154463 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	07/20/2022	07/20/2023	542,207	93.96000000		50,967			9,793		9,793	(41,175)	0					0003	
154469 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	07/20/2022	07/20/2023	485,114	62.91000000		42,884			32,796		32,796	(10,088)	0					0003	
154477 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	07/20/2022	07/20/2023	34,492,772	158.04000000		29,438			13,305		13,305	(16,133)	0					0003	
154486 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	07/20/2022	07/20/2023	22,272,611	93.96000000		46,160			6,821		6,821	(39,339)	0					0003	
154495 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	07/20/2022	07/20/2023	1,722,149	62.91000000		17,560			7,040		7,040	(10,520)	0					0003	
154514 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	07/20/2022	07/20/2023	3,295,263	3959.90000000		343,366			189,053		189,053	(154,314)	0					0003	
154517 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	07/20/2022	07/20/2023	197,515	93.96000000		19,080			4,667		4,667	(14,413)	0					0003	
154521 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/20/2022	07/20/2023	140,798	62.91000000		12,582			13,932		13,932	1,350	0					0003	
154524 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/20/2022	07/19/2024	515,688	3959.90000000		76,306			60,183		60,183	(16,123)	0					0003	
154527 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	07/20/2022	07/19/2024	50,072	93.96000000		6,895			3,215		3,215	(3,680)	0					0003	
154530 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	07/20/2022	07/19/2024	223,819	62.91000000		28,828			35,184		35,184	6,356	0					0003	
154533 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	07/20/2022	07/20/2028	11,909,317	3959.90000000		2,978,520			2,878,435		2,878,435	(100,085)	0					0003	
154538 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/20/2022	07/20/2023	36,827,070	3959.90000000		118,557			17,481		17,481	(101,076)	0					0003	
154544 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/20/2022	07/20/2023	36,035,090	3959.90000000		20,624			3,638		3,638	(16,986)	0					0003	
154551 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/20/2022	07/20/2023	54,646,620	3959.90000000		8,377			1,549		1,549	(6,828)	0					0003	
154557 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/20/2022	07/20/2023	44,746,870	3959.90000000		14,177			2,699		2,699	(11,477)	0					0003	
154563 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/20/2022	07/20/2023	45,538,850	3959.90000000		103,320			26,920		26,920	(76,400)	0					0003	
154572 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/20/2022	07/20/2023	50,686,720	3959.90000000		157,477			44,466		44,466	(113,011)	0					0003	
155003 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/05/2022	08/04/2023	62,734,914	4145.19000000		146,172			32,288		32,288	(113,885)	0					0003	

E18.17

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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155006 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	08/05/2022	08/04/2023		4,496,618	4145.19000000		454,158		166,575		166,575	(287,584)	0						0003
155008 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUJISFPUBM8P8K5P83	08/05/2022	08/04/2023		291,042	98.55000000		28,822		4,216		4,216	(24,605)	0						0003
155011 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUJISFPUBM8P8K5P83	08/05/2022	08/04/2023		489,990	65.01000000		41,909		38,375		38,375	(3,533)	0						0003
155013 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	08/05/2022	08/06/2024		368,356	4145.19000000		54,075		33,480		33,480	(20,594)	0						0003
155016 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	08/05/2022	08/06/2024		50,916	98.55000000		6,639		2,394		2,394	(4,245)	0						0003
155018 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUJISFPUBM8P8K5P83	08/05/2022	08/06/2024		73,674	65.01000000		8,868		9,643		9,643	775	0						0003
155019 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. ES70DZIVZ7F32WEFA76	08/05/2022	08/04/2023		65,099,239	4145.19000000		36,435		5,142		5,142	(31,293)	0						0003
155022 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL C2RNE81BXP4R0TD8PU41	08/05/2022	08/04/2028		17,958,343	4145.19000000		4,455,465		3,826,260		3,826,260	(629,205)	0						0003
155029 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	08/05/2022	08/04/2023		4,541,933	4145.19000000		456,464		143,977		143,977	(312,487)	0						0003
155033 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0IP21HZNB6K528	08/05/2022	08/06/2024		436,916	4145.19000000		64,251		37,071		37,071	(27,179)	0						0003
155036 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL C2RNE81BXP4R0TD8PU41	08/05/2022	08/04/2023		26,362,596	4145.19000000		2,641,532		929,375		929,375	(1,712,157)	0						0003
155038 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	08/05/2022	08/04/2023		8,078,561	4145.19000000		811,895		232,576		232,576	(579,319)	0						0003
155042 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	08/05/2022	08/04/2023		1,886,671	165.29000000		162,820		102,822		102,822	(59,997)	0						0003
155046 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	08/05/2022	08/04/2023		25,711,610	98.55000000		77,058		6,776		6,776	(70,282)	0						0003
155047 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	08/05/2022	08/04/2023		629,017	98.55000000		57,555		6,677		6,677	(50,878)	0						0003
155051 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	08/05/2022	08/04/2023		942,488	65.01000000		82,373		52,494		52,494	(29,879)	0						0003
155062 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	08/05/2022	08/04/2023		2,187,109	65.01000000		56,494		18,959		18,959	(37,535)	0						0003
155076 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. ES70DZIVZ7F32WEFA76	08/05/2022	08/04/2023		62,835,982	4145.19000000		45,216		5,117		5,117	(40,099)	0						0003
155084 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	08/05/2022	08/04/2023		62,336,146	4145.19000000		17,454		2,412		2,412	(15,042)	0						0003
155106 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	08/05/2022	08/04/2023		51,796,971	4145.19000000		16,575		2,598		2,598	(13,977)	0						0003
155114 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	08/05/2022	08/04/2023		52,363,692	4145.19000000		13,615		2,255		2,255	(11,360)	0						0003
155120 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	08/05/2022	08/04/2023		49,546,455	4145.19000000		4,955		885		885	(4,069)	0						0003
155127 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	08/05/2022	08/04/2023		51,553,666	4145.19000000		186,624		38,173		38,173	(148,451)	0						0003
155143 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	STANLEY/CLEARED THROUGH CBO 9R7GPT307KV3UQJZ0078	08/05/2022	08/04/2023		41,620,022	165.29000000		28,656		10,553		10,553	(18,103)	0						0003

E18.18

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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 Year-end (b)	
155155 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	08/05/2022	08/04/2023		58,032,660	4145.19000000		31,118		2,520		2,520	(28,599)	0						0003
155775 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	08/19/2022	08/18/2023		31,502,029	162.72000000		13,291		5,586		5,586	(7,706)	0						0003
155791 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	08/19/2022	08/18/2023		20,725,985	100.66000000		18,334		1,479		1,479	(16,855)	0						0003
155798 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	08/19/2022	08/18/2023		1,230,160	64.69000000		14,317		5,184		5,184	(9,133)	0						0003
155804 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	08/19/2022	08/18/2023		1,958,716	4228.48000000		197,634		53,287		53,287	(144,347)	0						0003
155808 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	08/19/2022	08/18/2023		3,058,169	4228.48000000		306,153		93,685		93,685	(212,469)	0						0003
155814 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	08/19/2022	08/18/2023		229,659	100.66000000		21,772		2,611		2,611	(19,160)	0						0003
155815 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	08/19/2022	08/18/2023		47,755,733	4228.48000000		477		35		35	(442)	0						0003
155818 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	08/19/2022	08/18/2023		5,208,734	4228.48000000		525,561		127,026		127,026	(398,535)	0						0003
155819 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	08/19/2022	08/18/2023		331,929	64.69000000		28,845		26,865		26,865	(1,980)	0						0003
155828 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	08/19/2022	08/20/2024		1,015,781	4228.48000000		150,874		82,249		82,249	(68,625)	0						0003
155831 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	08/19/2022	08/18/2023		761,373	162.72000000		66,087		44,232		44,232	(21,855)	0						0003
155834 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	08/19/2022	08/20/2024		270,868	100.66000000		37,353		11,179		11,179	(26,174)	0						0003
155837 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/19/2022	08/18/2023		50,535,551	4228.48000000		66,707		7,197		7,197	(59,510)	0						0003
155839 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	08/19/2022	08/20/2024		199,720	64.69000000		26,862		28,270		28,270	1,407	0						0003
155842 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	08/19/2022	08/18/2023		230,255	100.66000000		21,253		1,994		1,994	(19,259)	0						0003
155845 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	08/19/2022	08/18/2028		25,122,464	4228.48000000		6,390,652		4,948,312		4,948,312	(1,442,341)	0						0003
155852 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/19/2022	08/18/2023		46,353,664	4228.48000000		17,614		2,182		2,182	(15,433)	0						0003
155859 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/19/2022	08/18/2023		50,483,846	4228.48000000		14,135		1,813		1,813	(12,322)	0						0003
155864 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	08/19/2022	08/18/2023		179,293	64.69000000		16,101		9,268		9,268	(6,832)	0						0003
155872 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	08/19/2022	08/20/2024		692,036	4228.48000000		102,324		47,573		47,573	(54,751)	0						0003
155873 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/19/2022	08/18/2023		52,602,823	4228.48000000		7,890		1,102		1,102	(6,788)	0						0003
155875 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	08/19/2022	08/18/2023		13,129,130	4228.48000000		1,300,572		381,789		381,789	(918,782)	0						0003
155882 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/19/2022	08/18/2023		46,223,249	4228.48000000		81,353		14,215		14,215	(67,138)	0						0003
155888 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/19/2022	08/18/2023		50,019,752	4228.48000000		255,601		48,411		48,411	(207,190)	0						0003

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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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 Year-end (b)	
156450 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0WP21H2ZNB6K528	09/06/2022	09/06/2023		35,303,711	158.33000000		15,100		7,109		7,109	(7,991)	0					0003	
156458 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGFU57RNE97	09/06/2022	09/06/2023		24,469,038	94.28000000		43,569		6,582		6,582	(36,987)	0					0003	
156474 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G071XBU11	09/06/2022	09/06/2023		1,848,391	60.32000000		21,990		8,033		8,033	(13,956)	0					0003	
156502 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUJISFPU8MPRO8K5P83	09/06/2022	09/06/2023		3,306,666	3908.19000000		354,838		249,642		249,642	(105,196)	0					0003	
156507 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G071XBU11	09/06/2022	09/06/2023		172,622	94.28000000		17,262		5,170		5,170	(12,092)	0					0003	
156508 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/06/2022	09/06/2023		50,024,832	3908.19000000		21,392		2,431		2,431	(18,961)	0					0003	
156525 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1D0SPRFM1M0JFX09	09/06/2022	09/06/2023		357,096	60.32000000		32,174		50,008		50,008	17,833	0					0003	
156526 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/06/2022	09/06/2023		30,093,063	3908.19000000		20,715		3,375		3,375	(17,340)	0					0003	
156533 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/06/2022	09/06/2023		54,714,660	3908.19000000		20,544		3,962		3,962	(16,582)	0					0003	
156534 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUJISFPU8MPRO8K5P83	09/06/2022	09/06/2024		955,742	3908.19000000		147,528		125,610		125,610	(21,919)	0					0003	
156541 Call Options - S&P 500	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		15,013		3,020		3,020	(11,993)	0					0003	
156542 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G071XBU11	09/06/2022	09/06/2024		94,265	94.28000000		13,348		6,498		6,498	(6,850)	0					0003	
156549 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/06/2022	09/06/2023		74,255,610	3908.19000000		12,392		2,687		2,687	(9,704)	0					0003	
156551 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUJISFPU8MPRO8K5P83	09/06/2022	09/06/2024		343,793	60.32000000		47,241		66,214		66,214	18,974	0					0003	
156559 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/06/2022	09/06/2023		46,898,280	3908.19000000		25,435		6,116		6,116	(19,319)	0					0003	
156564 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL 02RNE81BXP4R0TD8PU41	09/06/2022	09/06/2028		23,838,223	3908.19000000		6,314,745		6,100,083		6,100,083	(214,662)	0					0003	
156569 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/06/2022	09/06/2023		65,266,773	3908.19000000		139,549		35,306		35,306	(104,243)	0					0003	
156578 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/06/2022	09/06/2023		44,944,185	3908.19000000		178,599		53,543		53,543	(125,056)	0					0003	
156589 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUJISFPU8MPRO8K5P83	09/06/2022	09/06/2023		2,255,130	3908.19000000		241,682		130,572		130,572	(111,110)	0					0003	

E18.20

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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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 Year-end (b)		
156595 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	09/06/2022	09/06/2024		403,880	3908.19000000		62,278		44,489		44,489	(17,789)	0					0003		
156599 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8PRO8K5P83	09/06/2022	09/06/2023		14,757,773	3908.19000000		1,565,505		960,907		960,907	(604,598)	0						0003	
156600 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	09/06/2022	09/06/2023		884,935	94.28000000		87,520		19,238		19,238	(68,282)	0						0003	
156604 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	09/06/2022	09/06/2023		4,886,134	3908.19000000		524,282		209,030		209,030	(315,252)	0						0003	
156610 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	09/06/2022	09/06/2023		638,262	60.32000000		61,784		46,573		46,573	(15,210)	0						0003	
156622 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSRPFMYMCJFXT09	09/06/2022	09/06/2023		1,157,091	158.33000000		101,014		75,994		75,994	(25,020)	0						0003	
156934 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8PRO8K5P83	09/20/2022	09/20/2023		3,523,438	3855.93000000		390,009		307,377		307,377	(82,633)	0						0003	
156935 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUH3JPF6FNF3BB653	09/20/2022	09/20/2023		63,079,530	3855.93000000		94,646		16,593		16,593	(78,052)	0						0003	
156940 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	09/20/2022	09/20/2023		478,676	89.16000000		46,288		26,988		26,988	(19,300)	0						0003	
156943 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQUH3JPF6FNF3BB653	09/20/2022	09/20/2023		39,316,957	3855.93000000		11,532		2,205		2,205	(9,327)	0						0003	
156950 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8PRO8K5P83	09/20/2022	09/20/2023		473,517	59.58000000		44,994		74,888		74,888	29,894	0						0003	
156960 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	09/20/2022	09/20/2023		61,799,202	3855.93000000		218,213		81,426		81,426	(136,787)	0						0003	
156968 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8PRO8K5P83	09/20/2022	09/20/2024		925,774	3855.93000000		147,494		131,920		131,920	(15,574)	0						0003	
156973 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSRPFMYMCJFXT09	09/20/2022	09/20/2024		62,062	89.16000000		9,142		6,133		6,133	(3,009)	0						0003	
156977 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8PRO8K5P83	09/20/2022	09/20/2024		110,613	59.58000000		16,109		22,674		22,674	6,565	0						0003	
156988 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	09/20/2022	09/20/2028		14,097,545	3855.93000000		3,857,088		3,741,880		3,741,880	(115,208)	0						0003	
156990 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507KV3UJZ0078	09/20/2022	09/20/2023		29,664,891	155.07000000		15,223		7,139		7,139	(8,084)	0						0003	
156991 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	09/20/2022	09/20/2023		2,232,716	3855.93000000		247,608		125,968		125,968	(121,640)	0						0003	
157000 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPT507KV3UJZ0078	09/20/2022	09/20/2023		63,237,252	3855.93000000		30,695		5,457		5,457	(25,238)	0						0003	
157002 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8PRO8K5P83	09/20/2022	09/20/2024		170,466	3855.93000000		26,901		15,289		15,289	(11,612)	0						0003	
157009 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6KMZ0031MB27	09/20/2022	09/20/2023		13,216,543	3855.93000000		1,464,393		950,316		950,316	(514,077)	0						0003	
157013 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	09/20/2022	09/20/2023		4,167,330	3855.93000000		462,157		204,824		204,824	(257,333)	0						0003	

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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 Year-end (b)	
157014 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	50,512,683	3855.93000000			26,970		7,989		7,989	(18,981)	0					0003	
157025 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	09/20/2022	09/20/2023	812,140	155.07000000			74,717		57,039		57,039	(17,678)	0					0003	
157027 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	56,296,578	3855.93000000			5,010		1,624		1,624	(3,385)	0					0003	
157038 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2022	09/20/2023	45,885,567	3855.93000000			13,735		5,247		5,247	(8,488)	0					0003	
157044 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	09/20/2022	09/20/2023	667,083	89.16000000			62,973		23,651		23,651	(39,322)	0					0003	
157056 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	09/20/2022	09/20/2023	670,031	59.58000000			63,318		43,472		43,472	(19,846)	0					0003	
157067 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	09/20/2022	09/20/2023	20,665,997	89.16000000			31,268		7,630		7,630	(23,637)	0					0003	
157075 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	09/20/2022	09/20/2023	1,126,864	59.58000000			19,741		6,814		6,814	(12,927)	0					0003	
157991 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	46,293,184	3744.52000000			111,106		17,736		17,736	(93,370)	0					0003	
158003 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/06/2022	10/06/2023	4,045,207	3744.52000000			465,603		450,371		450,371	(15,232)	0					0003	
158005 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/06/2022	10/06/2023	63,179,941	3744.52000000			17,896		3,536		3,536	(14,360)	0					0003	
158012 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	10/06/2022	10/06/2023	241,034	80.52000000			26,899		28,301		28,301	1,402	0					0003	
158017 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	10/06/2022	10/06/2023	185,544	57.75000000			19,408		34,819		34,819	15,411	0					0003	
158019 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	62,196,830	3744.52000000			8,571		1,934		1,934	(6,637)	0					0003	
158026 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/06/2022	10/04/2024	896,229	3744.52000000			146,838		148,590		148,590	1,752	0					0003	
158030 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	38,120,554	3744.52000000			53,844		12,228		12,228	(41,616)	0					0003	
158033 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	10/06/2022	10/04/2024	15,844	80.52000000			2,529		2,605		2,605	77	0					0003	
158039 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	10/06/2022	10/04/2024	141,458	57.75000000			20,879		32,770		32,770	11,890	0					0003	
158041 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	47,710,974	3744.52000000			151,217		48,525		48,525	(102,692)	0					0003	
158047 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	10/06/2022	10/06/2028	20,222,236	3744.52000000			5,633,915		5,876,902		5,876,902	242,987	0					0003	
158061 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	65,354,199	3744.52000000			159,855		74,494		74,494	(85,361)	0					0003	

E18.22

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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 Year-end (b)	
158082 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIGC71XB11	10/06/2022	10/06/2023		4,616,130	3744.52000000		525,316		311,209		311,209	(214,107)	0					0003	
158086 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	10/06/2022	10/06/2023		35,198,415	159.63000000		54,685		22,375		22,375	(32,309)	0					0003	
158087 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6GKMZ0031MB27	10/06/2022	10/04/2024		100,419	3744.52000000		16,308		11,249		11,249	(5,059)	0					0003	
158094 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	10/06/2022	10/06/2023		47,180,952	3744.52000000		33,962		12,260		12,260	(21,703)	0					0003	
158095 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL 02RNE81BXP4R0TD8PU41	10/06/2022	10/06/2023		24,875,063	3744.52000000		2,838,245		2,025,310		2,025,310	(812,935)	0					0003	
158103 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL 02RNE81BXP4R0TD8PU41	10/06/2022	10/06/2023		7,184,033	3744.52000000		819,698		423,070		423,070	(396,628)	0					0003	
158116 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL 02RNE81BXP4R0TD8PU41	10/06/2022	10/06/2023		2,727,383	159.63000000		255,010		168,286		168,286	(86,724)	0					0003	
158121 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL 02RNE81BXP4R0TD8PU41	10/06/2022	10/06/2023		793,966	80.52000000		90,115		46,043		46,043	(44,072)	0					0003	
158126 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIGC71XB11	10/06/2022	10/06/2023		278,347	57.75000000		28,948		21,382		21,382	(7,566)	0					0003	
158130 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	10/06/2022	10/06/2023		23,483,135	80.52000000		41,924		13,095		13,095	(28,829)	0					0003	
158140 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIGC71XB11	10/06/2022	10/06/2023		1,677,140	57.75000000		23,225		9,047		9,047	(14,178)	0					0003	
158151 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC 4PQJHNSJPFQFNFB3B653	10/06/2022	10/06/2023		49,799,100	3744.52000000		42,890		4,713		4,713	(38,177)	0					0003	
158672 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	10/20/2022	10/20/2023		28,796,103	151.45000000		13,142		6,345		6,345	(6,797)	0					0003	
158674 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIGC71XB11	10/20/2022	10/20/2023		2,008,690	3665.78000000		240,038		147,970		147,970	(92,068)	0					0003	
158676 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUJISFPUMPR08K5P83	10/20/2022	10/18/2024		898,038	3665.78000000		152,047		96,590		96,590	(55,456)	0					0003	
158681 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	10/20/2022	10/20/2023		14,653,055	3665.78000000		1,729,061		1,363,260		1,363,260	(365,801)	0					0003	
158683 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	10/20/2022	10/20/2023		6,980,089	3665.78000000		823,650		465,231		465,231	(358,419)	0					0003	
158690 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGOFU57RNE97	10/20/2022	10/20/2023		19,002,747	78.33000000		41,789		13,947		13,947	(27,842)	0					0003	
158692 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSRPFMYMCJFX09	10/20/2022	10/20/2023		459,117	151.45000000		44,993		31,036		31,036	(13,958)	0					0003	
158702 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSRPFMYMCJFX09	10/20/2022	10/20/2023		473,581	78.33000000		51,573		30,932		30,932	(20,641)	0					0003	
158703 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIGC71XB11	10/20/2022	10/20/2023		2,086,526	56.96000000		135,990		47,906		47,906	(88,083)	0					0003	
158711 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSRPFMYMCJFX09	10/20/2022	10/20/2023		1,215,681	56.96000000		128,741		112,464		112,464	(16,277)	0					0003	
158715 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	10/20/2022	10/20/2023		59,553,688	3665.78000000		134,925		58,369		58,369	(76,556)	0					0003	

E18.23

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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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 Year-end (b)
158737 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	10/20/2022	10/20/2023		5,110,902	3665.78000000		609,526		663,857		663,857	54,331	0					0003
158741 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	10/20/2022	10/20/2023		404,984	78.33000000		46,087		57,410		57,410	11,323	0					0003
158744 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	10/20/2022	10/20/2023		404,133	56.96000000		43,606		82,418		82,418	38,812	0					0003
158747 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	10/20/2022	10/18/2024		939,564	3665.78000000		160,853		173,016		173,016	12,163	0					0003
158751 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/20/2022	10/18/2024		29,522	78.33000000		4,996		5,412		5,412	416	0					0003
158755 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	10/20/2023		73,315,600	3665.78000000		45,308		6,420		6,420	(38,888)	0					0003
158756 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	10/20/2022	10/18/2024		61,368	56.96000000		9,402		15,139		15,139	5,737	0					0003
158763 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	10/20/2022	10/20/2028		13,766,781	3665.78000000		4,017,147		4,186,180		4,186,180	169,033	0					0003
158776 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	10/20/2023		43,989,360	3665.78000000		110,277		21,493		21,493	(88,784)	0					0003
158792 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	10/20/2023		79,914,004	3665.78000000		1,864		420		420	(1,444)	0					0003
158810 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	10/20/2023		31,892,286	3665.78000000		15,990		3,706		3,706	(12,284)	0					0003
158821 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2022	10/20/2023		50,221,186	3665.78000000		235,988		63,393		63,393	(172,596)	0					0003
159728 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/04/2022	11/06/2023		39,822,474	3770.55000000		113,019		20,106		20,106	(92,912)	0					0003
159729 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/04/2022	11/06/2023		7,364,910	3770.55000000		854,035		826,643		826,643	(27,392)	0					0003
159734 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	11/04/2022	11/06/2023		643,590	82.65000000		71,117		67,890		67,890	(3,227)	0					0003
159740 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/04/2022	11/06/2023		837,225	60.75000000		87,448		125,961		125,961	38,513	0					0003
159744 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	11/04/2022	11/06/2024		868,257	3770.55000000		147,951		143,284		143,284	(4,667)	0					0003
159748 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/04/2022	11/06/2023		54,126,322	3770.55000000		37,467		7,836		7,836	(29,630)	0					0003
159749 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/04/2022	11/06/2024		58,290	82.65000000		9,936		8,584		8,584	(1,352)	0					0003
159757 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/04/2022	11/06/2024		177,389	60.75000000		26,922		34,565		34,565	7,643	0					0003
159760 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/04/2022	11/06/2023		57,070,214	3770.55000000		40,822		9,120		9,120	(31,702)	0					0003

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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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 Year-end (b)		
160837 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8P8K5P83	11/18/2022	11/20/2024	89,158	86.59000000			13,300		10,654		10,654	(2,646)	0						0003	
160838 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8P8K5P83	11/18/2022	11/20/2023	1,827,310	65.15000000			185,289		106,526		106,526	(78,763)	0							0003
160844 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8P8K5P83	11/18/2022	11/20/2024	130,127	65.15000000			19,429		18,661		18,661	(769)	0							0003
160849 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8P8K5P83	11/18/2022	11/20/2028	11,388,198	3965.34000000			3,202,248		2,808,252		2,808,252	(393,995)	0							0003
160853 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023	29,725,454	162.79000000			31,198		10,961		10,961	(20,237)	0							0003
160855 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LROVP21HZNB6K528	11/18/2022	11/20/2023	18,816,034	86.59000000			43,410		11,812		11,812	(31,598)	0							0003
160874 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023	1,732,990	65.15000000			66,305		23,366		23,366	(42,939)	0							0003
160896 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023	47,980,614	3965.34000000			79,261		12,033		12,033	(67,228)	0							0003
160908 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIWZ7FF32TWEFA76	11/18/2022	11/20/2023	60,984,398	3965.34000000			12,140		1,366		1,366	(10,774)	0							0003
160909 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023	47,187,546	3965.34000000			22,198		4,480		4,480	(17,718)	0							0003
160921 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023	34,101,924	3965.34000000			137,665		30,717		30,717	(106,948)	0							0003
160932 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023	68,203,848	3965.34000000			255,184		56,719		56,719	(198,465)	0							0003
160943 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/18/2022	11/20/2023	51,764,770	3965.34000000			142,222		60,244		60,244	(81,978)	0							0003
160992 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023	51,152,886	3965.34000000			8,954		2,618		2,618	(6,336)	0							0003
161763 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIG71XBU11	12/06/2022	12/06/2023	5,463,718	3941.26000000			599,916		302,240		302,240	(297,677)	0							0003
161779 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8P8K5P83	12/06/2022	12/06/2024	1,118,800	3941.26000000			176,938		120,624		120,624	(56,315)	0							0003
161804 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8P8K5P83	12/06/2022	12/06/2023	23,306,473	3941.26000000			2,524,790		1,649,144		1,649,144	(875,646)	0							0003
161806 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	12/06/2022	12/06/2023	8,389,402	3941.26000000			914,945		408,568		408,568	(506,377)	0							0003
161812 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSRPFMYMCFXT09	12/06/2022	12/06/2023	1,423,277	164.84000000			131,795		57,439		57,439	(74,356)	0							0003

E18.26

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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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 Year-end (b)	
161817 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8P8K5P83	12/06/2022	12/06/2023		6,573,399	3941.26000000		720,050		571,937		571,937	(148,113)	0					0003	
161819 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL ... C2RNE81BXP4ROTD8PU41	12/06/2022	12/06/2023		1,299,948	86.37000000		120,895		58,561		58,561	(62,334)	0					0003	
161823 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8P8K5P83	12/06/2022	12/06/2023		735,999	86.37000000		75,065		63,559		63,559	(11,505)	0					0003	
161826 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	12/06/2022	12/06/2023		984,274	66.53000000		101,971		50,235		50,235	(51,736)	0					0003	
161828 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8P8K5P83	12/06/2022	12/06/2023		879,195	66.53000000		87,744		76,681		76,681	(11,063)	0					0003	
161833 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL ... C2RNE81BXP4ROTD8PU41	12/06/2022	12/06/2023		19,222,071	86.37000000		60,244		17,624		17,624	(42,620)	0					0003	
161834 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	12/06/2022	12/06/2024		1,614,887	3941.26000000		258,705		220,100		220,100	(38,605)	0					0003	
161846 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8P8K5P83	12/06/2022	12/06/2024		251,335	86.37000000		35,740		30,942		30,942	(4,798)	0					0003	
161847 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	12/06/2022	12/06/2023		28,863,484	164.84000000		15,310		5,231		5,231	(10,079)	0					0003	
161852 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8P8K5P83	12/06/2022	12/06/2024		108,908	66.53000000		15,695		14,274		14,274	(1,421)	0					0003	
161858 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	12/06/2022	12/06/2023		2,601,323	66.53000000		161,248		65,959		65,959	(95,289)	0					0003	
161859 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6KMZ0031MB27	12/06/2022	12/06/2028		22,729,793	3941.26000000		6,129,770		5,735,967		5,735,967	(393,804)	0					0003	
161874 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	12/06/2022	12/06/2023		42,959,734	3941.26000000		2,294		245		245	(2,049)	0					0003	
161886 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	12/06/2022	12/06/2023		42,565,608	3941.26000000		35,459		5,231		5,231	(30,229)	0					0003	
161899 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIZ7FF32WIFA76	12/06/2022	12/06/2023		49,665,993	3941.26000000		17,327		3,042		3,042	(14,285)	0					0003	
161925 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIZ7FF32WIFA76	12/06/2022	12/06/2023		38,914,411	3941.26000000		36,485		7,207		7,207	(29,278)	0					0003	
161942 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIZ7FF32WIFA76	12/06/2022	12/06/2023		48,696,422	3941.26000000		650,875		143,708		143,708	(507,167)	0					0003	
161964 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIZ7FF32WIFA76	12/06/2022	12/06/2023		56,516,003	3941.26000000		471,966		196,974		196,974	(274,991)	0					0003	
162535 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIISFPUBM8P8K5P83	12/20/2022	12/20/2023		8,394,238	3821.62000000		931,509		926,278		926,278	(5,231)	0					0003	
162539 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	12/20/2022	12/20/2023		597,560	83.29000000		61,190		60,554		60,554	(636)	0					0003	
162540 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	12/20/2022	12/20/2023		27,965,832	169.08000000		21,146		6,240		6,240	(14,906)	0					0003	

E18.27

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 1

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162545 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023		1,037,253	65.52000000		106,536		99,664		99,664	(6,872)	0					0003	
162559 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	12/20/2022	12/20/2023		1,074,528	65.52000000		52,573		16,594		16,594	(35,979)	0					0003	
162561 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	12/20/2022	12/20/2024		2,724,290	3821.62000000		434,797		434,837		434,837	41	0					0003	
162570 Call Options - Ishares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	12/20/2022	12/20/2024		82,617	83.29000000		12,393		11,923		11,923	(469)	0					0003	
162576 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2024		586,086	65.52000000		83,541		81,459		81,459	(2,082)	0					0003	
162582 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	12/20/2022	12/20/2028		29,633,776	3821.62000000		8,015,936		8,186,337		8,186,337	170,401	0					0003	
162596 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023		47,770,250	3821.62000000		7,223		840		840	(6,382)	0					0003	
162601 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023		45,095,116	3821.62000000		78,410		12,562		12,562	(65,848)	0					0003	
162614 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023		45,859,440	3821.62000000		10,401		2,013		2,013	(8,388)	0					0003	
162625 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023		50,063,222	3821.62000000		22,168		4,729		4,729	(17,439)	0					0003	
162644 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023		65,731,864	3821.62000000		225,747		59,164		59,164	(166,583)	0					0003	
162660 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023		50,063,222	3821.62000000		321,162		109,196		109,196	(211,966)	0					0003	
162677 Call Options - Ishares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	12/20/2022	12/20/2023		19,835,611	83.29000000		80,106		22,912		22,912	(57,194)	0					0003	
162692 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023		33,391,749	3821.62000000		88,624		44,456		44,456	(44,168)	0					0003	
162699 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023		53,884,842	3821.62000000		168,765		38,644		38,644	(130,121)	0					0003	
162705 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	12/20/2022	12/20/2023		1,256,200	169.08000000		119,213		43,311		43,311	(75,902)	0					0003	
162706 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	12/20/2022	12/20/2023		5,644,328	3821.62000000		615,796		346,920		346,920	(268,877)	0					0003	
162710 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	12/20/2022	12/20/2024		1,156,895	3821.62000000		184,641		147,274		147,274	(37,366)	0					0003	
162713 Call Options - Ishares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	12/20/2022	12/20/2023		1,418,171	83.29000000		143,661		74,797		74,797	(68,863)	0					0003	

E18.28

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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 Year-end (b)	
144653 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	12/20/2021	12/20/2023		1,056,323	5794.07656800	(13,408)					0	0	0					0003	
145225 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	01/06/2022	01/06/2023		2,798,042	5308.51783799		(44,801)				0	44,801	0						0003
145229 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	01/06/2022	01/05/2024		384,805	5992.22694263		(4,011)				0	4,011	0						0003
145232 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL 02RNE81BX4P40TD8PU41	01/06/2022	01/06/2023		23,754,892	5666.94251786		(122,047)				0	122,047	0						0003
145234 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	01/06/2022	01/06/2023		11,442,260	5160.49788445		(289,050)				0	289,050	0						0003
145248 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	01/06/2022	01/06/2023		1,927,916	199.56154853		(30,491)				0	30,491	0						0003
145251 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	01/06/2022	01/06/2023		37,159,612	175.52957873		(13,032)				0	13,032	0						0003
145258 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	01/06/2022	01/06/2023		1,534,971	131.65401394		(12,102)				0	12,102	0						0003
145264 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	01/06/2022	01/06/2023		1,140,544	82.05354100		(8,920)				0	8,920	0						0003
145268 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	01/06/2022	01/06/2023		907,243	90.58171440		(7,473)				0	7,473	0						0003
145275 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	01/06/2022	01/06/2023		47,472,714	4795.22367768		(970)				0	970	0						0003
145279 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	01/06/2022	01/06/2023		66,010,910	4889.69705917		(9,870)				0	9,870	0						0003
145283 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	01/06/2022	01/06/2023		48,662,715	4915.42579469		(143,256)				0	143,256	0						0003
145301 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. ES70DZIVZ7FF32WEFA76	01/06/2022	01/06/2023		49,114,830	4831.50445368		(17,165)				0	17,165	0						0003
145303 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. ES70DZIVZ7FF32WEFA76	01/06/2022	01/06/2023		45,851,203	4844.01909885		(30,660)				0	30,660	0						0003
145304 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. ES70DZIVZ7FF32WEFA76	01/06/2022	01/06/2023		51,619,210	4868.70421671		(21,285)				0	21,285	0						0003
145321 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0WP21HZNB6K528	01/06/2022	01/06/2023		20,207,710	117.56127897		(14,802)				0	14,802	0						0003
145778 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0WP21HZNB6K528	01/20/2022	01/20/2023		18,857,305	111.60199670		(24,802)				0	24,802	0						0003
145779 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	01/20/2022	01/20/2023		978,662	80.50794588		(10,370)				0	10,370	0						0003
145785 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	01/20/2022	01/20/2023		57,768,942	4696.66196729		(56,956)				0	56,956	0						0003
145808 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	01/20/2022	01/20/2023		2,953,081	5060.62204920		(53,625)				0	53,625	0						0003

E18.34

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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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 Year-end (b)
145832 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON				328,302	5708.18688109		(3,607)				0	3,607	0					0003
145835 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.				14,893,634	5444.05390905		(74,003)				0	74,003	0					0003
145873 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA				6,360,091	4939.98601341		(170,256)				0	170,256	0					0003
145874 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO				30,273,100	180.62708954		(4,957)				0	4,957	0					0003
145880 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO				49,415,494	4618.27050527		(15,797)				0	15,797	0					0003
145882 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO				57,089,093	4641.38967635		(14,283)				0	14,283	0					0003
145885 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO				52,756,937	4668.75547264		(18,601)				0	18,601	0					0003
145887 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO				38,898,167	4686.52620033		(62,665)				0	62,665	0					0003
145891 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA				1,491,030	207.81064199		(19,090)				0	19,090	0					0003
145897 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA				906,534	90.54149340		(6,509)				0	6,509	0					0003
145898 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA				792,302	126.97566584		(5,338)				0	5,338	0					0003
146374 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL				3,105,389	5118.90282200		(56,243)				0	56,243	0					0003
146376 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON				969,006	5698.57108600		(18,359)				0	18,359	0					0003
146379 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.				14,589,583	5468.14395000		(82,854)				0	82,854	0					0003
146383 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL				9,973,178	4933.93103900		(310,212)				0	310,212	0					0003
146393 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC				2,154,359	200.25107400		(37,605)				0	37,605	0					0003
146400 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC				935,164	124.07442600		(4,358)				0	4,358	0					0003
146409 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON				758,946	88.73565500		(488)				0	488	0					0003
146416 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL				29,333,625	111.25907900		(16,063)				0	16,063	0					0003
146419 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.				1,754,133	79.47793600		(9,540)				0	9,540	0					0003

E18.35

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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146422 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/04/2022	02/06/2023	46,337,349	177.74203600	(7,996)						0	7,996	0					0003	
146430 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/04/2022	02/06/2023	85,707,643	4632.84558200	(20,574)						0	20,574	0					0003	
146435 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/04/2022	02/06/2023	64,765,642	4659.39870900	(3,243)						0	3,243	0					0003	
146437 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	02/04/2022	02/06/2023	56,359,771	4699.00337300	(53,069)						0	53,069	0					0003	
146439 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/04/2022	02/06/2023	43,541,683	4681.90135900	(8,871)						0	8,871	0					0003	
146446 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/04/2022	02/06/2023	54,790,352	4723.30623500	(72,998)						0	72,998	0					0003	
147067 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	02/18/2022	02/17/2023	1,105,060	87.34047000	(10,766)						0	10,766	0					0003	
147079 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	02/18/2022	02/17/2023	25,246,700	107.22501300	(26,746)						0	26,746	0					0003	
147087 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/18/2022	02/17/2023	41,405,463	186.25899200	(18,692)						0	18,692	0					0003	
147089 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	02/18/2022	02/17/2023	1,453,373	78.54543000	(15,560)						0	15,560	0					0003	
147112 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	02/18/2022	02/17/2023	64,283,675	4447.15446200	(20,427)						0	20,427	0					0003	
147128 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	02/18/2022	02/17/2023	58,724,397	4479.33610000	(19,990)						0	19,990	0					0003	
147134 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	02/18/2022	02/17/2023	53,774,550	4501.51533700	(7,308)						0	7,308	0					0003	
147136 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	02/18/2022	02/17/2023	48,143,138	4525.86900900	(16,254)						0	16,254	0					0003	
147138 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	02/18/2022	02/17/2023	55,791,239	4548.91802000	(131,548)						0	131,548	0					0003	
147141 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	02/18/2022	02/17/2023	46,979,277	4561.09485600	(154,577)						0	154,577	0					0003	
147154 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	02/18/2022	02/17/2023	3,441,542	4900.74160300	(79,709)						0	79,709	0					0003	
147157 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	02/18/2022	02/20/2024	108,639	5566.55360000	(1,664)						0	1,664	0					0003	
147159 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	02/18/2022	02/17/2023	19,463,164	5388.68481700	(86,391)						0	86,391	0					0003	

E18.36

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 1

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148450 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	03/18/2022	03/20/2023	1,719,795	219.39148000			(43,290)				0	43,290	0					0003	
148460 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	03/18/2022	03/20/2023	1,651,066	121.58808700			(35,352)				0	35,352	0					0003	
148462 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO ROYAL BANK OF CANADA	03/18/2022	03/20/2023	65,208,058	4624.68494400			(6,023)				0	6,023	0					0003	
148472 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	CANADA	03/18/2022	03/20/2023	645,348	85.24123500			(10,221)				0	10,221	0					0003	
148481 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	03/18/2022	03/20/2023	32,880,052	111.64006700			(21,955)				0	21,955	0					0003	
148487 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	03/18/2022	03/20/2023	1,256,128	76.91997900			(10,525)				0	10,525	0					0003	
148491 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	03/18/2022	03/20/2023	49,652,639	4555.95289600			(6,435)				0	6,435	0					0003	
148499 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	03/18/2022	03/20/2023	84,697,006	4596.56728800			(17,100)				0	17,100	0					0003	
148503 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	03/18/2022	03/20/2023	55,523,470	4643.43004800			(45,037)				0	45,037	0					0003	
148505 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	03/18/2022	03/20/2023	59,612,310	4659.05096800			(84,345)				0	84,345	0					0003	
148510 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	03/18/2022	03/20/2023	58,822,516	4674.22557600			(113,308)				0	113,308	0					0003	
149295 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	04/06/2022	04/06/2023	5,749,587	5113.44026500			(116,392)				0	116,392	0					0003	
149298 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/06/2022	04/05/2024	103,433	5376.48377000			(3,627)				0	3,627	0					0003	
149300 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	04/06/2022	04/06/2023	39,268,397	5587.54593500			(207,853)				0	207,853	0					0003	
149302 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	04/06/2022	04/06/2023	13,005,065	4918.51024000			(449,656)				0	449,656	0					0003	
149306 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	04/06/2022	04/06/2023	1,489,768	221.16146000			(33,281)				0	33,281	0					0003	
149310 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	04/06/2022	04/06/2023	52,944,582	189.02028600			(7,701)				0	7,701	0					0003	
149314 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO	04/06/2022	04/06/2023	1,444,402	129.22189500			(19,054)				0	19,054	0					0003	
149322 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC BNP PARIBAS LONDON	04/06/2022	04/06/2023	622,906	84.56464000			(4,905)				0	4,905	0					0003	
149326 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	04/06/2022	04/06/2023	42,615,594	116.87346000			(24,526)				0	24,526	0					0003	
149328 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	04/06/2022	04/06/2023	1,375,374	76.36408000			(10,971)				0	10,971	0					0003	

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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 Year-end (b)		
149337 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	04/06/2023	41,725,780	4636.19779000			(121,408)				0	121,408	0					0003		
149340 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	04/06/2023	49,419,198	4662.18846000			(8,570)				0	8,570	0						0003	
149341 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	04/06/2022	04/06/2023	82,437,540	4612.89581000			(6,382)				0	6,382	0						0003	
149344 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	04/06/2023	55,602,692	4672.49510500			(10,043)				0	10,043	0						0003	
149347 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	04/06/2023	51,974,125	4682.35363500			(106,490)				0	106,490	0						0003	
149351 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/06/2022	04/06/2023	53,526,978	4695.34897000			(167,301)				0	167,301	0						0003	
149937 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	04/20/2022	04/20/2023	2,621,689	4968.71919000			(74,825)				0	74,825	0						0003	
149939 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	04/20/2022	04/19/2024	467,960	5565.83954500			(11,661)				0	11,661	0						0003	
149941 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	04/20/2022	04/20/2023	14,731,323	5445.88034000			(102,535)				0	102,535	0						0003	
149945 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/20/2022	04/20/2023	7,459,010	4912.08417500			(240,192)				0	240,192	0						0003	
149947 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/20/2022	04/20/2023	52,826,288	4553.99034000			(14,227)				0	14,227	0						0003	
149950 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/20/2022	04/20/2023	62,165,179	4604.82807000			(50,446)				0	50,446	0						0003	
149954 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	04/20/2022	04/20/2023	1,524,634	224.89773900			(34,929)				0	34,929	0						0003	
149957 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/20/2022	04/20/2023	68,725,654	4643.62528500			(15,022)				0	15,022	0						0003	
149961 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC ROYAL BANK OF CANADA	04/20/2022	04/20/2023	1,965,124	135.75504000			(18,415)				0	18,415	0						0003	
149965 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	04/20/2022	04/20/2023	483,581	80.34274800			(11,726)				0	11,726	0						0003	
149971 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/20/2022	04/20/2023	41,277,271	192.86867600			(10,660)				0	10,660	0						0003	
149972 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/20/2022	04/20/2023	55,315,731	4687.77384000			(5,327)				0	5,327	0						0003	
149975 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	04/20/2022	04/20/2023	31,762,345	119.30260800			(14,543)				0	14,543	0						0003	

E18.39

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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 Year-end (b)	
149977 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	04/20/2022	04/20/2023		1,653,619	76.33068000		(12,435)				0	12,435	0					0003	
149981 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	04/20/2022	04/20/2023		56,964,881	4707.84136500		(64,728)				0	64,728	0						0003
149983 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	04/20/2022	04/20/2023		75,173,751	4727.90889000		(61,937)				0	61,937	0						0003
150360 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/06/2022	05/05/2023		3,161,811	4658.13719800		(108,034)				0	108,034	0						0003
150362 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	05/06/2022	05/06/2024		283,647	5054.80250600		(9,556)				0	9,556	0						0003
150364 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	05/06/2022	05/05/2023		25,763,972	5037.89681200		(280,456)				0	280,456	0						0003
150367 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/06/2022	05/05/2023		6,828,852	4522.47931200		(316,476)				0	316,476	0						0003
150371 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/06/2022	05/05/2023		2,191,670	215.66134800		(52,768)				0	52,768	0						0003
150376 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/06/2022	05/05/2023		1,188,882	113.08742400		(41,456)				0	41,456	0						0003
150381 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/06/2022	05/05/2023		576,635	78.17446700		(8,783)				0	8,783	0						0003
150385 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/06/2022	05/05/2023		50,387,944	185.38385600		(28,249)				0	28,249	0						0003
150387 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/06/2022	05/05/2023		38,215,117	105.79983400		(20,454)				0	20,454	0						0003
150389 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/06/2022	05/05/2023		1,336,523	70.94294200		(11,254)				0	11,254	0						0003
150414 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/06/2022	05/05/2023		55,598,586	4365.79239200		(49,639)				0	49,639	0						0003
150423 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/06/2022	05/05/2023		53,613,728	4289.09826800		(39,330)				0	39,330	0						0003
151001 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO	05/20/2022	05/19/2023		42,039,200	182.54103300		(25,135)				0	25,135	0						0003
151003 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/20/2022	05/19/2023		1,764,522	4399.56367200		(63,214)				0	63,214	0						0003
151005 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/20/2022	05/20/2024		357,856	4701.52893600		(14,224)				0	14,224	0						0003
151007 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	05/20/2022	05/19/2023		20,035,867	4739.76226400		(251,005)				0	251,005	0						0003
151016 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	05/20/2022	05/19/2023		6,862,131	4276.67083200		(324,264)				0	324,264	0						0003
151027 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	05/20/2022	05/19/2023		2,819,904	210.34108100		(111,163)				0	111,163	0						0003
151031 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/20/2022	05/19/2023		697,984	106.46484800		(25,690)				0	25,690	0						0003
151035 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/20/2022	05/19/2023		438,315	76.76985600		(6,307)				0	6,307	0						0003

E18,40

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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151039 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	UBS AG MORGAN STANLEY & CO. INTERNATIONAL	05/20/2022	05/19/2023	32,537,243	100.84795200			(26,168)				0	26,168	0					0003		
151041 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	PLC MORGAN STANLEY & CO. INTERNATIONAL	05/20/2022	05/19/2023	62,622,761	4049.61168000			(5,902)				0	5,902	0						0003	
151043 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	PLC MORGAN STANLEY & CO. INTERNATIONAL	05/20/2022	05/19/2023	41,697,933	4063.65657600			(19,126)				0	19,126	0						0003	
151051 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	PLC MORGAN STANLEY & CO. INTERNATIONAL	05/20/2022	05/19/2023	48,487,235	4110.08276000			(1,697)				0	1,697	0						0003	
151053 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	PLC MORGAN STANLEY & CO. INTERNATIONAL	05/20/2022	05/19/2023	60,954,241	4128.80928800			(74,665)				0	74,665	0						0003	
151055 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	PLC MORGAN STANLEY & CO. INTERNATIONAL	05/20/2022	05/19/2023	53,352,973	4141.68377600			(241,453)				0	241,453	0						0003	
151056 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2022	05/19/2023	1,503,294	71.58545100			(17,425)				0	17,425	0						0003	
151064 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	05/20/2022	05/19/2023	44,219,575	4019.96134400			(51,567)				0	51,567	0						0003	
151622 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/06/2022	06/06/2023	4,210,969	4715.74020600			(114,825)				0	114,825	0						0003	
151624 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/06/2022	06/06/2024	357,304	5053.28532300			(12,327)				0	12,327	0						0003	
151626 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/06/2022	06/06/2023	21,332,969	4969.20815100			(283,095)				0	283,095	0						0003	
151628 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/06/2022	06/06/2023	8,495,877	4538.51871600			(360,296)				0	360,296	0						0003	
151632 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/06/2022	06/06/2023	48,856,477	182.23229200			(29,314)				0	29,314	0						0003	
151634 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	06/06/2022	06/06/2023	1,400,135	198.65828400			(43,716)				0	43,716	0						0003	
151635 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/06/2022	06/06/2023	1,514,821	73.53498400			(11,447)				0	11,447	0						0003	
151643 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/06/2022	06/06/2023	51,719,454	4274.33505300			(31,013)				0	31,013	0						0003	
151645 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/06/2022	06/06/2023	48,868,373	4286.69934300			(17,794)				0	17,794	0						0003	
151647 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/06/2022	06/06/2023	532,859	109.71239400			(17,660)				0	17,660	0						0003	
151655 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/06/2022	06/06/2023	32,301,502	104.19443100			(18,137)				0	18,137	0						0003	

E1841

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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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 Year-end (b)	
151657 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/06/2022	06/06/2023		42,990,173	4245.48504300		(65,466)				0	65,466	0					0003	
151662 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/06/2022	06/06/2023		324,184	77.31390400		(8,979)				0	8,979	0						0003
151676 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	06/06/2022	06/06/2023		50,719,387	4339.86579000		(17,233)				0	17,233	0						0003
151683 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	06/06/2022	06/06/2023		71,014,353	4363.77008400		(26,959)				0	26,959	0						0003
151686 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	06/06/2022	06/06/2023		54,088,415	4375.31008800		(192,661)				0	192,661	0						0003
152965 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/17/2022	06/20/2023		3,016,355	4123.17048000		(130,700)				0	130,700	0						0003
152967 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/17/2022	06/20/2024		342,880	4428.18220000		(16,304)				0	16,304	0						0003
152971 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/17/2022	06/20/2023		21,270,424	4414.95277600		(431,059)				0	431,059	0						0003
152973 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/17/2022	06/20/2023		6,457,975	4056.65587600		(325,999)				0	325,999	0						0003
152982 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	06/17/2022	06/20/2023		2,373,284	198.99861300		(80,478)				0	80,478	0						0003
152986 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/17/2022	06/20/2023		1,646,608	97.78473000		(65,540)				0	65,540	0						0003
152990 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/17/2022	06/20/2023		690,458	69.50314000		(17,162)				0	17,162	0						0003
153012 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	06/17/2022	06/20/2023		29,268,157	92.97219600		(38,430)				0	38,430	0						0003
153017 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	06/17/2022	06/20/2023		1,822,118	64.38185600		(31,949)				0	31,949	0						0003
153021 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	06/17/2022	06/20/2023		58,071,712	3752.74660800		(16,831)				0	16,831	0						0003
153025 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	06/17/2022	06/20/2023		69,535,611	3802.72443200		(68,141)				0	68,141	0						0003
153047 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/17/2022	06/20/2023		44,003,356	181.08377100		(45,790)				0	45,790	0						0003
153051 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/17/2022	06/20/2023		52,349,051	3821.09863200		(8,420)				0	8,420	0						0003
153053 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/17/2022	06/20/2023		52,893,442	3832.85812000		(3,326)				0	3,326	0						0003
153055 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/17/2022	06/20/2023		62,685,237	3845.72006000		(16,336)				0	16,336	0						0003
153059 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/17/2022	06/20/2023		63,913,552	3897.16782000		(101,648)				0	101,648	0						0003

E18.42

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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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 Year-end (b)	
153062 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	06/17/2022	06/20/2023	50,114,234	3915.17453600			(48,078)				0	48,078	0					0003	
153799 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	07/06/2022	07/06/2023	2,058,036	64.71811500			(26,082)				0	26,082	0					0003	
153806 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/06/2022	07/06/2023	2,753,629	4402.23210000			(86,007)				0	86,007	0					0003	
153817 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/06/2022	07/05/2024	425,283	4720.98920000			(15,033)				0	15,033	0					0003	
153824 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/06/2022	07/06/2023	24,731,463	4626.40030000			(421,783)				0	421,783	0					0003	
153830 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	07/06/2022	07/06/2023	42,934,203	3965.43100400			(141,085)				0	141,085	0					0003	
153831 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	07/06/2022	07/06/2023	9,220,035	4234.97110000			(436,139)				0	436,139	0					0003	
153833 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	07/06/2022	07/06/2023	56,187,080	3992.73107200			(18,108)				0	18,108	0					0003	
153836 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	07/06/2022	07/06/2023	54,225,214	4000.03672400			(1,681)				0	1,681	0					0003	
153840 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	07/06/2022	07/06/2023	50,695,197	4009.26491600			(35,922)				0	35,922	0					0003	
153842 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	07/06/2022	07/06/2023	64,090,232	4018.49310800			(24,447)				0	24,447	0					0003	
153846 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	07/06/2022	07/06/2023	66,162,522	4032.33539600			(32,267)				0	32,267	0					0003	
153849 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	07/06/2022	07/06/2023	65,711,990	4069.63267200			(119,881)				0	119,881	0					0003	
153850 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	07/06/2022	07/06/2023	2,652,844	188.43910800			(86,967)				0	86,967	0					0003	
153852 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A.	07/06/2022	07/06/2023	58,337,591	4088.85807200			(114,464)				0	114,464	0					0003	
153873 Call Options - Ishares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	07/06/2022	07/06/2023	1,098,640	103.93800000			(41,425)				0	41,425	0					0003	
153897 Call Options - Ishares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	07/06/2022	07/06/2023	714,325	68.62000000			(17,052)				0	17,052	0					0003	
153902 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	07/06/2022	07/06/2023	50,345,366	172.30617800			(62,080)				0	62,080	0					0003	
153908 Call Options - Ishares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/06/2022	07/06/2023	32,852,903	99.11388200			(30,341)				0	30,341	0					0003	
154436 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	07/20/2022	07/20/2023	1,720,089	4545.96520000			(50,644)				0	50,644	0					0003	
154441 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/20/2022	07/19/2024	296,783	4943.14317000			(9,607)				0	9,607	0					0003	
154445 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	07/20/2022	07/20/2023	19,929,560	4762.96772000			(328,072)				0	328,072	0					0003	
154448 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/20/2022	07/20/2023	6,719,585	4363.41381000			(290,212)				0	290,212	0					0003	
154456 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	07/20/2022	07/20/2023	1,486,937	181.65117600			(49,547)				0	49,547	0					0003	

E18.43

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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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 Year-end (b)	
154466 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	.07/20/2022	.07/20/2023	600,278	104.02311600			(22,827)				0	22,827	0					0003	
154471 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	.07/20/2022	.07/20/2023	546,918	70.92473400			(14,602)				0	14,602	0					0003	
154481 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0WP21HZNB6K528	.07/20/2022	.07/20/2023	36,524,396	167.34855600			(20,927)				0	20,927	0					0003	
154488 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0WP21HZNB6K528	.07/20/2022	.07/20/2023	23,571,104	99.43786800			(31,078)				0	31,078	0					0003	
154496 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUG0FU57RNE97	.07/20/2022	.07/20/2023	1,815,489	66.31972200			(11,304)				0	11,304	0					0003	
154541 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/20/2022	.07/20/2023	37,957,661	4081.46890000			(98,185)				0	98,185	0					0003	
154548 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/20/2022	.07/20/2023	37,382,802	4108.00030000			(16,347)				0	16,347	0					0003	
154554 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/20/2022	.07/20/2023	56,799,697	4115.92010000			(6,551)				0	6,551	0					0003	
154560 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/20/2022	.07/20/2023	46,568,068	4121.06790000			(10,990)				0	10,990	0					0003	
154568 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/20/2022	.07/20/2023	48,216,534	4192.74210000			(70,685)				0	70,685	0					0003	
154575 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	.07/20/2022	.07/20/2023	53,971,219	4216.50150000			(103,191)				0	103,191	0					0003	
155014 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. ES70DZIWZ7FF32WEFA76	.08/05/2022	.08/04/2023	67,690,188	4310.16860000			(28,221)				0	28,221	0					0003	
155021 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	.08/05/2022	.08/04/2023	2,305,869	68.54000000			(37,641)				0	37,641	0					0003	
155026 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. ES70DZIWZ7FF32WEFA76	.08/05/2022	.08/04/2023	64,771,331	4272.86185200			(37,231)				0	37,231	0					0003	
155032 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	.08/05/2022	.08/04/2023	5,128,751	4680.74854800			(173,502)				0	173,502	0					0003	
155034 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0WP21HZNB6K528	.08/05/2022	.08/06/2024	596,783	5661.91502100			(8,422)				0	8,422	0					0003	
155037 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL C2PNE81BX4P4R0TD8PU41	.08/05/2022	.08/04/2023	32,114,915	5049.67045800			(400,711)				0	400,711	0					0003	
155039 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	.08/05/2022	.08/04/2023	8,904,998	4569.24293700			(391,002)				0	391,002	0					0003	
155043 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	.08/05/2022	.08/04/2023	2,136,278	187.15786700			(69,807)				0	69,807	0					0003	
155048 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	.08/05/2022	.08/04/2023	694,121	108.74992500			(26,733)				0	26,733	0					0003	
155052 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	.08/05/2022	.08/04/2023	1,059,074	73.05173700			(30,819)				0	30,819	0					0003	

E18.44

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 1

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155056 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	.08/05/2022	.08/04/2023	27,228,595	104.36445000	(50,944)	0	50,944	0003		
155100 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	.08/05/2022	.08/04/2023	.....	64,617,649	4296.90400000	.....	(13,818)	.....	.....	.....	0	13,818	.....	.....	.....	.....	.....	.....	.....	0003	
155109 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	.08/05/2022	.08/04/2023	.....	53,993,163	4320.94605600	.....	(12,614)	.....	.....	.....	0	12,614	.....	.....	.....	.....	.....	.....	.....	0003	
155117 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	.08/05/2022	.08/04/2023	.....	54,735,767	4332.96710000	.....	(10,155)	.....	.....	.....	0	10,155	.....	.....	.....	.....	.....	.....	.....	0003	
155123 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	.08/05/2022	.08/04/2023	.....	52,008,914	4351.20594300	.....	(3,583)	.....	.....	.....	0	3,583	.....	.....	.....	.....	.....	.....	.....	0003	
155130 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	.08/05/2022	.08/04/2023	.....	54,600,488	4390.17072900	.....	(126,139)	.....	.....	.....	0	126,139	.....	.....	.....	.....	.....	.....	.....	0003	
155138 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	.08/05/2022	.08/04/2023	.....	66,850,324	4417.11446400	.....	(94,164)	.....	.....	.....	0	94,164	.....	.....	.....	.....	.....	.....	.....	0003	
155147 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UJZ0078	.08/05/2022	.08/04/2023	.....	44,125,547	175.24045800	.....	(19,866)	.....	.....	.....	0	19,866	.....	.....	.....	.....	.....	.....	.....	0003	
155159 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UJZ0078	.08/05/2022	.08/04/2023	.....	59,239,739	4231.40995200	.....	(27,317)	.....	.....	.....	0	27,317	.....	.....	.....	.....	.....	.....	.....	.....	0003
155781 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL	W22LR0WP21HZNB6K528	.08/19/2022	.08/18/2023	.....	33,401,601	172.53201600	.....	(9,036)	.....	.....	.....	0	9,036	.....	.....	.....	.....	.....	.....	.....	.....	0003
155795 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL	W22LR0WP21HZNB6K528	.08/19/2022	.08/18/2023	.....	21,975,762	106.72979800	.....	(11,994)	.....	.....	.....	0	11,994	.....	.....	.....	.....	.....	.....	.....	.....	0003
155806 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RHIGC71XBU11	.08/19/2022	.08/18/2023	.....	1,301,878	68.46142700	.....	(8,960)	.....	.....	.....	0	8,960	.....	.....	.....	.....	.....	.....	.....	.....	0003
155816 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RHIGC71XBU11	.08/19/2022	.08/18/2023	.....	2,230,977	4816.23872000	.....	(65,225)	.....	.....	.....	0	65,225	.....	.....	.....	.....	.....	.....	.....	.....	0003
155823 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RHIGC71XBU11	.08/19/2022	.08/18/2023	.....	5,745,754	4664.43628800	.....	(245,331)	.....	.....	.....	0	245,331	.....	.....	.....	.....	.....	.....	.....	.....	0003
155825 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUWSFPUM8P08K5P83	.08/19/2022	.08/18/2023	.....	48,758,604	4317.27808000	.....	(417)	.....	.....	.....	0	417	.....	.....	.....	.....	.....	.....	.....	.....	0003
155836 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RHIGC71XBU11	.08/19/2022	.08/18/2023	.....	854,946	182.71828800	.....	(29,161)	.....	.....	.....	0	29,161	.....	.....	.....	.....	.....	.....	.....	.....	0003
155846 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	.08/19/2022	.08/18/2023	.....	52,147,635	4363.36851200	.....	(54,233)	.....	.....	.....	0	54,233	.....	.....	.....	.....	.....	.....	.....	.....	0003
155855 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	.08/19/2022	.08/18/2023	.....	48,091,927	4387.04800000	.....	(13,776)	.....	.....	.....	0	13,776	.....	.....	.....	.....	.....	.....	.....	.....	0003
155856 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RHIGC71XBU11	.08/19/2022	.08/18/2023	.....	253,418	110.78639600	.....	(10,246)	.....	.....	.....	0	10,246	.....	.....	.....	.....	.....	.....	.....	.....	0003
155866 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	.08/19/2022	.08/18/2023	.....	52,457,764	4393.81356800	.....	(10,932)	.....	.....	.....	0	10,932	.....	.....	.....	.....	.....	.....	.....	.....	0003
155867 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RHIGC71XBU11	.08/19/2022	.08/18/2023	.....	197,886	71.39835300	.....	(6,741)	.....	.....	.....	0	6,741	.....	.....	.....	.....	.....	.....	.....	.....	0003
155874 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	GOLDMAN SACHS INTERNATIONAL	W22LR0WP21HZNB6K528	.08/19/2022	.08/20/2024	.....	866,636	5295.32550400	.....	(25,508)	.....	.....	.....	0	25,508	.....	.....	.....	.....	.....	.....	.....	.....	0003
155876 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BNP PARIBAS LONDON	ROMUWSFPUM8P08K5P83	.08/19/2022	.08/18/2023	.....	15,619,726	5030.62265600	.....	(235,274)	.....	.....	.....	0	235,274	.....	.....	.....	.....	.....	.....	.....	.....	0003
155879 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	.08/19/2022	.08/18/2023	.....	54,885,786	4411.99603200	.....	(5,919)	.....	.....	.....	0	5,919	.....	.....	.....	.....	.....	.....	.....	.....	0003
155885 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5 ...	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	.08/19/2022	.08/18/2023	48,908,820	4474.15468800	(54,775)	0	54,775	0003

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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 Year-end (b)
155891 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/19/2022	08/18/2023	53,281,040	4504.17689600	(162,946)						0	162,946	0					0003
156454 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	09/06/2022	09/06/2023	37,460,768	168.00396300	(10,230)						0	10,230	0					0003
156466 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	09/06/2022	09/06/2023	25,927,393	99.89908800	(30,404)						0	30,404	0					0003
156486 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	09/06/2022	09/06/2023	1,940,995	63.34203200	(15,675)						0	15,675	0					0003
156522 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023	51,095,363	3991.83000000	(18,888)						0	18,888	0					0003
156529 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023	31,037,985	4030.90716600	(17,208)						0	17,208	0					0003
156537 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023	56,777,403	4055.52876300	(16,404)						0	16,404	0					0003
156546 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023	51,594,557	4062.56000000	(11,850)						0	11,850	0					0003
156555 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023	77,441,176	4075.85135100	(9,570)						0	9,570	0					0003
156563 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023	49,154,087	4096.17393900	(18,988)						0	18,988	0					0003
156573 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023	68,595,378	4107.50769000	(102,191)						0	102,191	0					0003
156584 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/06/2022	09/06/2023	47,730,724	4150.49778000	(121,372)						0	121,372	0					0003
156594 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	09/06/2022	09/06/2023	2,574,908	4462.37134200	(89,371)						0	89,371	0					0003
156597 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	09/06/2022	09/06/2024	524,115	5071.65820000	(13,651)						0	13,651	0					0003
156601 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	09/06/2022	09/06/2023	982,897	104.71679600	(42,388)						0	42,388	0					0003
156602 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	09/06/2022	09/06/2023	17,400,890	4608.14680000	(412,923)						0	412,923	0					0003
156611 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	09/06/2022	09/06/2023	5,339,079	4270.47920000	(289,259)						0	289,259	0					0003
156614 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	09/06/2022	09/06/2023	709,620	67.06377600	(26,488)						0	26,488	0					0003
156624 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	09/06/2022	09/06/2023	1,287,495	176.17379100	(48,829)						0	48,829	0					0003

E18,46

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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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 Year-end (b)	
156939 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	09/20/2022	09/20/2023		65,350,393	3994.74348000		(77,950)				0	77,950	0					0003	
156949 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	09/20/2022	09/20/2023		40,869,977	4008.23923500		(9,304)				0	9,304	0					0003	
156963 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	09/20/2022	09/20/2023		66,804,937	4168.26033000		(134,558)				0	134,558	0					0003	
156995 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO	09/20/2022	09/20/2023		31,391,388	164.09507400		(10,596)				0	10,596	0					0003	
157001 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	09/20/2022	09/20/2023		2,503,322	4323.26871600		(114,538)				0	114,538	0					0003	
157005 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	09/20/2022	09/20/2023		64,780,241	3950.01469200		(25,482)				0	25,482	0					0003	
157006 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO	09/20/2022	09/20/2024		204,150	4617.86176800		(11,242)				0	11,242	0					0003	
157012 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	09/20/2022	09/20/2023		15,528,117	4530.33215700		(435,617)				0	435,617	0					0003	
157015 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	09/20/2022	09/20/2023		4,588,647	4245.76452300		(247,956)				0	247,956	0					0003	
157019 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	09/20/2022	09/20/2023		52,669,575	4020.57821100		(19,153)				0	19,153	0					0003	
157028 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO	09/20/2022	09/20/2023		900,014	171.84857400		(37,602)				0	37,602	0					0003	
157034 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	09/20/2022	09/20/2023		58,948,147	4037.54430300		(3,417)				0	3,417	0					0003	
157043 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	09/20/2022	09/20/2023		48,482,690	4074.17563800		(8,558)				0	8,558	0					0003	
157049 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO	09/20/2022	09/20/2023		737,593	98.58421200		(30,085)				0	30,085	0					0003	
157058 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	09/20/2022	09/20/2023		735,359	65.38905000		(31,156)				0	31,156	0					0003	
157070 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	09/20/2022	09/20/2023		21,881,157	94.40260800		(21,009)				0	21,009	0					0003	
157078 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	09/20/2022	09/20/2023		1,179,714	62.37430200		(14,334)				0	14,334	0					0003	
157994 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	10/06/2022	10/06/2023		47,695,867	3857.97895600		(94,754)				0	94,754	0					0003	
158009 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023		65,523,916	3883.44169200		(14,648)				0	14,648	0					0003	
158023 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/06/2022	10/06/2023		64,908,612	3907.78107200		(6,787)				0	6,787	0					0003	

E1847

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 Year-end (b)		
158034 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	39,794,046	3908.90442800			(42,544)				0	42,544	0					0003		
158046 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	50,754,934	3983.42037600			(106,445)				0	106,445	0						0003	
158065 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	71,732,769	4109.98515200			(90,949)				0	90,949	0						0003	
158085 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	10/06/2022	10/06/2023	5,214,381	4229.80979200			(236,346)				0	236,346	0						0003	
158090 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/06/2022	10/06/2023	37,338,479	169.33550400			(38,616)				0	38,616	0						0003	
158091 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	10/06/2022	10/04/2024	124,168	4630.09898000			(5,798)				0	5,798	0						0003	
158098 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/06/2022	10/06/2023	49,563,590	3933.61826000			(22,816)				0	22,816	0						0003	
158101 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	10/06/2022	10/06/2023	29,001,836	4365.73586800			(977,590)				0	977,590	0						0003	
158106 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	10/06/2022	10/06/2023	7,958,471	4148.17925600			(431,760)				0	431,760	0						0003	
158117 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	10/06/2022	10/06/2023	3,030,122	177.34893000			(134,187)				0	134,187	0						0003	
158122 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	10/06/2022	10/06/2023	879,317	89.17590000			(49,147)				0	49,147	0						0003	
158127 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	10/06/2022	10/06/2023	307,991	63.90037500			(13,917)				0	13,917	0						0003	
158133 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	10/06/2022	10/06/2023	24,878,033	85.30288800			(30,378)				0	30,378	0						0003	
158146 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	10/06/2022	10/06/2023	1,765,526	60.79342500			(16,730)				0	16,730	0						0003	
158157 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	10/06/2022	10/06/2023	50,824,961	3821.65711200			(38,520)				0	38,520	0						0003	
158675 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	10/20/2022	10/20/2023	2,273,636	4149.29638200			(114,495)				0	114,495	0						0003	
158679 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/20/2022	10/18/2024	1,087,793	4440.35831400			(66,356)				0	66,356	0						0003	
158680 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	10/20/2022	10/20/2023	30,604,498	160.96106000			(9,190)				0	9,190	0						0003	
158682 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	10/20/2022	10/20/2023	17,296,466	4327.08671200			(584,071)				0	584,071	0						0003	
158686 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	10/20/2022	10/20/2023	7,801,645	4097.24230600			(427,740)				0	427,740	0						0003	
158695 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	10/20/2022	10/20/2023	502,136	165.64086500			(25,711)				0	25,711	0						0003	
158696 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	10/20/2022	10/20/2023	20,165,715	83.12379600			(30,429)				0	30,429	0						0003	

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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158704 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	10/20/2022	10/20/2023		526,953	87.15779100						0	26,663	0					0003	
158710 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	10/20/2022	10/20/2023		2,186,888	59.69977600						0	100,046	0					0003	
158714 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	10/20/2022	10/20/2023		1,373,233	64.34201600						0	51,059	0					0003	
158721 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED	10/20/2022	10/20/2023		64,711,038	3983.23654800						0	84,957	0					0003	
158762 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO	10/20/2022	10/20/2023		75,207,142	3760.35712400						0	39,809	0					0003	
158779 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO	10/20/2022	10/20/2023		45,568,578	3797.38150200						0	91,910	0					0003	
158795 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO	10/20/2022	10/20/2023		83,262,401	3819.37618200						0	1,504	0					0003	
158815 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO	10/20/2022	10/20/2023		33,270,033	3824.14169600						0	12,817	0					0003	
158825 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO	10/20/2022	10/20/2023		52,757,356	3850.90189000						0	181,766	0					0003	
159732 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/04/2022	11/06/2023		41,220,243	3902.89630500						0	94,102	0					0003	
159752 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/04/2022	11/06/2023		56,377,977	3927.40488000						0	30,108	0					0003	
159764 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/04/2022	11/06/2023		59,615,545	3938.71653000						0	32,263	0					0003	
159803 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/04/2022	11/06/2023		47,624,939	3957.56928000						0	250,647	0					0003	
159805 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/04/2022	11/06/2023		3,973,622	4364.78868000						0	149,079	0					0003	
159811 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	11/04/2022	11/06/2024		333,715	4817.25468000						0	12,904	0					0003	
159817 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	11/04/2022	11/06/2023		23,233,334	4443.59317500						0	723,516	0					0003	
159821 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	11/04/2022	11/06/2023		9,241,233	4172.86785000						0	515,211	0					0003	
159826 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/04/2022	11/06/2023		57,551,337	4054.09536000						0	127,518	0					0003	
159832 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	11/04/2022	11/06/2023		1,707,563	175.55934000						0	74,725	0					0003	
159843 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	11/04/2022	11/06/2023		2,187,344	91.62579000						0	114,438	0					0003	
159853 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	11/04/2022	11/06/2023		1,205,882	68.34375000						0	42,876	0					0003	
159856 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	THROUGH CBO	11/04/2022	11/06/2023		48,901,168	3850.48566000						0	7,247	0					0003	

E18.49

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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159873 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSRPFMYMCOJFXT09	11/04/2022	11/06/2023		33,477,550	165.99902300		(43,944)				0	43,944	0					0003
159887 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSRPFMYMCOJFXT09	11/04/2022	11/06/2023		26,414,485	87.60073500		(45,347)				0	45,347	0					0003
159899 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIGC71XBU11	11/04/2022	11/06/2023		1,611,269	63.69637500		(27,821)				0	27,821	0					0003
160802 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIWSPUBM8PR08K5P83	11/18/2022	11/20/2023		7,024,889	4572.43355400		(240,519)				0	240,519	0					0003
160805 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIWSPUBM8PR08K5P83	11/18/2022	11/20/2024		337,272	5087.13468600		(11,197)				0	11,197	0					0003
160810 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIWSPUBM8PR08K5P83	11/18/2022	11/20/2023		22,559,917	4606.53547800		(711,928)				0	711,928	0					0003
160814 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIWSPUBM8PR08K5P83	11/18/2022	11/20/2023		22,559,917	4606.53547800		(711,928)				0	711,928	0					0003
160823 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	11/18/2022	11/20/2023		10,048,189	4388.44177800		(520,824)				0	520,824	0					0003
160833 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIGC71XBU11	11/18/2022	11/20/2023		1,256,512	177.55505300		(64,513)				0	64,513	0					0003
160839 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RHIGC71XBU11	11/18/2022	11/20/2023		1,272,250	96.57382700		(60,915)				0	60,915	0					0003
160861 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUIWSPUBM8PR08K5P83	11/18/2022	11/20/2023		2,048,962	73.05269500		(78,885)				0	78,885	0					0003
160867 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023		31,422,777	172.08530900		(22,243)				0	22,243	0					0003
160892 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023		19,926,180	91.69881000		(30,136)				0	30,136	0					0003
160900 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023		1,830,037	68.79840000		(43,662)				0	43,662	0					0003
160914 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023		49,544,782	4094.61008400		(65,735)				0	65,735	0					0003
160915 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023		49,259,079	4139.41842600		(17,172)				0	17,172	0					0003
160927 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023		62,460,221	4061.30122800		(10,603)				0	10,603	0					0003
160937 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023		35,766,098	4158.84859200		(103,250)				0	103,250	0					0003
160957 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023		71,518,555	4158.05552400		(191,643)				0	191,643	0					0003
160996 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023		57,308,777	4390.02791400		(72,533)				0	72,533	0					0003
160996 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/18/2022	11/20/2023		54,549,438	4228.63857600		(5,984)				0	5,984	0					0003

E18.50

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

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161764 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XB011	12/06/2022	12/06/2023		6,153,239	4438.64701200		(251,331)				0	251,331	0					0003
161802 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUJISFPU8M8PR08K5P83	12/06/2022	12/06/2024		1,444,483	5088.56078600		(41,608)				0	41,608	0					0003
161805 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUJISFPU8M8PR08K5P83	12/06/2022	12/06/2023		27,650,799	4675.91086400		(591,751)				0	591,751	0					0003
161808 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC WELLS FARGO BANK, G5GSEF7VJP5170UK5573	12/06/2022	12/06/2023		9,281,195	4360.21593800		(450,508)				0	450,508	0					0003
161814 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	N.A. KB1H10SPRFMYMJCXF09	12/06/2022	12/06/2023		1,537,424	178.06016800		(78,565)				0	78,565	0					0003
161820 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL ROYAL BANK OF CANADA C2RNE81BX4R0TD8PU41 ES71P3U3RH1GC71XB011	12/06/2022	12/06/2023		1,437,743	95.52522000		(58,628)				0	58,628	0					0003
161827 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL ROYAL BANK OF CANADA C2RNE81BX4R0TD8PU41 ES71P3U3RH1GC71XB011	12/06/2022	12/06/2023		1,091,167	73.75515800		(46,655)				0	46,655	0					0003
161837 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/06/2022	12/06/2023		20,340,796	91.39673400		(41,458)				0	41,458	0					0003
161851 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/06/2022	12/06/2023		30,517,362	174.28532200		(10,713)				0	10,713	0					0003
161863 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/06/2022	12/06/2023		2,770,149	70.84779700		(97,404)				0	97,404	0					0003
161879 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/06/2022	12/06/2023		43,891,960	4026.78534200		(2,019)				0	2,019	0					0003
161890 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/06/2022	12/06/2023		43,851,089	4060.28605200		(29,603)				0	29,603	0					0003
161905 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIVZ7FF32WFEA76	12/06/2022	12/06/2023		51,513,568	4087.87487200		(13,910)				0	13,910	0					0003
161932 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIVZ7FF32WFEA76	12/06/2022	12/06/2023		40,556,599	4107.58117200		(28,387)				0	28,387	0					0003
161947 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIVZ7FF32WFEA76	12/06/2022	12/06/2023		51,014,371	4128.86397600		(489,083)				0	489,083	0					0003
161972 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	CITIBANK N.A. E570DZIVZ7FF32WFEA76	12/06/2022	12/06/2023		62,116,739	4331.83886600		(246,851)				0	246,851	0					0003
162544 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023		29,568,274	178.76828400		(14,838)				0	14,838	0					0003
162569 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023		1,129,974	68.90083200		(35,993)				0	35,993	0					0003
162591 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	12/20/2022	12/20/2023		48,806,864	3904.54915400		(6,388)				0	6,388	0					0003

E18.51

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 1

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162606 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023	46,452,479	3936.65076200		(65,967)				0	65,967	0					0003	
162617 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023	47,542,481	3961.87345400		(8,405)				0	8,405	0					0003	
162631 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023	52,100,795	3977.15993400		(17,476)				0	17,476	0					0003	
162639 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023	56,255,775	3989.77128000		(130,308)				0	130,308	0					0003	
162649 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023	69,084,189	4016.52262000		(166,675)				0	166,675	0					0003	
162684 Call Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RH1G71XBU11	12/20/2022	12/20/2023	1,102,023	72.73375200		(46,360)				0	46,360	0					0003	
162665 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9R7GPTS07KV3UQJZ0078	12/20/2022	12/20/2023	53,447,496	4079.96151200		(212,175)				0	212,175	0					0003	
162689 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	7H6GLXDRUGGFU57RNE97	12/20/2022	12/20/2023	21,007,895	88.21243900		(56,817)				0	56,817	0					0003	
162695 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC ROYAL BANK OF CANADA	G5GSEF7VJP5170UK5573	12/20/2022	12/20/2023	37,008,075	4235.50144600		(44,199)				0	44,199	0					0003	
162707 Call Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RH1G71XBU11	12/20/2022	12/20/2023	1,353,806	182.21751600		(72,106)				0	72,106	0					0003	
162708 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RH1G71XBU11	12/20/2022	12/20/2023	6,336,323	4290.15061200		(274,314)				0	274,314	0					0003	
162712 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	B4TYDEB6GKMZ0031MB27	12/20/2022	12/20/2024	1,524,788	5036.89516000		(37,830)				0	37,830	0					0003	
162715 Call Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RH1G71XBU11	12/20/2022	12/20/2023	1,580,977	92.85169200		(65,236)				0	65,236	0					0003	
162716 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	12/20/2022	12/20/2023	24,287,778	4447.21919400		(722,519)				0	722,519	0					0003	
162719 Call Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	12/20/2022	12/20/2023	10,570,943	4225.18307200		(535,575)				0	535,575	0					0003	
0649999999. Subtotal - Written Options - Hedging Other - Call Options and Warrants										(85,610)	(33,459,339)	0	0	XXX	0	33,459,339	0	0	0	0	XXX	XXX	
140258 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	CREDIT SUISSE INTERNATIONAL	E58DKGJMYJYLNC3868	01/06/2021	01/06/2023	42,604	82.69000000		(5,692)		(239)		(239)	578	0					0003	
141058 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	CREDIT SUISSE INTERNATIONAL	E58DKGJMYJYLNC3868	01/06/2021	01/06/2023	70,104	74.95000000		(7,761)		(8,655)		(8,655)	(5,091)	0					0003	
141258 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	B4TYDEB6GKMZ0031MB27	01/06/2021	01/06/2023	375,586	3748.14000000		(47,624)		(1,156)		(1,156)	11,678	0					0003	
142608 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	B4TYDEB6GKMZ0031MB27	01/06/2021	01/06/2023	89,479	3748.14000000		(11,440)		(275)		(275)	2,782	0					0003	
140615 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	01/20/2021	01/20/2023	62,500	75.45000000		(5,796)		(7,977)		(7,977)	(4,623)	0					0003	

E18.52

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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 Year-end (b)	
139588 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	05/20/2021	05/19/2023	18,700	98.48000000	(1,526)				(2,690)		(2,690)	(1,717)	0						0003
140197 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	05/20/2021	05/19/2023	70,672	4159.12000000	(7,887)				(6,030)		(6,030)	(1,700)	0						0003
140627 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/20/2021	05/19/2023	18,700	79.92000000	(1,418)				(3,050)		(3,050)	(1,573)	0						0003
142386 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/20/2021	05/19/2023	167,573	4159.12000000	(18,592)				(14,351)		(14,351)	(4,083)	0						0003
140264 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/04/2021	06/06/2023	28,100	102.80000000	(3,215)				(4,788)		(4,788)	(3,061)	0						0003
141071 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/04/2021	06/06/2023	24,250	81.68000000	(2,563)				(4,340)		(4,340)	(2,209)	0						0003
141286 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/04/2021	06/06/2023	271,245	4229.89000000	(29,869)				(26,084)		(26,084)	(8,311)	0						0003
141974 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/04/2021	06/06/2023	202,971	4229.89000000	(23,007)				(19,588)		(19,588)	(6,288)	0						0003
139586 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	06/18/2021	06/20/2023	14,629	101.41000000	(951)				(2,477)		(2,477)	(1,595)	0						0003
140391 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	06/18/2021	06/20/2023	163,546	78.52000000	(16,028)				(26,598)		(26,598)	(14,266)	0						0003
141782 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CITIBANK N.A.	06/18/2021	06/20/2023	120,036	4166.45000000	(12,892)				(10,907)		(10,907)	(3,143)	0						0003
141985 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL	06/18/2021	06/20/2023	564,212	4166.45000000	(61,724)				(50,273)		(50,273)	(13,780)	0						0003
139584 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	07/06/2021	07/06/2023	49,259	103.46000000	(3,552)				(8,969)		(8,969)	(5,730)	0						0003
140858 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/06/2021	07/06/2023	100,673	78.82000000	(8,214)				(16,519)		(16,519)	(8,712)	0						0003
141122 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY / CLEARED THROUGH CBO	07/06/2021	07/06/2023	434,354	4343.54000000	(48,083)				(49,408)		(49,408)	(17,956)	0						0003
141349 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/06/2021	07/06/2023	269,452	4343.54000000	(28,804)				(30,569)		(30,569)	(11,058)	0						0003
140247 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	07/20/2021	07/20/2023	35,373	106.27000000	(3,785)				(6,881)		(6,881)	(4,300)	0						0003
140867 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/20/2021	07/20/2023	204,257	77.46000000	(19,895)				(30,772)		(30,772)	(15,675)	0						0003
141747 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	07/20/2021	07/20/2023	25,934	4323.06000000	(2,723)				(2,881)		(2,881)	(989)	0						0003
142474 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL	07/20/2021	07/20/2023	510,342	4323.06000000	(58,639)				(56,627)		(56,627)	(19,391)	0						0003
140180 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/06/2021	08/04/2023	557,038	107.08000000	(58,155)				(110,376)		(110,376)	(67,905)	0						0003
140868 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/06/2021	08/04/2023	524,073	80.31000000	(51,008)				(92,256)		(92,256)	(47,515)	0						0003
141285 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	08/06/2021	08/04/2023	840,065	4436.52000000	(88,308)				(106,513)		(106,513)	(40,677)	0						0003
141614 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/06/2021	08/04/2023	130,038	4436.52000000	(13,615)				(16,490)		(16,490)	(6,299)	0						0003

E18.54

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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 Year-end (b)	
139516 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	08/20/2021	08/18/2023		35,512	4441.67000000	(3,860)			(4,536)		(4,536)	(1,704)	0						0003
140181 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/20/2021	08/18/2023		80,249	107.00000000	(3,948)			(15,753)		(15,753)	(9,541)	0						0003
140874 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/20/2021	08/18/2023		227,756	79.45000000	(20,407)			(38,151)		(38,151)	(19,312)	0						0003
141581 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	08/20/2021	08/18/2023		377,048	4441.67000000	(41,814)			(48,325)		(48,325)	(18,254)	0						0003
140188 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	09/03/2021	09/06/2023		119,800	111.27000000	(8,901)			(26,607)		(26,607)	(15,912)	0						0003
140879 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	09/03/2021	09/06/2023		171,574	82.07000000	(13,738)			(32,510)		(32,510)	(16,256)	0						0003
141278 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	09/03/2021	09/06/2023		108,136	4535.43000000	(11,658)			(15,209)		(15,209)	(6,035)	0						0003
141641 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	09/03/2021	09/06/2023		290,008	4535.43000000	(31,403)			(40,934)		(40,934)	(16,330)	0						0003
142819 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	09/20/2021	09/20/2023		87,221	4357.73000000	(9,794)			(10,331)		(10,331)	(3,389)	0						0003
142820 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	09/20/2021	09/20/2023		5,500	106.23000000	(330)			(1,060)		(1,060)	(626)	0						0003
142821 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	09/20/2021	09/20/2023		42,668	79.01000000	(3,517)			(6,927)		(6,927)	(3,387)	0						0003
142856 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	10/06/2021	10/06/2023		52,668	4363.55000000	(6,483)			(6,270)		(6,270)	(1,999)	0						0003
142858 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	10/06/2021	10/06/2023		275,776	4363.55000000	(33,951)			(32,842)		(32,842)	(10,469)	0						0003
142861 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/06/2021	10/06/2023		51,534	104.05000000	(5,338)			(9,364)		(9,364)	(5,459)	0						0003
142865 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/06/2021	10/06/2023		36,961	77.39000000	(3,597)			(5,230)		(5,230)	(2,321)	0						0003
142690 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/20/2021	10/20/2023		76,115	80.40000000	(7,117)			(12,647)		(12,647)	(5,790)	0						0003
142694 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/20/2021	10/20/2023		52,860	109.26000000	(5,108)			(11,258)		(11,258)	(6,584)	0						0003
142695 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	10/20/2021	10/20/2023		140,713	4536.19000000	(15,463)			(19,849)		(19,849)	(7,422)	0						0003
142701 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/20/2021	10/20/2023		588,888	4536.19000000	(66,945)			(83,054)		(83,054)	(31,049)	0						0003
143753 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/05/2021	11/06/2023		571,229	81.83000000	(55,866)			(101,284)		(101,284)	(45,979)	0						0003
143755 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/05/2021	11/06/2023		498,277	110.24000000	(52,269)			(108,786)		(108,786)	(62,825)	0						0003
143759 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	11/05/2021	11/06/2023		818,026	4697.53000000	(92,846)			(132,508)		(132,508)	(54,147)	0						0003
143771 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/05/2021	11/06/2023		290,387	4697.53000000	(31,739)			(47,115)		(47,115)	(19,298)	0						0003
143782 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/19/2021	11/20/2023		419,160	4697.96000000	(46,736)			(68,003)		(68,003)	(27,440)	0						0003
143808 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/19/2021	11/20/2023		150,541	80.34000000	(15,446)			(24,745)		(24,745)	(10,968)	0						0003

E18.55

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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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 Year-end (b)	
143819 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL ... 02RNE81BXP4R0T08PU41	11/19/2021	11/20/2023	681,327	4697.96000000	(76,036)				(110,651)		(110,651)	(44,717)	0					0003	
143823 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. ... KB1H10SPRFMYMCFXJ0T09	11/19/2021	11/20/2023	55,828	109.88000000	(4,288)				(12,156)		(12,156)	(6,985)	0					0003	
144162 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	12/06/2021	12/06/2023	59,624	4591.67000000	(7,226)				(8,845)		(8,845)	(3,304)	0					0003	
144168 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	12/06/2021	12/06/2023	747,818	4591.67000000	(90,636)				(110,929)		(110,929)	(41,434)	0					0003	
144174 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	12/06/2021	12/06/2023	131,125	110.00000000	(16,850)				(28,433)		(28,433)	(16,293)	0					0003	
144183 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	12/06/2021	12/06/2023	140,854	77.77000000	(15,071)				(19,697)		(19,697)	(7,246)	0					0003	
144658 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	12/20/2021	12/20/2023	416,400	4568.02000000	(50,717)				(60,645)		(60,645)	(22,146)	0					0003	
144663 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	12/20/2021	12/20/2023	981,007	4568.02000000	(119,487)				(142,874)		(142,874)	(52,175)	0					0003	
144670 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ... ROMUIISFPUB8MPR08K5P83	12/20/2021	12/20/2023	112,107	110.32000000	(12,670)				(25,101)		(25,101)	(14,485)	0					0003	
144674 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ... ROMUIISFPUB8MPR08K5P83	12/20/2021	12/20/2023	166,048	76.48000000	(20,095)				(22,952)		(22,952)	(8,969)	0					0003	
145237 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC ... G5GSEF7VJP5170UK5573	01/06/2022	01/06/2023	10,412,449	4696.05000000	(854,862)				0		854,862	0	0					0003	
145250 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC ... G5GSEF7VJP5170UK5573	01/06/2022	01/06/2023	1,613,250	166.99000000	(96,311)				0		96,311	0	0					0003	
145263 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	01/06/2022	01/06/2023	1,301,275	111.61000000	(108,266)				0		108,266	0	0					0003	
145276 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	01/06/2022	01/06/2023	1,237,610	4696.05000000	(100,989)				(224,900)		(224,900)	(123,911)	0					0003	
145290 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	01/06/2022	01/05/2024	150,784	4696.05000000	(16,978)				(24,255)		(24,255)	(7,276)	0					0003	
145294 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL ... 02RNE81BXP4R0T08PU41	01/06/2022	01/06/2023	17,716,563	4226.44500000	(1,009,844)				(1,612,149)		(1,612,149)	(602,305)	0					0003	
145297 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	01/06/2022	01/06/2023	5,292,926	4696.05000000	(433,491)				(961,838)		(961,838)	(528,348)	0					0003	
145300 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	01/06/2022	01/06/2023	484,511	111.61000000	(39,827)				(118,895)		(118,895)	(79,068)	0					0003	
145302 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	01/06/2022	01/05/2024	114,646	111.61000000	(13,356)				(26,454)		(26,454)	(13,098)	0					0003	
145307 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	01/06/2022	01/05/2024	625,259	4696.05000000	(71,905)				(100,577)		(100,577)	(28,672)	0					0003	
145308 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ... ROMUIISFPUB8MPR08K5P83	01/06/2022	01/06/2023	592,814	78.54000000	(41,378)				(96,908)		(96,908)	(55,529)	0					0003	
145310 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	01/06/2022	01/06/2023	786,636	78.54000000	(57,110)				0		57,110	0	0					0003	
145311 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ... ROMUIISFPUB8MPR08K5P83	01/06/2022	01/05/2024	148,076	78.54000000	(15,469)				(22,845)		(22,845)	(7,375)	0					0003	
145770 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	01/20/2022	01/20/2023	774,857	77.39000000	(55,325)				0		55,325	0	0					0003	
145784 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	01/20/2022	01/20/2023	1,307,929	4482.73000000	(108,166)				(185,087)		(185,087)	(76,921)	0					0003	

E18.56

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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 Year-end (b)		
145787 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	01/20/2022	01/20/2023	11,037,313	4034.45700000		(634,891)			(543,020)		(543,020)	91,871	0					0003		
145790 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	01/20/2022	01/19/2024	128,910	4482.73000000		(14,335)			(17,457)		(17,457)	(3,122)	0						0003	
145799 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	01/20/2022	01/20/2023	6,139,212	4482.73000000		(512,624)			(868,768)		(868,768)	(356,144)	0						0003	
145800 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	01/20/2022	01/20/2023	559,502	105.62000000		(46,383)			(112,577)		(112,577)	(66,194)	0						0003	
145802 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	01/20/2022	01/20/2023	1,215,523	77.39000000		(80,650)			(181,816)		(181,816)	(101,166)	0						0003	
145807 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	01/20/2022	01/19/2024	673,496	4482.73000000		(77,587)			(91,552)		(91,552)	(13,965)	0						0003	
145809 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	01/20/2022	01/19/2024	144,982	105.62000000		(16,253)			(28,208)		(28,208)	(11,956)	0						0003	
145810 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	01/20/2022	01/19/2024	148,069	77.39000000		(14,300)			(21,643)		(21,643)	(7,343)	0						0003	
145888 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	01/20/2022	01/20/2023	5,771,387	4482.73000000		(483,065)			0		483,065	0	0						0003	
145892 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	01/20/2022	01/20/2023	1,231,579	171.65000000		(70,816)			0		70,816	0	0						0003	
145899 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	01/20/2022	01/20/2023	659,047	105.62000000		(56,019)			0		56,019	0	0						0003	
146373 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	02/04/2022	02/06/2023	1,365,126	4500.53000000		(113,852)			(196,347)		(196,347)	(82,495)	0						0003	
146378 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	02/04/2022	02/06/2024	382,643	4500.53000000		(41,987)			(52,720)		(52,720)	(10,732)	0						0003	
146380 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	02/04/2022	02/06/2023	10,807,099	4050.47700000		(634,016)			(592,554)		(592,554)	41,462	0						0003	
146384 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	02/04/2022	02/06/2023	9,097,125	4500.53000000		(758,700)			(854,878)		(854,878)	(96,178)	0						0003	
146385 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	02/04/2022	02/06/2023	7,201,591	4500.53000000		(604,213)			(1,030,673)		(1,030,673)	(426,460)	0						0003	
146388 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	02/04/2022	02/06/2023	453,373	105.13000000		(36,623)			(88,141)		(88,141)	(51,518)	0						0003	
146391 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	02/04/2022	02/06/2023	822,464	76.07000000		(59,185)			(109,393)		(109,393)	(50,209)	0						0003	
146394 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	02/04/2022	02/06/2023	1,816,645	168.86000000		(104,275)			(26,642)		(26,642)	77,633	0						0003	
146395 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	02/04/2022	02/06/2024	555,991	4500.53000000		(61,715)			(76,811)		(76,811)	(15,096)	0						0003	
146398 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	02/04/2022	02/06/2024	163,341	105.13000000		(18,343)			(31,218)		(31,218)	(12,874)	0						0003	
146402 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	02/04/2022	02/06/2023	792,377	105.13000000		(69,333)			(78,302)		(78,302)	(8,969)	0						0003	
146405 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	02/04/2022	02/06/2024	119,706	76.07000000		(11,817)			(16,404)		(16,404)	(4,587)	0						0003	
146410 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	02/04/2022	02/06/2023	650,618	76.07000000		(46,949)			(59,696)		(59,696)	(12,747)	0						0003	

E18.57

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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 Year-end (b)	
147053 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	02/18/2022	02/17/2023		1,526,995	4348.87000000		(135,292)		(173,450)		(173,450)	(38,158)	0					0003	
147054 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	02/18/2022	02/17/2023		1,249,194	101.51000000		(110,429)		(117,634)		(117,634)	(7,205)	0					0003	
147055 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	02/18/2022	02/20/2024		42,437	4348.87000000		(4,961)		(5,165)		(5,165)	(204)	0					0003	
147057 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	02/18/2022	02/17/2023		14,136,750	3913.98300000		(881,191)		(537,231)		(537,231)	343,960	0					0003	
147059 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	02/18/2022	02/17/2023		9,545,611	4348.87000000		(829,514)		(1,085,670)		(1,085,670)	(256,157)	0					0003	
147062 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	02/18/2022	02/17/2023		275,490	101.51000000		(24,133)		(45,492)		(45,492)	(21,359)	0					0003	
147066 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	02/18/2022	02/17/2023		922,978	75.30000000		(67,728)		(113,322)		(113,322)	(45,594)	0					0003	
147069 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	02/18/2022	02/20/2024		570,908	4348.87000000		(64,513)		(70,169)		(70,169)	(5,656)	0					0003	
147071 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	02/18/2022	02/17/2023		952,720	75.30000000		(69,167)		(81,337)		(81,337)	(12,169)	0					0003	
147077 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	02/18/2022	02/20/2024		67,479	101.51000000		(7,632)		(11,593)		(11,593)	(3,961)	0					0003	
147091 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	02/18/2022	02/20/2024		64,991	75.30000000		(6,829)		(8,580)		(8,580)	(1,751)	0					0003	
147162 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	02/18/2022	02/17/2023		10,333,829	4348.87000000		(877,342)		(824,697)		(824,697)	52,645	0					0003	
147167 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	02/18/2022	02/17/2023		1,362,190	177.12000000		(79,552)		(58,120)		(58,120)	21,432	0					0003	
147825 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/04/2022	03/03/2023		1,469,598	4328.87000000		(135,497)		(160,893)		(160,893)	(25,396)	0					0003	
147832 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/04/2022	03/04/2024		348,881	4328.87000000		(41,168)		(42,384)		(42,384)	(1,216)	0					0003	
147834 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/04/2022	03/03/2023		14,721,366	3895.98300000		(968,339)		(577,803)		(577,803)	390,535	0					0003	
147836 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/04/2022	03/03/2023		6,470,652	4328.87000000		(595,947)		(708,412)		(708,412)	(112,465)	0					0003	
147840 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/04/2022	03/03/2023		436,377	104.54000000		(39,841)		(81,779)		(81,779)	(41,938)	0					0003	
147842 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	03/04/2022	03/03/2023		898,034	69.03000000		(83,831)		(49,207)		(49,207)	34,624	0					0003	
147848 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/04/2022	03/04/2024		398,705	4328.87000000		(46,688)		(48,437)		(48,437)	(1,749)	0					0003	
147852 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/04/2022	03/04/2024		126,230	104.54000000		(14,819)		(23,500)		(23,500)	(8,681)	0					0003	
147857 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	03/04/2022	03/04/2024		121,311	69.03000000		(14,317)		(11,545)		(11,545)	2,772	0					0003	
147881 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	03/04/2022	03/03/2023		9,841,986	4328.87000000		(925,147)		0		0	925,147	0					0003	
147885 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	03/04/2022	03/03/2023		2,315,446	183.68000000		(185,236)		0		0	185,236	0					0003	
147893 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/04/2022	03/03/2023		578,797	104.54000000		(53,365)		0		0	53,365	0					0003	

E18.58

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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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 Year-end (b)	
147897 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/04/2022	03/03/2023		1,161,884	69.03000000		(102,130)				0	102,130	0					0003	
148426 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/18/2022	03/20/2023		1,160,022	4463.12000000		(97,094)		(155,599)		(155,599)	(58,506)	0						0003
148428 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/18/2022	03/20/2024		177,757	4463.12000000		(19,180)		(24,126)		(24,126)	(4,946)	0						0003
148429 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	03/18/2022	03/20/2023		16,142,157	4016.80800000		(945,213)		(941,198)		(941,198)	4,015	0						0003
148434 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/18/2022	03/20/2023		6,048,465	4463.12000000		(507,466)		(811,310)		(811,310)	(303,843)	0						0003
148446 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	03/18/2022	03/20/2023		7,030,909	4463.12000000		(586,378)				0	586,378	0						0003
148452 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	03/18/2022	03/20/2023		1,405,520	179.30000000		(98,808)				0	98,808	0						0003
148453 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	03/18/2022	03/20/2023		499,414	105.83000000		(41,252)		(97,764)		(97,764)	(56,512)	0						0003
148458 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	03/18/2022	03/20/2023		572,895	73.77000000		(45,030)		(59,254)		(59,254)	(14,224)	0						0003
148463 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	03/18/2022	03/20/2023		1,437,084	105.83000000		(118,703)				0	118,703	0						0003
148464 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/18/2022	03/20/2024		947,414	4463.12000000		(102,510)		(128,585)		(128,585)	(26,075)	0						0003
148469 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/18/2022	03/20/2024		235,249	105.83000000		(26,019)		(45,342)		(45,342)	(19,324)	0						0003
148474 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	03/18/2022	03/20/2024		317,946	73.77000000		(30,809)		(39,775)		(39,775)	(8,966)	0						0003
148475 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	03/18/2022	03/20/2023		558,501	73.77000000		(43,507)				0	43,507	0						0003
149303 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	04/06/2022	04/06/2023		11,848,638	4481.15000000		(968,034)				0	968,034	0						0003
149307 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	04/06/2022	04/06/2023		1,210,210	179.66000000		(74,307)				0	74,307	0						0003
149319 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	04/06/2022	04/06/2023		1,235,693	110.55000000		(105,158)				0	105,158	0						0003
149323 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/06/2022	04/06/2023		535,510	72.70000000		(44,169)				0	44,169	0						0003
149366 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	04/06/2022	04/06/2023		2,519,318	4481.15000000		(204,317)		(344,039)		(344,039)	(139,723)	0						0003
149367 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	04/06/2022	04/06/2023		28,343,538	4033.03500000		(1,640,776)		(1,794,660)		(1,794,660)	(153,884)	0						0003
149369 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	04/06/2022	04/06/2023		7,527,592	4481.15000000		(616,510)		(1,027,972)		(1,027,972)	(411,462)	0						0003
149371 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	04/06/2022	04/05/2024		1,197,300	4481.15000000		(125,716)		(165,201)		(165,201)	(39,484)	0						0003
149373 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	04/06/2022	04/06/2023		661,521	110.55000000		(55,303)		(153,363)		(153,363)	(98,060)	0						0003
149375 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	04/06/2022	04/05/2024		142,504	110.55000000		(14,507)		(31,569)		(31,569)	(17,062)	0						0003
149377 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/06/2022	04/06/2023		1,267,529	72.70000000		(107,081)		(117,020)		(117,020)	(9,940)	0						0003

E18.59

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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 Year-end (b)	
149379 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/06/2022	04/05/2024	368,197	72.70000000			(40,237)		(43,164)		(43,164)	(2,927)	0					0003	
149380 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/06/2022	04/05/2024	43,104	4481.15000000			(4,363)		(5,922)		(5,922)	(1,559)	0					0003	
149946 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	04/20/2022	04/20/2023	6,771,684	4459.45000000			(537,672)		0		0	537,672	0					0003	
149956 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	04/20/2022	04/20/2023	1,238,634	182.71000000			(74,442)		0		0	74,442	0					0003	
149962 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	04/20/2022	04/20/2023	1,626,758	112.38000000			(136,810)		0		0	136,810	0					0003	
149966 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	04/20/2022	04/20/2023	435,894	72.42000000			(31,864)		0		0	31,864	0					0003	
150000 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	04/20/2022	04/20/2023	4,838,219	4459.45000000			(378,349)		(639,344)		(639,344)	(260,995)	0					0003	
150002 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	04/20/2022	04/19/2024	617,729	4459.45000000			(61,279)		(83,538)		(83,538)	(22,259)	0					0003	
150004 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/20/2022	04/20/2023	554,024	72.42000000			(41,707)		(49,564)		(49,564)	(7,857)	0					0003	
150006 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/20/2022	04/19/2024	172,586	72.42000000			(17,231)		(20,061)		(20,061)	(2,830)	0					0003	
150008 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	04/20/2022	04/19/2024	139,518	112.38000000			(14,560)		(32,261)		(32,261)	(17,700)	0					0003	
150012 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	04/20/2022	04/20/2023	1,176,490	4459.45000000			(93,649)		(154,688)		(154,688)	(61,040)	0					0003	
150013 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	04/20/2022	04/19/2024	187,469	4459.45000000			(19,253)		(25,322)		(25,322)	(6,069)	0					0003	
150014 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	04/20/2022	04/20/2023	10,856,690	4013.50500000			(597,118)		(680,915)		(680,915)	(83,797)	0					0003	
150016 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	04/20/2022	04/20/2023	359,916	112.38000000			(28,397)		(87,994)		(87,994)	(59,596)	0					0003	
150368 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/06/2022	05/05/2023	6,226,160	4123.34000000			(561,600)		0		0	561,600	0					0003	
150372 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	05/06/2022	05/05/2023	1,782,715	175.42000000			(106,963)		0		0	106,963	0					0003	
150378 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/06/2022	05/05/2023	1,049,507	99.83000000			(103,901)		0		0	103,901	0					0003	
150382 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/06/2022	05/05/2023	496,201	67.27000000			(40,589)		0		0	40,589	0					0003	
150431 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	05/06/2022	05/05/2023	524,340	67.27000000			(41,428)		(26,743)		(26,743)	14,685	0					0003	
150434 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	05/06/2022	05/05/2023	5,505,497	4123.34000000			(480,244)		(433,634)		(433,634)	46,610	0					0003	
150436 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	05/06/2022	05/06/2024	115,689	4123.34000000			(12,830)		(12,207)		(12,207)	623	0					0003	
150438 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	05/06/2022	05/06/2024	114,039	99.83000000			(14,472)		(18,849)		(18,849)	(4,377)	0					0003	
150440 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	05/06/2022	05/06/2024	124,126	67.27000000			(13,204)		(11,229)		(11,229)	1,975	0					0003	
150441 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/06/2022	05/05/2023	1,399,403	4123.34000000			(125,806)		(110,288)		(110,288)	15,519	0					0003	

E18.60

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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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 Year-end (b)	
150443 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/06/2022	05/05/2023		328,902	99.83000000		(32,167)		(49,603)		(49,603)	(17,437)	0					0003	
150444 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	05/06/2022	05/05/2023		18,978,208	3711.00600000		(1,223,040)		(693,061)		(693,061)	529,980	0					0003	
150445 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	05/06/2022	05/06/2024		778,567	4123.34000000		(83,805)		(82,110)		(82,110)	1,695	0					0003	
151023 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	05/20/2022	05/19/2023		6,259,926	3901.36000000		(563,393)		0		0	563,393	0					0003	
151028 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	05/20/2022	05/19/2023		2,306,292	172.03000000		(123,617)		0		0	123,617	0					0003	
151032 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/20/2022	05/19/2023		622,034	94.88000000		(60,213)		0		0	60,213	0					0003	
151036 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/20/2022	05/19/2023		386,931	67.77000000		(32,541)		0		0	32,541	0					0003	
151076 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/20/2022	05/19/2023		782,354	3901.36000000		(72,055)		(43,570)		(43,570)	28,484	0					0003	
151077 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/20/2022	05/19/2023		232,216	94.88000000		(21,898)		(26,600)		(26,600)	(4,702)	0					0003	
151079 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/20/2022	05/20/2024		33,705	94.88000000		(3,964)		(4,683)		(4,683)	(719)	0					0003	
151080 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/20/2022	05/20/2024		148,476	3901.36000000		(16,436)		(13,307)		(13,307)	3,130	0					0003	
151082 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/20/2022	05/19/2023		4,260,667	3901.36000000		(397,094)		(237,283)		(237,283)	159,811	0					0003	
151084 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/20/2022	05/20/2024		843,847	3901.36000000		(95,523)		(75,627)		(75,627)	19,897	0					0003	
151086 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	05/20/2022	05/19/2028		348,724	3511.22400000		(44,947)		(40,330)		(40,330)	4,616	0					0003	
151088 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	05/20/2022	05/19/2023		443,778	67.77000000		(34,171)		(25,211)		(25,211)	8,960	0					0003	
151090 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	05/20/2022	05/20/2024		73,485	67.77000000		(7,694)		(6,886)		(6,886)	807	0					0003	
151091 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	05/20/2022	05/19/2023		14,842,605	3511.22400000		(996,269)		(386,345)		(386,345)	609,924	0					0003	
151629 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/06/2022	06/06/2023		7,715,108	4121.43000000		(656,232)		0		0	656,232	0					0003	
151637 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	06/06/2022	06/06/2023		1,210,980	171.82000000		(69,268)		0		0	69,268	0					0003	
151649 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/06/2022	06/06/2023		476,022	98.01000000		(43,318)		0		0	43,318	0					0003	
151659 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/06/2022	06/06/2023		570,124	69.98000000		(40,998)		(42,397)		(42,397)	(1,400)	0					0003	
151665 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/06/2022	06/06/2023		293,432	69.98000000		(20,834)		0		0	20,834	0					0003	
151666 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/06/2022	06/06/2024		39,124	69.98000000		(3,711)		(4,124)		(4,124)	(413)	0					0003	
151674 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/06/2022	06/06/2023		4,478,740	4121.43000000		(379,439)		(367,524)		(367,524)	11,915	0					0003	
151680 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/06/2022	06/06/2024		388,330	4121.43000000		(40,747)		(41,589)		(41,589)	(841)	0					0003	

E1861

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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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 Year-end (b)		
151685 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/06/2022	06/06/2024	28,838	98.01000000			(3,298)		(4,512)		(4,512)	(1,214)	0					0003		
151688 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/06/2022	06/06/2023	1,840,137	4121.43000000			(155,492)		(151,589)		(151,589)	3,902	0						0003	
151691 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/06/2022	06/06/2024	145,708	4121.43000000			(15,445)		(15,650)		(15,650)	(205)	0						0003	
151693 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/06/2022	06/06/2023	15,924,088	3709.28700000			(927,136)		(670,454)		(670,454)	256,681	0						0003	
151695 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/06/2022	06/06/2028	976,079	3709.28700000			(114,201)		(122,549)		(122,549)	(8,348)	0						0003	
151697 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/06/2022	06/06/2023	236,144	98.01000000			(20,875)		(31,390)		(31,390)	(10,515)	0						0003	
152976 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/17/2022	06/20/2023	5,850,145	3674.84000000			(522,887)		0		522,887	0	0						0003	
152983 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	06/17/2022	06/20/2023	2,042,589	171.27000000			(118,879)		0		118,879	0	0						0003	
152987 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/17/2022	06/20/2023	1,476,117	87.66000000			(142,002)		0		142,002	0	0						0003	
152992 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/17/2022	06/20/2023	610,755	61.48000000			(45,684)		0		45,684	0	0						0003	
153056 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/17/2022	06/20/2023	1,344,187	3674.84000000			(120,170)		(56,284)		(56,284)	63,886	0						0003	
153058 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/17/2022	06/20/2024	142,274	3674.84000000			(15,496)		(10,811)		(10,811)	4,685	0						0003	
153060 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/17/2022	06/20/2023	15,934,228	3307.35600000			(1,001,378)		(332,676)		(332,676)	668,702	0						0003	
153066 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	06/17/2022	06/20/2023	5,228,062	3674.84000000			(462,683)		(217,296)		(217,296)	245,387	0						0003	
153070 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/17/2022	06/20/2023	191,550	87.66000000			(18,197)		(14,726)		(14,726)	3,472	0						0003	
153088 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/17/2022	06/20/2023	540,730	61.48000000			(41,577)		(19,464)		(19,464)	22,113	0						0003	
153094 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/17/2022	06/20/2024	255,415	3674.84000000			(27,820)		(19,409)		(19,409)	8,411	0						0003	
153096 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	06/17/2022	06/20/2024	39,512	87.66000000			(4,832)		(4,416)		(4,416)	417	0						0003	
153098 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/17/2022	06/20/2024	2,517	61.48000000			(236)		(187)		(187)	49	0						0003	
153100 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	06/17/2022	06/20/2028	4,569,260	3307.35600000			(554,105)		(488,457)		(488,457)	65,648	0						0003	
153771 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/06/2022	07/06/2023	1,202,563	3845.08000000			(104,238)		(68,705)		(68,705)	35,533	0						0003	
153772 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/06/2022	07/05/2024	173,189	3845.08000000			(18,810)		(15,220)		(15,220)	3,590	0						0003	
153773 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/06/2022	07/06/2023	18,499,266	3460.57200000			(1,101,323)		(560,255)		(560,255)	541,068	0						0003	
153775 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	07/06/2022	07/05/2024	254,348	3845.08000000			(27,470)		(22,462)		(22,462)	5,007	0						0003	
153778 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/06/2022	07/05/2024	23,392	93.31000000			(2,491)		(3,238)		(3,238)	(747)	0						0003	

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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 Year-end (b)	
153780 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8P08K5P83	07/06/2022	07/05/2024		259,486	61.35000000		(28,001)		(19,400)		(19,400)	8,601	0					0003	
153782 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8P08K5P83	07/06/2022	07/06/2028		9,204,848	3460.57200000		(1,150,913)		(1,049,814)		(1,049,814)	101,099	0					0003	
153783 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8P08K5P83	07/06/2022	07/06/2023		5,507,137	3845.08000000		(475,982)		(314,634)		(314,634)	161,348	0					0003	
153788 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G71XB11	07/06/2022	07/06/2023		258,112	93.31000000		(23,643)		(28,327)		(28,327)	(4,683)	0					0003	
153792 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8P08K5P83	07/06/2022	07/06/2023		646,560	61.35000000		(49,430)		(23,849)		(23,849)	25,581	0					0003	
153834 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0WP21HZNB6K528	07/06/2022	07/06/2023		8,371,196	3845.08000000		(720,760)		0		720,760	0	0					0003	
153853 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0WP21HZNB6K528	07/06/2022	07/06/2023		2,282,606	162.14000000		(138,782)		0		138,782	0	0					0003	
153883 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0WP21HZNB6K528	07/06/2022	07/06/2023		986,300	93.31000000		(93,205)		0		93,205	0	0					0003	
153899 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSRPFMYMCFXT09	07/06/2022	07/06/2023		638,646	61.35000000		(46,174)		0		46,174	0	0					0003	
154450 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	07/20/2022	07/20/2023		6,098,181	3959.90000000		(487,854)		0		487,854	0	0					0003	
154459 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSRPFMYMCFXT09	07/20/2022	07/20/2023		1,293,663	158.04000000		(73,739)		0		73,739	0	0					0003	
154467 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G71XB11	07/20/2022	07/20/2023		542,207	93.96000000		(47,335)		0		47,335	0	0					0003	
154472 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G71XB11	07/20/2022	07/20/2023		485,114	62.91000000		(34,880)		0		34,880	0	0					0003	
154509 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G71XB11	07/20/2022	07/20/2023		749,168	3959.90000000		(62,256)		(52,128)		(52,128)	10,128	0					0003	
154511 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8P08K5P83	07/20/2022	07/19/2024		118,875	3959.90000000		(12,525)		(11,515)		(11,515)	1,009	0					0003	
154513 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G71XB11	07/20/2022	07/20/2023		14,912,374	3563.91000000		(866,575)		(573,523)		(573,523)	293,052	0					0003	
154516 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G71XB11	07/20/2022	07/20/2023		2,726,724	3959.90000000		(227,954)		(189,728)		(189,728)	38,226	0					0003	
154519 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G71XB11	07/20/2022	07/20/2023		147,959	93.96000000		(12,695)		(16,914)		(16,914)	(4,219)	0					0003	
154522 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8P08K5P83	07/20/2022	07/20/2023		104,051	62.91000000		(7,567)		(4,595)		(4,595)	2,972	0					0003	
154525 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBM8P08K5P83	07/20/2022	07/19/2024		312,337	3959.90000000		(32,970)		(30,255)		(30,255)	2,715	0					0003	
154529 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G71XB11	07/20/2022	07/19/2024		28,795	93.96000000		(3,133)		(3,997)		(3,997)	(864)	0					0003	
154531 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G71XB11	07/20/2022	07/19/2024		134,361	62.91000000		(12,778)		(10,045)		(10,045)	2,733	0					0003	
154534 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G71XB11	07/20/2022	07/20/2028		7,696,747	3563.91000000		(909,927)		(915,558)		(915,558)	(5,632)	0					0003	
155002 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1G71XB11	08/05/2022	08/04/2023		2,270,966	4145.19000000		(178,271)		(205,472)		(205,472)	(27,201)	0					0003	
155004 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0WP21HZNB6K528	08/05/2022	08/06/2024		218,458	4145.19000000		(22,750)		(24,547)		(24,547)	(1,797)	0					0003	

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 Year-end (b)		
155005 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL ... 02RNE81BXP4R0TD8PU41	08/05/2022	08/04/2023	23,726,337	3730.67100000	(1,286,495)				(1,240,461)		(1,240,461)	46,034	0					0003		
155007 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	08/05/2022	08/04/2023	3,660,173	4145.19000000	(288,422)				(331,164)		(331,164)	(42,742)	0						0003	
155010 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ... ROMUJISFPUBM8P08K5P83	08/05/2022	08/04/2023	211,585	98.55000000	(17,217)				(29,979)		(29,979)	(12,762)	0						0003	
155012 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ... ROMUJISFPUBM8P08K5P83	08/05/2022	08/04/2023	323,961	65.01000000	(25,599)				(17,781)		(17,781)	7,818	0						0003	
155015 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	08/05/2022	08/06/2024	214,661	4145.19000000	(22,303)				(24,132)		(24,132)	(1,829)	0						0003	
155017 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	08/05/2022	08/06/2024	32,267	98.55000000	(3,740)				(5,155)		(5,155)	(1,415)	0						0003	
155020 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ... ROMUJISFPUBM8P08K5P83	08/05/2022	08/06/2024	50,014	65.01000000	(5,131)				(4,566)		(4,566)	565	0						0003	
155023 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL ... 02RNE81BXP4R0TD8PU41	08/05/2022	08/04/2028	11,650,478	3730.67100000	(1,440,776)				(1,479,268)		(1,479,268)	(38,492)	0						0003	
155040 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	08/05/2022	08/04/2023	8,078,561	4145.19000000	(637,398)				0		637,398	0	0						0003	
155044 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	08/05/2022	08/04/2023	1,886,671	165.29000000	(97,918)				0		97,918	0	0						0003	
155049 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	08/05/2022	08/04/2023	629,017	98.55000000	(54,725)				0		54,725	0	0						0003	
155054 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	08/05/2022	08/04/2023	942,488	65.01000000	(79,169)				0		79,169	0	0						0003	
155801 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	08/19/2022	08/18/2023	979,358	4228.48000000	(75,998)				(99,284)		(99,284)	(23,286)	0						0003	
155805 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL ... W22LR0WP21HZNBB6K528	08/19/2022	08/20/2024	346,018	4228.48000000	(35,467)				(41,469)		(41,469)	(6,002)	0						0003	
155807 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ... ROMUJISFPUBM8P08K5P83	08/19/2022	08/18/2023	11,816,217	3805.63200000	(631,380)				(708,110)		(708,110)	(76,730)	0						0003	
155811 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ... ROMUJISFPUBM8P08K5P83	08/19/2022	08/18/2023	2,504,482	4228.48000000	(194,924)				(252,830)		(252,830)	(57,907)	0						0003	
155817 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	08/19/2022	08/18/2023	174,465	100.66000000	(14,324)				(27,417)		(27,417)	(13,094)	0						0003	
155824 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	08/19/2022	08/18/2023	5,208,734	4228.48000000	(404,198)				0		404,198	0	0						0003	
155826 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. ... KB1H1DSPRIFMYCJFT09	08/19/2022	08/18/2023	259,064	64.69000000	(17,539)				(14,196)		(14,196)	3,343	0						0003	
155830 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ... ROMUJISFPUBM8P08K5P83	08/19/2022	08/20/2024	604,955	4228.48000000	(62,722)				(72,325)		(72,325)	(9,603)	0						0003	
155835 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	08/19/2022	08/20/2024	120,346	100.66000000	(12,624)				(20,432)		(20,432)	(7,807)	0						0003	
155838 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	08/19/2022	08/18/2023	761,373	162.72000000	(38,525)				0		38,525	0	0						0003	
155841 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	08/19/2022	08/20/2024	120,113	64.69000000	(10,786)				(9,976)		(9,976)	810	0						0003	
155847 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ... ROMUJISFPUBM8P08K5P83	08/19/2022	08/18/2028	16,394,094	3805.63200000	(2,027,221)				(2,158,552)		(2,158,552)	(131,331)	0						0003	
155860 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ... ES71P3U3RH1GC71XBU11	08/19/2022	08/18/2023	230,255	100.66000000	(19,848)				0		19,848	0	0						0003	

E18,64

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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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 Year-end (b)	
156868 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	08/19/2022	08/18/2023		179,293	64.69000000		(12,640)				0	12,640	0					0003	
156477 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	09/06/2022	09/06/2023		1,127,565	3908.19000000		(94,400)		(79,189)		(79,189)	15,211	0						0003
156495 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	09/06/2022	09/06/2024		201,940	3908.19000000		(21,244)		(19,509)		(19,509)	1,735	0						0003
156498 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	09/06/2022	09/06/2023		13,281,996	3517.37100000		(757,959)		(558,421)		(558,421)	199,538	0						0003
156504 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	09/06/2022	09/06/2023		2,801,122	3908.19000000		(234,230)		(196,723)		(196,723)	37,507	0						0003
156509 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	09/06/2022	09/06/2023		125,254	94.28000000		(11,223)		(14,735)		(14,735)	(3,512)	0						0003
156530 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	09/06/2022	09/06/2023		329,899	60.32000000		(23,093)		(12,850)		(12,850)	10,242	0						0003
156538 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	09/06/2022	09/06/2024		598,602	3908.19000000		(63,141)		(57,457)		(57,457)	5,684	0						0003
156543 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	09/06/2022	09/06/2024		42,462	94.28000000		(4,603)		(6,020)		(6,020)	(1,417)	0						0003
156560 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	09/06/2022	09/06/2024		215,307	60.32000000		(20,788)		(16,223)		(16,223)	4,565	0						0003
156568 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	09/06/2022	09/06/2028		15,768,329	3517.37100000		(1,900,960)		(1,844,520)		(1,844,520)	56,440	0						0003
156596 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	09/06/2022	09/06/2023		1,157,091	158.33000000		(57,392)		0		0	57,392	0						0003
156603 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	09/06/2022	09/06/2023		884,935	94.28000000		(81,414)		0		0	81,414	0						0003
156613 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	09/06/2022	09/06/2023		4,886,134	3908.19000000		(405,061)		0		0	405,061	0						0003
156615 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	09/06/2022	09/06/2023		638,262	60.32000000		(49,784)		0		0	49,784	0						0003
156926 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	09/20/2022	09/20/2023		1,116,358	3855.93000000		(92,546)		(75,299)		(75,299)	17,247	0						0003
156929 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	09/20/2022	09/20/2024		85,233	3855.93000000		(8,757)		(7,943)		(7,943)	814	0						0003
156932 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	09/20/2022	09/20/2023		11,894,889	3470.33700000		(680,256)		(487,128)		(487,128)	193,129	0						0003
156936 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	09/20/2022	09/20/2023		3,145,289	3855.93000000		(261,153)		(212,234)		(212,234)	48,920	0						0003
156945 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	09/20/2022	09/20/2023		344,799	89.16000000		(31,135)		(31,658)		(31,658)	(523)	0						0003
156953 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	09/20/2022	09/20/2023		366,465	59.58000000		(27,961)		(13,982)		(13,982)	13,979	0						0003
156970 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	09/20/2022	09/20/2024		548,233	3855.93000000		(56,665)		(51,089)		(51,089)	5,576	0						0003
156975 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	09/20/2022	09/20/2024		31,343	89.16000000		(3,567)		(3,947)		(3,947)	(380)	0						0003
156985 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	09/20/2022	09/20/2028		9,468,307	3470.33700000		(1,103,584)		(1,092,756)		(1,092,756)	10,828	0						0003
156989 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	09/20/2022	09/20/2024		62,465	59.58000000		(5,686)		(4,610)		(4,610)	1,076	0						0003

E18.65

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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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 Year-end (b)
157020 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	09/20/2022	09/20/2023		4,167,330	3855.93000000		(345,472)				0	345,472	0					0003
157031 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	09/20/2022	09/20/2023		812,140	155.07000000		(39,308)				0	39,308	0					0003
157050 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	09/20/2022	09/20/2023		667,083	89.16000000		(62,239)				0	62,239	0					0003
157060 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	09/20/2022	09/20/2023		670,031	59.58000000		(51,056)				0	51,056	0					0003
157989 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	10/06/2022	10/06/2023		2,308,065	3744.52000000		(194,801)		(140,141)		(140,141)	54,660	0					0003
157996 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	10/06/2022	10/04/2024		50,209	3744.52000000		(5,312)		(4,368)		(4,368)	944	0					0003
158000 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	10/06/2022	10/06/2023		22,387,557	3370.06800000		(1,315,891)		(836,150)		(836,150)	479,741	0					0003
158006 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/06/2022	10/06/2023		3,530,188	3744.52000000		(306,067)		(214,918)		(214,918)	91,149	0					0003
158015 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	10/06/2022	10/06/2023		191,646	80.52000000		(18,705)		(11,871)		(11,871)	6,833	0					0003
158022 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	10/06/2022	10/06/2023		154,981	57.75000000		(11,965)		(4,955)		(4,955)	7,010	0					0003
158029 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/06/2022	10/04/2024		544,184	3744.52000000		(56,508)		(47,107)		(47,107)	9,401	0					0003
158037 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	10/06/2022	10/04/2024		8,258	80.52000000		(964)		(785)		(785)	179	0					0003
158042 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	10/06/2022	10/04/2024		93,942	57.75000000		(9,009)		(6,400)		(6,400)	2,609	0					0003
158062 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	10/06/2022	10/06/2028		13,562,556	3370.06800000		(1,544,624)		(1,496,062)		(1,496,062)	48,562	0					0003
158109 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	10/06/2022	10/06/2023		7,184,033	3744.52000000		(606,332)				0	606,332	0					0003
158118 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	10/06/2022	10/06/2023		2,727,383	159.63000000		(162,279)				0	162,279	0					0003
158123 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	10/06/2022	10/06/2023		793,966	80.52000000		(80,191)				0	80,191	0					0003
158128 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	10/06/2022	10/06/2023		278,347	57.75000000		(22,101)				0	22,101	0					0003
158689 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	10/20/2022	10/20/2023		6,980,089	3665.78000000		(593,308)				0	593,308	0					0003
158697 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	10/20/2022	10/20/2023		459,117	151.45000000		(23,002)				0	23,002	0					0003
158705 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	10/20/2022	10/20/2023		473,581	78.33000000		(47,784)				0	47,784	0					0003
158716 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	10/20/2022	10/20/2023		1,215,681	56.96000000		(109,411)				0	109,411	0					0003
158731 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	10/20/2022	10/20/2023		1,004,345	3665.78000000		(86,876)		(56,846)		(56,846)	30,030	0					0003
158733 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/20/2022	10/18/2024		449,019	3665.78000000		(46,604)		(36,974)		(36,974)	9,630	0					0003
158736 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	10/20/2022	10/20/2023		13,187,750	3299.20200000		(794,489)		(464,875)		(464,875)	329,614	0					0003

E18.66

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 Year-end (b)		
158738 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	10/20/2022	10/20/2023	4,289,354	3665.78000000		(373,903)			(242,661)		(242,661)	131,242	0					0003		
158742 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	10/20/2022	10/20/2023	332,601	78.33000000		(32,761)			(18,675)		(18,675)	14,087	0						0003	
158745 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	10/20/2022	10/20/2023	315,981	56.96000000		(25,436)			(10,174)		(10,174)	15,262	0						0003	
158749 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	10/20/2022	10/18/2024	544,160	3665.78000000		(57,354)			(45,133)		(45,133)	12,221	0						0003	
158753 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/20/2022	10/18/2024	16,351	78.33000000		(1,838)			(1,496)		(1,496)	342	0						0003	
158759 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	10/20/2022	10/18/2024	34,170	56.96000000		(3,284)			(2,271)		(2,271)	1,012	0						0003	
158766 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	10/20/2022	10/20/2028	9,314,607	3299.20200000		(1,026,677)			(1,004,086)		(1,004,086)	22,591	0						0003	
159723 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/04/2022	11/06/2023	1,716,319	3770.55000000		(139,983)			(112,637)		(112,637)	27,346	0						0003	
159724 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	11/04/2022	11/06/2024	130,602	3770.55000000		(13,439)			(11,853)		(11,853)	1,586	0						0003	
159727 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	11/04/2022	11/06/2023	17,742,894	3393.49500000		(981,773)			(733,642)		(733,642)	248,131	0						0003	
159733 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/04/2022	11/06/2023	6,721,206	3770.55000000		(550,467)			(440,493)		(440,493)	109,974	0						0003	
159737 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	11/04/2022	11/06/2023	491,381	82.65000000		(47,517)			(36,394)		(36,394)	11,123	0						0003	
159742 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/04/2022	11/06/2023	659,883	60.75000000		(51,642)			(30,461)		(30,461)	21,181	0						0003	
159747 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	11/04/2022	11/06/2024	545,723	3770.55000000		(56,264)			(49,529)		(49,529)	6,735	0						0003	
159755 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/04/2022	11/06/2024	30,487	82.65000000		(3,561)			(3,248)		(3,248)	314	0						0003	
159759 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/04/2022	11/06/2024	102,851	60.75000000		(10,272)			(8,310)		(8,310)	1,961	0						0003	
159765 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/04/2022	11/06/2028	9,748,160	3393.49500000		(1,010,993)			(1,094,857)		(1,094,857)	(83,864)	0						0003	
159825 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	11/04/2022	11/06/2023	8,350,260	3770.55000000		(681,381)			0		0	681,381	0						0003	
159836 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	11/04/2022	11/06/2023	1,521,892	156.47000000		(77,769)			0		0	77,769	0						0003	
159845 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	11/04/2022	11/06/2023	1,973,069	82.65000000		(198,688)			0		0	198,688	0						0003	
159857 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	11/04/2022	11/06/2023	1,071,895	60.75000000		(75,247)			0		0	75,247	0						0003	
160801 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/18/2022	11/20/2023	3,046,088	3965.34000000		(236,437)			(250,254)		(250,254)	(13,816)	0						0003	
160804 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/18/2022	11/20/2024	131,449	3965.34000000		(12,994)			(13,690)		(13,690)	(696)	0						0003	
160806 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/18/2022	11/20/2023	17,477,770	3568.80600000		(927,487)			(932,719)		(932,719)	(5,232)	0						0003	
160812 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/18/2022	11/20/2023	5,951,926	3965.34000000		(461,988)			(488,985)		(488,985)	(26,996)	0						0003	

E18.67

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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 Year-end (b)	
160817 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	11/18/2022		9,079,416	3965.34000000		(702,655)				0	702,655	0					0003	
160819 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIVSPUBM8P8K5P83	11/18/2022		426,636	86.59000000		(37,378)		(37,864)		(37,864)	(487)	0					0003	
160825 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIVSPUBM8P8K5P83	11/18/2022		591,542	65.15000000		(45,448)		(38,044)		(38,044)	7,405	0					0003	
160827 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RH1GC71XBU11	11/18/2022		1,152,024	162.79000000		(56,104)		0		0	56,104	0					0003	
160834 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIVSPUBM8P8K5P83	11/18/2022		349,932	3965.34000000		(34,731)		(36,443)		(36,443)	(1,712)	0					0003	
160835 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RH1GC71XBU11	11/18/2022		1,140,724	86.59000000		(103,920)		0		0	103,920	0					0003	
160840 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIVSPUBM8P8K5P83	11/18/2022		1,827,310	65.15000000		(142,950)		0		0	142,950	0					0003	
160841 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIVSPUBM8P8K5P83	11/18/2022		50,112	86.59000000		(5,642)		(6,069)		(6,069)	(428)	0					0003	
160846 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIVSPUBM8P8K5P83	11/18/2022		72,734	65.15000000		(6,582)		(7,148)		(7,148)	(565)	0					0003	
160850 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIVSPUBM8P8K5P83	11/18/2022		7,682,283	3568.80600000		(888,584)		(933,437)		(933,437)	(44,853)	0					0003	
161807 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RH1GC71XBU11	12/06/2022		2,731,859	3941.26000000		(204,889)		(222,730)		(222,730)	(17,841)	0					0003	
161809 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	G5GSEF7VJP5170UK5573	12/06/2022		8,389,402	3941.26000000		(626,729)		0		0	626,729	0					0003	
161810 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIVSPUBM8P8K5P83	12/06/2022		559,400	3941.26000000		(54,167)		(57,795)		(57,795)	(3,628)	0					0003	
161813 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIVSPUBM8P8K5P83	12/06/2022		20,975,825	3547.13400000		(1,057,881)		(1,122,084)		(1,122,084)	(64,203)	0					0003	
161816 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	KB1H1DSRFRMVMCJFXT09	12/06/2022		1,423,277	164.84000000		(63,621)		0		0	63,621	0					0003	
161821 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIVSPUBM8P8K5P83	12/06/2022		5,946,856	3941.26000000		(446,847)		(484,389)		(484,389)	(37,542)	0					0003	
161822 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	SOCIETE GENERAL	C2RNE81BXP4R0TD8PU41	12/06/2022		1,299,948	86.37000000		(119,595)		0		0	119,595	0					0003	
161825 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIVSPUBM8P8K5P83	12/06/2022		588,395	86.37000000		(49,525)		(52,202)		(52,202)	(2,677)	0					0003	
161829 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RH1GC71XBU11	12/06/2022		984,274	66.53000000		(71,557)		0		0	71,557	0					0003	
161832 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIVSPUBM8P8K5P83	12/06/2022		692,512	66.53000000		(48,213)		(49,765)		(49,765)	(1,552)	0					0003	
161843 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RH1GC71XBU11	12/06/2022		1,088,514	3941.26000000		(107,110)		(113,211)		(113,211)	(6,101)	0					0003	
161848 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIVSPUBM8P8K5P83	12/06/2022		135,312	86.37000000		(15,182)		(16,355)		(16,355)	(1,173)	0					0003	
161856 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	ROMUIVSPUBM8P8K5P83	12/06/2022		63,781	66.53000000		(5,997)		(6,690)		(6,690)	(693)	0					0003	
161864 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	B4TYDEB6QKMZ0031MB27	12/06/2022		15,267,718	3547.13400000		(1,822,287)		(1,829,164)		(1,829,164)	(6,877)	0					0003	
162526 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	ES71P3U3RH1GC71XBU11	12/20/2022		2,822,164	3821.62000000		(216,742)		(207,224)		(207,224)	9,518	0					0003	

E18.68

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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 Year-end (b)		
162530 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	12/20/2022	12/20/2024		578,448	3821.62000000		(59,117)		(55,842)		(55,842)	3,276	0					0003		
162532 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	12/20/2022	12/20/2023		18,784,051	3439.45800000		(976,771)		(905,007)		(905,007)	71,764	0						0003	
162537 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	12/20/2022	12/20/2023		7,255,871	3821.62000000		(564,362)		(532,106)		(532,106)	32,256	0						0003	
162541 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	12/20/2022	12/20/2023		470,830	83.29000000		(40,350)		(38,171)		(38,171)	2,179	0						0003	
162558 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	12/20/2022	12/20/2023		898,402	65.52000000		(63,167)		(63,866)		(63,866)	(699)	0						0003	
162567 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	12/20/2022	12/20/2024		1,729,762	3821.62000000		(174,706)		(167,300)		(167,300)	7,406	0						0003	
162573 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	12/20/2022	12/20/2024		45,834	83.29000000		(5,023)		(5,091)		(5,091)	(67)	0						0003	
162590 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	12/20/2022	12/20/2024		336,879	65.52000000		(33,573)		(34,936)		(34,936)	(1,363)	0						0003	
162585 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	12/20/2022	12/20/2028		20,074,888	3439.45800000		(2,415,678)		(2,306,369)		(2,306,369)	109,310	0						0003	
162671 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	12/20/2022	12/20/2023		992,724	65.52000000		(73,859)		0		0	73,859	0						0003	
162709 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	12/20/2022	12/20/2023		1,256,200	169.08000000		(57,283)		0		0	57,283	0						0003	
162717 Put Options - iShares U.S. Real Estate	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA	12/20/2022	12/20/2023		1,418,171	83.29000000		(124,090)		0		0	124,090	0						0003	
162721 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	12/20/2022	12/20/2023		9,561,273	3821.62000000		(735,751)		0		0	735,751	0						0003	
Conversion Adjustment																1,251,126								
0659999999. Subtotal - Written Options - Hedging Other - Put Options										(2,293,475)	(79,867,029)	0	(62,104,154)	XXX	(62,104,154)	20,519,133	0	0	0	0	0	XXX	XXX	
0709999999. Subtotal - Written Options - Hedging Other										(2,379,085)	(113,326,368)	0	(62,104,154)	XXX	(62,104,154)	53,978,472	0	0	0	0	0	XXX	XXX	
0779999999. Subtotal - Written Options - Replications										0	0	0	0	XXX	0	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	0	XXX	XXX	
0919999999. Subtotal - Written Options - Other										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX	
0929999999. Total Written Options - Call Options and Warrants										(85,610)	(33,459,339)	0	0	XXX	0	33,459,339	0	0	0	0	0	XXX	XXX	
0939999999. Total Written Options - Put Options										(2,293,475)	(79,867,029)	0	(62,104,154)	XXX	(62,104,154)	20,519,133	0	0	0	0	0	XXX	XXX	
0949999999. Total Written Options - Caps										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX	
0959999999. Total Written Options - Floors										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX	
0969999999. Total Written Options - Collars										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX	
0979999999. Total Written Options - Other										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX	
0989999999. Total Written Options										(2,379,085)	(113,326,368)	0	(62,104,154)	XXX	(62,104,154)	53,978,472	0	0	0	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	0	XXX	XXX	
1109999999. Subtotal - Swaps - Hedging Effective Variable Annuity Guarantees Under SSAP No.108										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX	
1169999999. Subtotal - Swaps - Hedging Other										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX	
1229999999. Subtotal - Swaps - Replication										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX	
1289999999. Subtotal - Swaps - Income Generation										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX	
1349999999. Subtotal - Swaps - Other										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX	
1359999999. Total Swaps - Interest Rate										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX	
1369999999. Total Swaps - Credit Default										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX	
1379999999. Total Swaps - Foreign Exchange										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX	
1389999999. Total Swaps - Total Return										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX	
1399999999. Total Swaps - Other										0	0	0	0	XXX	0	0	0	0	0	0	0	XXX	XXX	

E18.69

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS 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 December 31 of Current Year

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 Year-end (b)
1409999999. Total Swaps										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
1479999999. Subtotal - Forwards										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
1509999999. Subtotal - SSAP No. 108 Adjustments										0	0	0	0	XXX	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	XXX	XXX
1699999999. Subtotal - Hedging Effective Variable Annuity Guarantees Under SSAP No.108										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
1709999999. Subtotal - Hedging Other										1,508,812	78,012,534	0	30,644,554	XXX	30,644,554	(50,504,041)	0	0	0	0	XXX	XXX
1719999999. Subtotal - Replication										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
1729999999. Subtotal - Income Generation										0	0	0	0	XXX	0	0	0	0	0	0	XXX	XXX
1739999999. Subtotal - Other										0	0	0	0	XXX	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	XXX	XXX
1759999999 - Totals										1,508,812	78,012,534	0	30,644,554	XXX	30,644,554	(50,504,041)	0	0	0	0	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
	0003	Equity derivatives hedging portfolio's exposure to equity markets

E18.70

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
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	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	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	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
141169 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	08/06/2021	08/05/2022	08/05/2022	Maturity	485,477	1.64640000	31,758		1,917					18,524			(29,841)			0003
141174 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	08/06/2021	08/05/2022	08/05/2022	Expiry	331,586	44.36520000	21,388		0					13,921			(21,388)			0003
141187 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	08/06/2021	08/05/2022	08/05/2022	Expiry	798,574	44.36520000	51,509		0					31,763			(51,509)			0003
141188 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	08/06/2021	08/05/2022	08/05/2022	Expiry	200,619	44.36520000	12,940		0					7,613			(12,940)			0003
141191 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	08/06/2021	08/05/2022	08/05/2022	Expiry	250,220	44.36520000	16,139		0					9,040			(16,139)			0003
141333 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	08/06/2021	08/05/2022	08/05/2022	Expiry	221,427	44.36520000	14,282		0					7,680			(14,282)			0003
141341 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	08/06/2021	08/05/2022	08/05/2022	Expiry	137,266	44.36520000	8,854		0					4,564			(8,854)			0003
140294 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	UBS AG BFM8T61CT2L10CEMIK50	08/20/2021	08/19/2022	08/19/2022	Expiry	65,913	1.07000000	3,994		0					1,452			(3,994)			0003
141369 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	08/20/2021	08/19/2022	08/19/2022	Expiry	300,703	1.66700000	18,941		0					11,765			(18,941)			0003
141563 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	08/20/2021	08/19/2022	08/19/2022	Expiry	479,872	44.41670000	33,879		0					21,860			(33,879)			0003
141567 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJP5170UK5573	08/20/2021	08/19/2022	08/19/2022	Expiry	61,040	44.41670000	4,309		0					2,338			(4,309)			0003
141763 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFG9NF38B653	08/20/2021	08/19/2022	08/19/2022	Expiry	141,431	44.41670000	9,967		0					6,840			(9,967)			0003
141764 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFG9NF38B653	08/20/2021	08/19/2022	08/19/2022	Expiry	56,832	44.41670000	4,012		0					2,503			(4,012)			0003
141765 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFG9NF38B653	08/20/2021	08/19/2022	08/19/2022	Expiry	15,672	44.41670000	1,104		0					655			(1,104)			0003
141766 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFG9NF38B653	08/20/2021	08/19/2022	08/19/2022	Expiry	131,696	44.41670000	9,280		0					5,313			(9,280)			0003
140291 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	UBS AG BFM8T61CT2L10CEMIK50	09/03/2021	09/06/2022	09/06/2022	Expiry	304,030	1.11270000	17,814		0					7,894			(17,814)			0003
141396 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/03/2021	09/06/2022	09/06/2022	Expiry	327,765	1.71060000	20,981		0					14,818			(20,981)			0003
141397 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/03/2021	09/06/2022	09/06/2022	Expiry	41,946	82070000	2,326		0					1,705			(2,326)			0003
141400 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/03/2021	09/06/2022	09/06/2022	Expiry	169,807	45.35430000	11,292		0					8,789			(11,292)			0003
141401 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/03/2021	09/06/2022	09/06/2022	Expiry	83,588	45.35430000	5,559		0					3,875			(5,559)			0003
141402 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/03/2021	09/06/2022	09/06/2022	Expiry	67,351	45.35430000	4,479		0					2,877			(4,479)			0003

E19.10

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
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	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	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	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
141403	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	9/03/2021	09/06/2022	09/06/2022	Expiry	121,323	45.35430000	8,068		0				4,945			(8,068)			0003
141404	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/03/2021	09/06/2022	09/06/2022	Expiry	64,857	45.35430000	4,313		0				2,560			(4,313)			0003
141405	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/03/2021	09/06/2022	09/06/2022	Expiry	67,805	45.35430000	4,509		0				2,546			(4,509)			0003
141406	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/03/2021	09/06/2022	09/06/2022	Expiry	12,336	45.35430000	820		0				444			(820)			0003
141556	Call Options - Ishares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	71,156	79010000	4,368		0				2,817			(4,368)			0003
141561	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	797,639	43.57730000	62,296		0				44,768			(62,296)			0003
141562	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	205,467	43.57730000	16,047		0				10,777			(16,047)			0003
141564	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	101,099	43.57730000	7,896		0				5,045			(7,896)			0003
141565	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	10,197	43.57730000	796		0				490			(796)			0003
141568	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	09/20/2021	09/20/2022	09/20/2022	Expiry	340,252	43.57730000	26,574		0				15,630			(26,574)			0003
142900	Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	09/20/2021	09/20/2022	09/20/2022	Expiry	301,460	1.64940000	19,490		0				11,725			(19,490)			0003
142902	Call Options - Ishares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	09/20/2021	09/20/2022	09/20/2022	Expiry	256,680	1.06230000	16,928		0				7,372			(16,928)			0003
141619	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/06/2021	10/06/2022	10/06/2022	Expiry	303,441	43.63550000	24,457		0				19,611			(24,457)			0003
141622	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/06/2021	10/06/2022	10/06/2022	Expiry	74,355	43.63550000	5,983		0				3,662			(5,983)			0003
141623	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/06/2021	10/06/2022	10/06/2022	Expiry	190,076	43.63550000	15,320		0				9,021			(15,320)			0003
142830	Call Options - Ishares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	10/06/2021	10/06/2022	10/06/2022	Expiry	302,870	1.04050000	18,375		0				6,252			(18,375)			0003
142834	Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	10/06/2021	10/06/2022	10/06/2022	Expiry	805,577	1.65030000	51,259		0				30,499			(51,259)			0003
142836	Call Options - Ishares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A.	10/06/2021	10/06/2022	10/06/2022	Expiry	89,716	77390000	5,885		0				3,907			(5,885)			0003
142838	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC.	10/06/2021	10/06/2022	10/06/2022	Expiry	395,513	43.63550000	29,916		0				15,407			(29,916)			0003
142845	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	10/06/2021	10/06/2022	10/06/2022	Expiry	607,058	43.63550000	46,319		0				32,799			(46,319)			0003
142849	Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	10/06/2021	10/06/2022	10/06/2022	Expiry	453,702	43.63550000	34,617		0				23,184			(34,617)			0003

E19.11

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
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	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	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	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
141913 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	10/20/2021	10/20/2022	10/20/2022	Expiry	225,040	45.36190000	15,258		0					8,774			(15,258)			0003
141914 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	10/20/2021	10/20/2022	10/20/2022	Expiry	1,974,150	45.36190000	133,846		0					71,760			(133,846)			0003
142651 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0IP21HZNB86K528	10/20/2021	10/20/2022	10/20/2022	Expiry	373,015	1.09260000	21,608		0					8,864			(21,608)			0003
142654 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0IP21HZNB86K528	10/20/2021	10/20/2022	10/20/2022	Expiry	370,981	1.66900000	23,528		0					14,699			(23,528)			0003
142665 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFGFNF38B653	10/20/2021	10/20/2022	10/20/2022	Expiry	418,920	45.36190000	29,090		0					22,462			(29,090)			0003
142666 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFGFNF38B653	10/20/2021	10/20/2022	10/20/2022	Expiry	341,915	45.36190000	23,743		0					16,596			(23,743)			0003
142667 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC . 4PQUHNSJFFGFNF38B653	10/20/2021	10/20/2022	10/20/2022	Expiry	479,998	45.36190000	33,332		0					21,637			(33,332)			0003
142686 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	N.A. K81H1DSPPRFMYMCUFXT09	10/20/2021	10/20/2022	10/20/2022	Expiry	1,281,095	.80400000	74,432		0					49,369			(74,432)			0003
143631 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	651,321	1.69840000	41,417		0					28,384			(41,417)			0003
143673 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0IP21HZNB86K528	11/05/2021	11/04/2022	11/04/2022	Expiry	470,990	1.10240000	28,069		0					12,296			(28,069)			0003
143675 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFUBMIPR08K5P83	11/05/2021	11/04/2022	11/04/2022	Expiry	307,774	.81830000	17,389		0					12,508			(17,389)			0003
143689 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	297,636	46.97530000	20,328		0					16,097			(20,328)			0003
143691 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	46,036	46.97530000	3,144		0					2,293			(3,144)			0003
143693 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	611,618	46.97530000	41,773		0					29,082			(41,773)			0003
143697 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	361,945	46.97530000	24,721		0					16,030			(24,721)			0003
143699 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	356,543	46.97530000	24,352		0					15,308			(24,352)			0003
143701 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry	2,691,121	46.97530000	183,803		0					110,934			(183,803)			0003
143638 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/19/2021	11/18/2022	11/18/2022	Expiry	337,166	1.72610000	21,506		0					15,685			(21,506)			0003
143711 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/19/2021	11/18/2022	11/18/2022	Expiry	210,469	46.97960000	15,301		0					10,284			(15,301)			0003
143713 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/19/2021	11/18/2022	11/18/2022	Expiry	285,636	46.97960000	20,766		0					13,334			(20,766)			0003
143715 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	11/19/2021	11/18/2022	11/18/2022	Expiry	1,012,880	46.97960000	73,636		0					46,250			(73,636)			0003

E19.12

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

Table with 25 columns: 1-3: Identification and Description; 4-5: Risk and Counterparty; 6-8: Dates and Termination; 9-11: Indicate Exercise and Notional Amount; 12: Strike Price; 13: Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid; 14: Current Year Initial Cost of Un-discounted Premium (Received) Paid; 15: Consideration Received (Paid) on Termination; 16: Current Year Income; 17: Book/Adjusted Carrying Value; 18: Code; 19: Unrealized Valuation Increase/(Decrease); 20: Total Foreign Exchange Change in B./A.C.V.; 21: Current Year's (Amortization)/Accretion; 22: Gain (Loss) on Termination Recognized; 23: Adjustment to Carrying Value of Hedged Item; 24: Gain (Loss) on Termination Deferred; 25: Hedge Effectiveness at Inception and at Termination (b).

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
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	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	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	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
141413	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/03/2021	09/06/2022	09/06/2022	Expiry	173,372	46.30670000	(9,169)		0					(9,169)			9,169			0003
141414	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/03/2021	09/06/2022	09/06/2022	Expiry	86,012	46.66960000	(4,143)		0					(4,143)			4,143			0003
141415	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/03/2021	09/06/2022	09/06/2022	Expiry	69,675	46.91900000	(3,141)		0					(3,141)			3,141			0003
141416	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/03/2021	09/06/2022	09/06/2022	Expiry	125,872	47.05510000	(5,467)		0					(5,467)			5,467			0003
141417	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/03/2021	09/06/2022	09/06/2022	Expiry	67,418	47.14580000	(2,856)		0					(2,856)			2,856			0003
141418	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/03/2021	09/06/2022	09/06/2022	Expiry	70,686	47.28190000	(2,882)		0					(2,882)			2,882			0003
141419	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/03/2021	09/06/2022	09/06/2022	Expiry	12,892	47.39520000	(509)		0					(509)			509			0003
141586	Call Options - Ishares MSCI EAFE	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/20/2021	09/20/2022	09/20/2022	Expiry	74,394	82604955	(2,576)		0					(2,576)			2,576			0003
141589	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/20/2021	09/20/2022	09/20/2022	Expiry	820,770	44.84104170	(48,561)		0					(48,561)			48,561			0003
141590	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/20/2021	09/20/2022	09/20/2022	Expiry	212,453	45.05892820	(11,936)		0					(11,936)			11,936			0003
141591	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/20/2021	09/20/2022	09/20/2022	Expiry	104,891	45.21144875	(5,677)		0					(5,677)			5,677			0003
141592	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/20/2021	09/20/2022	09/20/2022	Expiry	10,605	45.32039200	(559)		0					(559)			559			0003
141593	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	09/20/2021	09/20/2022	09/20/2022	Expiry	354,882	45.45112390	(18,091)		0					(18,091)			18,091			0003
142801	Call Options - SPDR Gold shares	Exhibit 5	Equity/Index	INTERNATIONAL GOLDMAN SACHS W22LR0WP21HZNB6K528	09/20/2021	09/20/2022	09/20/2022	Expiry	316,382	1.73100000	(13,655)		0					(13,655)			13,655			0003
142903	Call Options - Ishares U.S. Real Estate	Exhibit 5	Equity/Index	INTERNATIONAL GOLDMAN SACHS W22LR0WP21HZNB6K528	09/20/2021	09/20/2022	09/20/2022	Expiry	270,797	1.12072650	(10,442)		0					(10,442)			10,442			0003
141628	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	10/06/2021	10/06/2022	10/06/2022	Expiry	309,813	44.55184550	(20,683)		0					(20,683)			20,683			0003
141631	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	10/06/2021	10/06/2022	10/06/2022	Expiry	77,478	45.46819100	(4,213)		0					(4,213)			4,213			0003
141633	Call Options - S&P 500	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UQJZ0078	10/06/2021	10/06/2022	10/06/2022	Expiry	198,535	45.5727975	(10,523)		0					(10,523)			10,523			0003
142835	Call Options - SPDR Gold shares	Exhibit 5	Equity/Index	INTERNATIONAL GOLDMAN SACHS W22LR0WP21HZNB6K528	10/06/2021	10/06/2022	10/06/2022	Expiry	845,848	1.73280000	(35,631)		0					(35,631)			35,631			0003

E19.24

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
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	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	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	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/(Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
141917 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	10/20/2021	10/20/2022	10/20/2022	Expiry		234,492	47.26709980	(9,861)		0				(9,861)			9,861			0003
141918 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	10/20/2021	10/20/2022	10/20/2022	Expiry		2,065,159	47.45308359	(82,518)		0				(82,518)			82,518			0003
142685 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. K81H1D5PPFMMJCFXT09	10/20/2021	10/20/2022	10/20/2022	Expiry		1,338,835	.84030000	(43,557)		0				(43,557)			43,557			0003
143633 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry		684,604	1.78518824	(28,800)		0				(28,800)			28,800			0003
143674 Call Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL W22LR0IP21HZNBB6K528	11/05/2021	11/04/2022	11/04/2022	Expiry		497,365	1.16413440	(16,438)		0				16,438			16,438			0003
143676 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry		320,301	.85160481	(10,495)		0				(10,495)			10,495			0003
143690 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry		304,362	48.03694178	(16,343)		0				(16,343)			16,343			0003
143692 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry		47,417	48.38455900	(2,340)		0				(2,340)			2,340			0003
143694 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry		632,413	48.57246020	(29,774)		0				(29,774)			29,774			0003
143698 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry		376,386	48.84961447	(16,497)		0				(16,497)			16,497			0003
143700 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry		371,660	48.96705272	(15,799)		0				(15,799)			15,799			0003
143702 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	11/05/2021	11/04/2022	11/04/2022	Expiry		2,813,836	49.11737368	(114,908)		0				(114,908)			114,908			0003
143643 Call Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	11/19/2021	11/18/2022	11/18/2022	Expiry		354,227	1.81344066	(15,041)		0				(15,041)			15,041			0003
143712 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	11/19/2021	11/18/2022	11/18/2022	Expiry		218,761	48.83059624	(10,545)		0				(10,545)			10,545			0003
143714 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	11/19/2021	11/18/2022	11/18/2022	Expiry		298,033	49.01851464	(13,719)		0				(13,719)			13,719			0003
143716 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	11/19/2021	11/18/2022	11/18/2022	Expiry		1,058,764	49.10777588	(47,667)		0				(47,667)			47,667			0003
143718 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO 9R7GPTS07KV3UJZ0078	11/19/2021	11/18/2022	11/18/2022	Expiry		2,293,968	49.37086164	(96,636)		0				(96,636)			96,636			0003
143796 Call Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	JPMORGAN CHASE BANK, N.A. 7H6GLXDRUGGFU57RNE97	11/19/2021	11/18/2022	11/18/2022	Expiry		567,442	.83931198	(20,205)		0				(20,205)			20,205			0003
143833 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6GMZ0031MB27	11/19/2021	11/18/2022	11/18/2022	Expiry		448,203	48.34670000	(25,104)		0				(25,104)			25,104			0003
143838 Call Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6GMZ0031MB27	11/19/2021	11/18/2022	11/18/2022	Expiry		209,553	48.50170000	(11,334)		0				(11,334)			11,334			0003

E19.25

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

Table with 25 columns: 1-Description, 2-Description of Item(s) Hedged, Used for Income Generation or Replicated, 3-Schedule / Exhibit Identifier, 4-Type(s) of Risk(s) (a), 5-Exchange, Counterparty or Central Clearinghouse, 6-Trade Date, 7-Date of Maturity or Expiration, 8-Termination Date, 9-Indicate Exercise, Expiration, Maturity or Sale, 10-Number of Contracts, 11-Notional Amount, 12-Strike Price, Rate or Index Received (Paid), 13-Cumulative Prior Year(s) Initial Cost of Un-discounted Premium (Received) Paid, 14-Current Year Initial Cost of Un-discounted Premium (Received) Paid, 15-Consideration Received (Paid) on Termination, 16-Current Year Income, 17-Book/ Adjusted Carrying Value, 18-Code, 19-Unrealized Valuation Increase/ (Decrease), 20-Total Foreign Exchange Change in B./A.C.V., 21-Current Year's (Amortization)/ Accretion, 22-Gain (Loss) on Termination Recognized, 23-Adjustment to Carrying Value of Hedged Item, 24-Gain (Loss) on Termination Deferred, 25-Hedge Effectiveness at Inception and at Termination (b). Rows include various call options such as 144154 Gold shares, 144164 S&P 500, 144166 S&P 500, 144209 MSCI EAFE, 144221 U.S. Real Estate, etc.

E19.26

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
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	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	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	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)	
140382 Put Options - Ishares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	06/18/2021	06/17/2022	06/17/2022	Maturity	426,138	78.52000000	(28,977)	(92,478)		(8,768)							(63,501)			0003	
140393 Put Options - Ishares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	06/18/2021	06/17/2022	06/17/2022	Maturity	608,894	78.52000000	(40,370)	(132,139)		(40,370)							(91,789)				0003
141093 Put Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	06/18/2021	06/17/2022	06/17/2022	Expiry	1,727,490	164.93000000	(109,005)			(109,005)							109,005				0003
141297 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	06/18/2021	06/17/2022	06/17/2022	Maturity	1,092,864	4166.45000000	(82,183)	(128,950)		(56,575)							(46,766)				0003
141340 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	06/18/2021	06/17/2022	06/17/2022	Maturity	2,690,151	4166.45000000	(204,720)	(317,418)		(141,683)							(112,698)				0003
141342 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	06/18/2021	06/17/2022	06/17/2022	Maturity	7,825,192	3749.80500000	(404,562)	(156,449)		(280,580)							248,113				0003
141816 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	06/18/2021	06/17/2022	06/17/2022	Maturity	5,592,206	4166.45000000	(424,448)	(659,839)		(424,448)							(235,390)				0003
142323 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CREDIT SUISSE INTERNATIONAL	06/19/2020	06/17/2022	06/17/2022	Expiry	91,572	3097.74000000	(13,104)			(12,696)							13,104				0003
140306 Put Options - Ishares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	07/06/2020	07/06/2022	07/06/2022	Maturity	251,188	62.78000000	(30,519)	(5,722)		(26,892)							24,797				0003
142328 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/06/2020	07/06/2022	07/06/2022	Expiry	58,750	3179.72000000	(7,506)			(7,085)							7,506				0003
142603 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/06/2020	07/06/2022	07/06/2022	Expiry	55,045	3179.72000000	(6,892)			(6,498)							6,892				0003
139583 Put Options - Ishares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	07/06/2021	07/06/2022	07/06/2022	Maturity	188,939	103.46000000	(10,958)	(18,536)		(5,776)							(7,578)				0003
140175 Put Options - Ishares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/06/2021	07/06/2022	07/06/2022	Maturity	898,738	103.46000000	(62,912)	(88,171)		(62,912)							(25,259)				0003
141118 Put Options - Ishares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	STANLEY/CLEARED THROUGH CBO	07/06/2021	07/06/2022	07/06/2022	Maturity	535,976	78.82000000	(36,448)	(118,796)		(9,062)							(82,348)				0003
141134 Put Options - Ishares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	STANLEY/CLEARED THROUGH CBO	07/06/2021	07/06/2022	07/06/2022	Maturity	512,330	78.82000000	(34,840)	(113,555)		(34,840)							(78,715)				0003
141140 Put Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL	07/06/2021	07/06/2022	07/06/2022	Maturity	1,594,538	168.12000000	(101,717)	(56,717)		(101,717)							44,999				0003
141269 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	07/06/2021	07/06/2022	07/06/2022	Maturity	690,316	4343.54000000	(51,235)	(79,220)		(29,324)							(27,985)				0003
141270 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	07/06/2021	07/06/2022	07/06/2022	Maturity	2,668,620	4343.54000000	(196,676)	(306,248)		(111,973)							(109,572)				0003
141277 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	07/06/2021	07/06/2022	07/06/2022	Maturity	9,169,037	3909.18600000	(456,924)	(150,371)		(257,443)							306,553				0003
141359 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/06/2021	07/06/2022	07/06/2022	Maturity	7,000,554	4343.54000000	(490,039)	(803,376)		(490,039)							(313,337)				0003
139544 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/20/2020	07/20/2022	07/20/2022	Expiry	58,663	3251.84000000	(7,232)			(6,633)							7,232				0003
140239 Put Options - Ishares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/20/2020	07/20/2022	07/20/2022	Expiry	16,439	78.12000000	(1,480)			(1,378)							1,480				0003
140303 Put Options - Ishares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	07/20/2020	07/20/2022	07/20/2022	Maturity	28,624	63.82000000	(2,004)	(408)		(1,506)							1,596				0003
142326 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	07/20/2020	07/20/2022	07/20/2022	Expiry	101,067	3251.84000000	(12,562)			(11,530)							12,562				0003
140252 Put Options - Ishares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	07/20/2021	07/20/2022	07/20/2022	Maturity	155,387	106.27000000	(11,499)	(18,000)		(6,088)							(6,501)				0003
140256 Put Options - Ishares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	07/20/2021	07/20/2022	07/20/2022	Maturity	597,715	106.27000000	(27,380)	(69,238)		(41,857)							(27,380)				0003
140392 Put Options - Ishares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	07/20/2021	07/20/2022	07/20/2022	Maturity	457,914	77.46000000	(15,798)	(86,014)		(15,798)							(70,216)				0003
140866 Put Options - Ishares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	07/20/2021	07/20/2022	07/20/2022	Maturity	100,243	77.46000000	(5,607)	(18,830)		(857)							(13,223)				0003
141151 Put Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	MORGAN STANLEY & CO. INTERNATIONAL PLC	07/20/2021	07/20/2022	07/20/2022	Maturity	1,805,293	169.39000000	(48,633)	(120,964)		(48,633)							(72,331)				0003
142471 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL	07/20/2021	07/20/2022	07/20/2022	Maturity	492,509	4323.06000000	(38,759)	(41,373)		(22,360)							(2,615)				0003
142475 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL	07/20/2021	07/20/2022	07/20/2022	Maturity	5,264,707	4323.06000000	(414,859)	(442,263)		(414,859)							(27,404)				0003

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
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	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	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	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
142476 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL C2RNE81BX/P4ROTD8PU41	07/20/2021	07/20/2022	07/20/2022	Maturity	2,206,994	4323.06000000	(173,689)	(185,399)	(185,399)	(185,399)				(100,204)			(11,710)			0003
142490 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL C2RNE81BX/P4ROTD8PU41	07/20/2021	07/20/2022	07/20/2022	Expiry	7,065,673	3890.75400000	(383,902)	(383,902)	(383,902)					(216,795)			383,902			0003
139576 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBMPPRO8K5P83	08/06/2020	08/05/2022	08/05/2022	Expiry	17,237	3349.16000000	(2,118)	(2,118)	(2,118)					(1,865)			2,118			0003
142339 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBMPPRO8K5P83	08/06/2020	08/05/2022	08/05/2022	Expiry	71,291	3349.16000000	(8,762)	(8,762)	(8,762)					(7,714)			8,762			0003
140282 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL C2RNE81BX/P4ROTD8PU41	08/06/2021	08/05/2022	08/05/2022	Maturity	825,148	107.08000000	(62,794)	(62,794)	(62,794)					(62,794)			(2,937)			0003
140284 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL C2RNE81BX/P4ROTD8PU41	08/06/2021	08/05/2022	08/05/2022	Maturity	216,857	107.08000000	(15,787)	(15,787)	(15,787)					(17,275)			(7,294)			0003
140402 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1HDSPPRFMMUCUFXOT9	08/06/2021	08/05/2022	08/05/2022	Maturity	153,877	80.31000000	(8,463)	(8,463)	(8,463)					1,174			(20,852)			0003
140409 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1HDSPPRFMMUCUFXOT9	08/06/2021	08/05/2022	08/05/2022	Maturity	579,029	80.31000000	(34,858)	(34,858)	(34,858)					(110,312)			(75,454)			0003
141146 Put Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL C2RNE81BX/P4ROTD8PU41	08/06/2021	08/05/2022	08/05/2022	Expiry	1,741,435	164.64000000	(111,626)	(111,626)	(111,626)					(111,626)			111,626			0003
141629 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC. G5GSEF7V/JP5170UK5573	08/06/2021	08/05/2022	08/05/2022	Maturity	2,934,299	4436.52000000	(216,139)	(216,139)	(216,139)					(98,965)			23,454			0003
141632 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC. G5GSEF7V/JP5170UK5573	08/06/2021	08/05/2022	08/05/2022	Maturity	7,023,330	4436.52000000	(491,633)	(491,633)	(491,633)					(491,633)			30,437			0003
141634 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC. G5GSEF7V/JP5170UK5573	08/06/2021	08/05/2022	08/05/2022	Expiry	7,065,982	3992.86800000	(348,510)	(348,510)	(348,510)					(143,910)			348,510			0003
141640 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC. G5GSEF7V/JP5170UK5573	08/06/2021	08/05/2022	08/05/2022	Maturity	1,285,002	4436.52000000	(95,040)	(95,040)	(95,040)					(84,381)			10,658			0003
139572 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL C2RNE81BX/P4ROTD8PU41	08/20/2020	08/19/2022	08/19/2022	Expiry	204,807	3385.51000000	(25,826)	(25,826)	(25,826)					(22,339)			25,826			0003
139592 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1HDSPPRFMMUCUFXOT9	08/20/2020	08/19/2022	08/19/2022	Expiry	88,951	81.19000000	(9,340)	(9,340)	(9,340)					(8,270)			9,340			0003
140611 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC. G5GSEF7V/JP5170UK5573	08/20/2020	08/19/2022	08/19/2022	Maturity	81,769	64.75000000	(6,067)	(6,067)	(6,067)					(4,222)			5,991			0003
142330 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBMPPRO8K5P83	08/20/2020	08/19/2022	08/19/2022	Expiry	273,541	3385.51000000	(34,794)	(34,794)	(34,794)					(30,137)			34,794			0003
139582 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1HDSPPRFMMUCUFXOT9	08/20/2021	08/19/2022	08/19/2022	Maturity	222,671	107.00000000	(15,587)	(15,587)	(15,587)					(13,194)			2,393			0003
140186 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC. G5GSEF7V/JP5170UK5573	08/20/2021	08/19/2022	08/19/2022	Maturity	97,694	107.00000000	(4,025)	(4,025)	(4,025)					11			(1,764)			0003
140409 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1HDSPPRFMMUCUFXOT9	08/20/2021	08/19/2022	08/19/2022	Maturity	181,604	79.45000000	(11,695)	(11,695)	(11,695)					(33,738)			(22,043)			0003
140870 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC. G5GSEF7V/JP5170UK5573	08/20/2021	08/19/2022	08/19/2022	Maturity	149,225	79.45000000	(8,386)	(8,386)	(8,386)					(27,723)			561			0003
141097 Put Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1HDSPPRFMMUCUFXOT9	08/20/2021	08/19/2022	08/19/2022	Maturity	694,351	166.70000000	(41,383)	(41,383)	(41,383)					(16,578)			(24,805)			0003
141282 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBMPPRO8K5P83	08/20/2021	08/19/2022	08/19/2022	Maturity	417,219	4441.67000000	(32,377)	(32,377)	(32,377)					(20,026)			12,351			0003
141578 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC. G5GSEF7V/JP5170UK5573	08/20/2021	08/19/2022	08/19/2022	Maturity	1,643,796	4441.67000000	(127,065)	(127,065)	(127,065)					(78,898)			48,167			0003
141579 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC. G5GSEF7V/JP5170UK5573	08/20/2021	08/19/2022	08/19/2022	Maturity	3,275,578	4441.67000000	(258,443)	(258,443)	(258,443)					(157,220)			101,223			0003
141583 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC. G5GSEF7V/JP5170UK5573	08/20/2021	08/19/2022	08/19/2022	Expiry	6,917,766	3997.50300000	(368,179)	(368,179)	(368,179)					(150,696)			368,179			0003
139579 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1HDSPPRFMMUCUFXOT9	09/03/2021	09/06/2022	09/06/2022	Maturity	670,146	111.27000000	(46,910)	(46,910)	(46,910)					(102,326)			(55,416)			0003
139581 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1HDSPPRFMMUCUFXOT9	09/03/2021	09/06/2022	09/06/2022	Maturity	146,552	111.27000000	(9,526)	(9,526)	(9,526)					(22,377)			(12,851)			0003
140411 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1HDSPPRFMMUCUFXOT9	09/03/2021	09/06/2022	09/06/2022	Maturity	410,419	82.07000000	(26,677)	(26,677)	(26,677)					(108,768)			(82,091)			0003
140416 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1HDSPPRFMMUCUFXOT9	09/03/2021	09/06/2022	09/06/2022	Maturity	374,477	82.07000000	(24,154)	(24,154)	(24,154)					(99,243)			(75,089)			0003
141100 Put Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1HDSPPRFMMUCUFXOT9	09/03/2021	09/06/2022	09/06/2022	Maturity	1,236,736	171.06000000	(71,112)	(71,112)	(71,112)					(92,036)			(20,924)			0003
141647 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC. G5GSEF7V/JP5170UK5573	09/03/2021	09/06/2022	09/06/2022	Maturity	2,587,217	4535.43000000	(193,445)	(193,445)	(193,445)					(357,806)			(164,362)			0003

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

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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	24	25
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	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	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	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
141648 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJPS170UK5573	09/03/2021	09/06/2022	09/06/2022	Maturity		5,116,920	4535.43000000	(392,979)	(707,659)					(392,979)			(314,679)			0003
141649 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJPS170UK5573	09/03/2021	09/06/2022	09/06/2022	Maturity		642,392	4535.43000000	(47,633)	(88,841)					(15,138)			(41,209)			0003
142493 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL C2RNE81BX4ROTD8PU41	09/03/2021	09/06/2022	09/06/2022	Maturity		5,725,221	4081.88700000	(289,442)	(243,697)					(83,621)			45,745			0003
139591 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPFIMJCUFT09	09/04/2020	09/06/2022	09/06/2022	Expiry		32,159	82.42000000	(3,216)						(2,819)			3,216			0003
140307 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPFIMJCUFT09	09/04/2020	09/06/2022	09/06/2022	Maturity		215,126	64.52000000	(15,059)	(14,004)					(10,868)			1,055			0003
142336 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBMIPR08K5P83	09/04/2020	09/06/2022	09/06/2022	Expiry		340,421	3426.96000000	(45,208)	(39,481)					(39,481)			45,208			0003
142606 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJPS170UK5573	09/04/2020	09/06/2022	09/06/2022	Expiry		93,872	3426.96000000	(12,671)						(11,092)			12,671			0003
141050 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	CREDIT SUISSE INTERNATIONAL E58DKGMJYYJLN8C3868	09/18/2020	09/20/2022	09/20/2022	Maturity		32,149	65.13000000	(3,758)	(2,740)					(3,051)			1,018			0003
142334 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBMIPR08K5P83	09/18/2020	09/20/2022	09/20/2022	Expiry		364,365	3319.47000000	(48,679)	(42,714)					(42,714)			48,679			0003
142604 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	CREDIT SUISSE INTERNATIONAL E58DKGMJYYJLN8C3868	09/18/2020	09/20/2022	09/20/2022	Expiry		73,825	3319.47000000	(10,291)						(9,082)			10,291			0003
142785 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJPS170UK5573	09/20/2021	09/20/2022	09/20/2022	Maturity		576,005	4357.73000000	(50,424)	(66,328)					(24,742)			(15,904)			0003
142804 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A. B4TDEB6KMZ0031MB27	09/20/2021	09/20/2022	09/20/2022	Maturity		6,627,334	3921.95700000	(416,049)	(111,573)					(87,733)			304,477			0003
142816 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJPS170UK5573	09/20/2021	09/20/2022	09/20/2022	Maturity		2,769,483	4357.73000000	(245,348)	(318,911)					(121,869)			(73,562)			0003
142817 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBMIPR08K5P83	09/20/2021	09/20/2022	09/20/2022	Maturity		79,114	106.23000000	(5,833)	(12,713)					(2,354)			(6,880)			0003
142818 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBMIPR08K5P83	09/20/2021	09/20/2022	09/20/2022	Maturity		192,483	79.01000000	(13,763)	(47,335)					(2,076)			(33,573)			0003
142886 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBMIPR08K5P83	09/20/2021	09/20/2022	09/20/2022	Maturity		2,939,836	4357.73000000	(279,725)	(338,527)					(95,603)			(58,802)			0003
142889 Put Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBMIPR08K5P83	09/20/2021	09/20/2022	09/20/2022	Maturity		851,455	164.94000000	(56,315)	(50,951)					(35,633)			5,364			0003
142894 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBMIPR08K5P83	09/20/2021	09/20/2022	09/20/2022	Maturity		814,290	106.23000000	(74,508)	(130,848)					(43,996)			(56,340)			0003
142897 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBMIPR08K5P83	09/20/2021	09/20/2022	09/20/2022	Maturity		685,545	79.01000000	(56,304)	(168,588)					(27,751)			(112,284)			0003
140578 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJPS170UK5573	10/06/2020	10/06/2022	10/06/2022	Maturity		89,285	64.17000000	(8,366)	(8,933)					(6,368)			(567)			0003
142309 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL C2RNE81BX4ROTD8PU41	10/06/2020	10/06/2022	10/06/2022	Expiry		654,287	3360.95000000	(88,525)						(75,901)			88,525			0003
142793 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJPS170UK5573	10/06/2021	10/06/2022	10/06/2022	Maturity		6,733,699	4363.55000000	(565,563)	(955,269)					(565,563)			(389,706)			0003
142799 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJPS170UK5573	10/06/2021	10/06/2022	10/06/2022	Maturity		1,041,619	104.05000000	(77,496)						(235,553)			(158,057)			0003
142801 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJPS170UK5573	10/06/2021	10/06/2022	10/06/2022	Maturity		1,347,857	4363.55000000	(112,749)	(191,212)					(49,220)			(78,463)			0003
142802 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJPS170UK5573	10/06/2021	10/06/2022	10/06/2022	Maturity		15,701,417	3927.19500000	(913,298)	(730,358)					(355,492)			182,941			0003
142803 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC . G5GSEF7VJPS170UK5573	10/06/2021	10/06/2022	10/06/2022	Maturity		2,927,069	4363.55000000	(245,845)	(415,245)					(107,882)			(169,400)			0003
142808 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBMIPR08K5P83	10/06/2021	10/06/2022	10/06/2022	Maturity		227,154	104.05000000	(16,875)	(51,369)					(7,354)			(34,494)			0003
142813 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBMIPR08K5P83	10/06/2021	10/06/2022	10/06/2022	Maturity		371,859	77.39000000	(28,269)	(94,370)					(28,269)			(66,101)			0003
142814 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBMIPR08K5P83	10/06/2021	10/06/2022	10/06/2022	Maturity		140,464	77.39000000	(10,184)	(35,647)					(2,381)			(25,463)			0003
142879 Put Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1DSPPFIMJCUFT09	10/06/2021	10/06/2022	10/06/2022	Maturity		2,271,741	165.03000000	(141,984)	(74,334)					(141,984)			67,649			0003
141683 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPUBMIPR08K5P83	10/20/2020	10/20/2022	10/20/2022	Expiry		98,301	3443.12000000	(12,936)						(10,719)			12,936			0003

E19.33

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25		
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	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	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	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)		
142307 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON X-CHANGE FINANCIAL ACCESS / MORGAN STANLEY/CLEARED THROUGH CBO	10/20/2020	10/20/2022	10/20/2022	Expiry	95,438	3443.12000000		(12,464)						(10,312)			12,464			0003		
141912 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/20/2021	10/20/2022	10/20/2022	Maturity	1,318,560	80.40000000		(98,400)		(384,416)				(98,400)			(286,016)				0003	
142648 Put Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/20/2021	10/20/2022	10/20/2022	Maturity	552,209	166.90000000		(34,480)		(51,118)				(34,480)			(16,638)				0003	
142678 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL	10/20/2021	10/20/2022	10/20/2022	Maturity	5,122,402	4536.19000000		(396,980)		(982,893)				(396,980)			(585,913)				0003	
142684 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	10/20/2021	10/20/2022	10/20/2022	Maturity	512,865	109.26000000		(32,823)		(145,185)				(32,823)			(112,362)				0003	
142687 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/20/2021	10/20/2022	10/20/2022	Maturity	364,361	80.40000000		(25,425)		(106,227)				(25,425)			(80,801)				0003	
142691 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/20/2021	10/20/2022	10/20/2022	Maturity	431,407	109.26000000		(30,384)		(122,125)				(30,384)			(91,741)				0003	
142696 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	GOLDMAN SACHS INTERNATIONAL	10/20/2021	10/20/2022	10/20/2022	Maturity	7,568,146	4082.57100000		(401,113)		(772,634)				(772,634)			(371,521)				0003	
142698 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	10/20/2021	10/20/2022	10/20/2022	Maturity	792,291	4536.19000000		(60,310)		(152,026)				(152,026)			(91,716)				0003	
142698 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/20/2021	10/20/2022	10/20/2022	Maturity	4,153,336	4536.19000000		(320,970)		(796,947)				(796,947)			(475,977)				0003	
142698 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	10/20/2021	10/20/2022	10/20/2022	Maturity	4,153,336	4536.19000000		(320,970)		(796,947)				(796,947)			(475,977)				0003	
143646 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/05/2021	11/04/2022	11/04/2022	Maturity	9,514,831	4697.53000000		(773,556)		(1,877,595)				(1,877,595)			(773,556)					0003
143656 Put Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	11/05/2021	11/04/2022	11/04/2022	Expiry	1,169,424	152.85600000		(35,603)							8,840			35,603				0003
143658 Put Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	11/05/2021	11/04/2022	11/04/2022	Maturity	1,299,360	169.84000000		(81,860)		(102,287)					(81,860)			(20,427)				0003
143667 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/05/2021	11/04/2022	11/04/2022	Maturity	1,922,561	110.24000000		(137,079)		(481,163)					(137,079)			(344,085)				0003
143672 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/05/2021	11/04/2022	11/04/2022	Maturity	1,072,126	81.83000000		(73,548)		(276,188)					(73,548)			(202,640)				0003
143764 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/05/2021	11/04/2022	11/04/2022	Maturity	712,251	81.83000000		(48,860)		(183,481)					8,494			(134,621)				0003
143766 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/05/2021	11/04/2022	11/04/2022	Maturity	629,279	110.24000000		(44,868)		(157,491)					(6,904)			(112,624)				0003
143768 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	11/05/2021	11/04/2022	11/04/2022	Maturity	7,284,958	4697.53000000		(560,942)		(1,437,566)					(71,189)			(876,624)				0003
143770 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/05/2021	11/04/2022	11/04/2022	Maturity	13,227,471	4227.77700000		(631,979)		(1,430,529)					(43,140)			(798,550)				0003
143772 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/05/2021	11/04/2022	11/04/2022	Maturity	568,417	4697.53000000		(42,461)							(112,168)			(69,707)				0003
140580 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/06/2020	11/04/2022	11/04/2022	Maturity	29,553	66.21000000		(2,429)		(2,437)					(1,573)			(8)				0003
141841 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A.	11/06/2020	11/04/2022	11/04/2022	Expiry	65,917	3509.44000000		(8,431)							(6,731)			8,431				0003
142312 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/06/2020	11/04/2022	11/04/2022	Expiry	282,918	3509.44000000		(35,175)							(27,879)			35,175				0003
143781 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/19/2021	11/18/2022	11/18/2022	Maturity	1,037,302	4697.96000000		(81,947)		(161,761)					(10,405)			(79,814)				0003
143807 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/19/2021	11/18/2022	11/18/2022	Maturity	605,103	80.34000000		(43,567)		(114,408)					(114,408)			(70,840)				0003
143811 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/19/2021	11/18/2022	11/18/2022	Maturity	12,593,542	4228.16400000		(688,027)		(782,819)					(17,998)			(94,791)				0003
143813 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/19/2021	11/18/2022	11/18/2022	Maturity	6,047,945	4697.96000000		(482,807)		(943,142)					(65,688)			(460,335)				0003
143815 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/19/2021	11/18/2022	11/18/2022	Maturity	556,135	109.88000000		(42,789)		(117,878)					(8,612)			(75,089)				0003
143856 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/19/2021	11/18/2022	11/18/2022	Maturity	10,121,586	4697.96000000		(809,727)		(1,578,403)					(809,727)			(768,677)				0003
143861 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A.	11/19/2021	11/18/2022	11/18/2022	Maturity	1,926,971	80.34000000		(132,961)		(364,335)					(132,961)			(231,374)				0003
143870 Put Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON	11/19/2021	11/18/2022	11/18/2022	Maturity	1,164,954	172.61000000		(74,208)		(66,276)					(74,208)			7,932				0003
143881 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC	11/19/2021	11/18/2022	11/18/2022	Maturity	1,299,390	109.88000000		(90,957)		(275,417)					(90,957)			(184,459)				0003

E19.34

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
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	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	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	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/(Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)	
141684 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6GQZ0031MB27	11/20/2020	11/18/2022	11/18/2022	Expiry	43, 114	3557.54000000	(5,481)	(5,481)	(5,481)					(4,247)			(5,481)			0003	
142310 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	SOCIETE GENERAL Q2RNE81BXP4R0TD8PU41	11/20/2020	11/18/2022	11/18/2022	Expiry	112,351	3557.54000000	(13,291)	(13,291)	(13,291)					(10,075)			(13,291)			0003	
139595 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	WELLS FARGO BANK, N.A. KB1H1D5PFRMMVCJFX0T9	12/04/2020	12/06/2022	12/06/2022	Expiry	29,375	86.24000000	(2,808)	(2,808)	(2,808)					(2,192)			(2,808)			0003	
140588 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	12/04/2020	12/06/2022	12/06/2022	Maturity	29,375	72.54000000	(2,406)	(2,406)	(2,406)	(2,434)				(1,101)			(28)			0003	
142316 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BANK OF AMERICA, N.A. B4TYDEB6GQZ0031MB27	12/04/2020	12/06/2022	12/06/2022	Expiry	200,311	3699.12000000	(24,518)	(24,518)	(24,518)					(18,224)			(24,518)			0003	
142596 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPU8MPR08K5P83	12/04/2020	12/06/2022	12/06/2022	Expiry	82,745	3699.12000000	(10,111)	(10,111)	(10,111)					(7,511)			(10,111)			0003	
144150 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	12/06/2021	12/06/2022	12/06/2022	Maturity	14,178,455	4132.50300000	(908,839)	(908,839)	(908,839)	(656,147)				(192,692)			(252,692)			0003	
144160 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	12/06/2021	12/06/2022	12/06/2022	Maturity	1,247,817	4591.67000000	(110,681)	(110,681)	(110,681)	(176,753)				(27,778)			(66,072)			0003	
144167 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	12/06/2021	12/06/2022	12/06/2022	Maturity	7,716,285	4591.67000000	(684,435)	(684,435)	(684,435)	(1,093,012)				(171,776)			(408,577)			0003	
144172 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	12/06/2021	12/06/2022	12/06/2022	Maturity	757,349	110.00000000	(68,086)	(68,086)	(68,086)	(162,692)				(21,329)			(94,607)			0003	
144180 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	12/06/2021	12/06/2022	12/06/2022	Maturity	633,627	77.77000000	(48,663)	(48,663)	(48,663)	(91,577)				(9,039)			(42,915)			0003	
144195 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	12/06/2021	12/06/2022	12/06/2022	Maturity	7,540,215	4591.67000000	(673,040)	(673,040)	(673,040)	(1,068,071)				(673,040)			(395,032)			0003	
144205 Put Options - SPDR Gold shares	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	12/06/2021	12/06/2022	12/06/2022	Maturity	1,521,522	166.22000000	(97,833)	(97,833)	(97,833)	(12,632)				(97,833)			(85,201)			0003	
144213 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	12/06/2021	12/06/2022	12/06/2022	Maturity	1,001,648	77.77000000	(76,827)	(76,827)	(76,827)	(144,767)				(76,827)			(67,940)			0003	
144216 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	12/06/2021	12/06/2022	12/06/2022	Maturity	1,429,149	110.00000000	(127,623)	(127,623)	(127,623)	(307,007)				(127,623)			(179,384)			0003	
140586 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	12/18/2020	12/20/2022	12/20/2022	Maturity	283,939	72.67000000	(27,551)	(27,551)	(27,551)	(27,937)				(14,398)			(386)			0003	
141844 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPU8MPR08K5P83	12/18/2020	12/20/2022	12/20/2022	Expiry	99,349	3709.41000000	(11,982)	(11,982)	(11,982)					(8,640)			(11,982)			0003	
142315 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPU8MPR08K5P83	12/18/2020	12/20/2022	12/20/2022	Expiry	726,900	3709.41000000	(90,644)	(90,644)	(90,644)					(66,336)			(90,644)			0003	
144656 Put Options - S&P 500	LIABILITY HEDGE	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	12/20/2021	12/20/2022	12/20/2022	Maturity	8,605,401	4568.02000000	(766,741)	(766,741)	(766,741)	(1,406,095)				(766,741)			(639,354)			0003	
144657 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	12/20/2021	12/20/2022	12/20/2022	Maturity	1,166,832	4568.02000000	(103,498)	(103,498)	(103,498)	(190,657)				(25,466)			(87,159)			0003	
144660 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	ROYAL BANK OF CANADA ES71P3U3RH1GC71XBU11	12/20/2021	12/20/2022	12/20/2022	Maturity	13,941,825	4111.21800000	(890,728)	(890,728)	(890,728)	(982,075)				(170,778)			(91,347)			0003	
144664 Put Options - SPDR Gold shares	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	12/20/2021	12/20/2022	12/20/2022	Expiry	1,332,990	167.09000000	(82,112)	(82,112)	(82,112)					(82,112)			(82,112)			0003	
144665 Put Options - S&P 500	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	12/20/2021	12/20/2022	12/20/2022	Maturity	8,210,252	4568.02000000	(734,735)	(734,735)	(734,735)	(1,341,529)				(185,678)			(606,794)			0003	
144666 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPU8MPR08K5P83	12/20/2021	12/20/2022	12/20/2022	Maturity	473,985	110.32000000	(37,450)	(37,450)	(37,450)	(116,133)				(6,871)			(78,684)			0003	
144671 Put Options - iShares MSCI EAFE	Liability Hedge	Exhibit 5	Equity/Index	BNP PARIBAS LONDON ROMUISFPU8MPR08K5P83	12/20/2021	12/20/2022	12/20/2022	Maturity	837,609	76.48000000	(68,215)	(68,215)	(68,215)	(120,034)				(18,837)			(51,819)			0003	
144698 Put Options - iShares MSCI EAFE	LIABILITY HEDGE	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	12/20/2021	12/20/2022	12/20/2022	Maturity	1,073,745	76.48000000	(80,531)	(80,531)	(80,531)	(153,874)				(80,531)			(73,343)			0003	
144699 Put Options - iShares U.S. Real Estate	Liability Hedge	Exhibit 5	Equity/Index	BARCLAYS BANK PLC G5GSEF7VJP5170UK5573	12/20/2021	12/20/2022	12/20/2022	Maturity	1,615,932	110.32000000	(146,242)	(146,242)	(146,242)	(395,927)				(146,242)			(249,685)			0003	
0659999999	Subtotal - Written Options - Hedging Other - Put Options											(33,733,258)	0	(35,378,573)	0	0	XXX	(23,337,334)	0	0	(1,645,315)	0	0	0	XXX
0709999999	Subtotal - Written Options - Hedging Other											(46,532,161)	0	(42,950,838)	0	0	XXX	(31,891,511)	0	0	3,581,323	0	0	0	XXX
0779999999	Subtotal - Written Options - Replications											0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX
0849999999	Subtotal - Written Options - Income Generation											0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX
0919999999	Subtotal - Written Options - Other											0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX
0929999999	Total Written Options - Call Options and Warrants											(12,798,903)	0	(7,572,265)	0	0	XXX	(8,554,177)	0	0	5,226,638	0	0	0	XXX
0939999999	Total Written Options - Put Options											(33,733,258)	0	(35,378,573)	0	0	XXX	(23,337,334)	0	0	(1,645,315)	0	0	0	XXX
0949999999	Total Written Options - Caps											0	0	0	0	0	XXX	0	0	0	0	0	0	0	XXX

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ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART A - SECTION 2

Showing all Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
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	Termination Date	Indicate Exercise, Expiration, Maturity or Sale	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	Consideration Received (Paid) on Termination	Current Year Income	Book/ Adjusted Carrying Value	Code	Unrealized Valuation Increase/ (Decrease)	Total Foreign Exchange Change in B./A.C.V.	Current Year's (Amortization)/ Accretion	Gain (Loss) on Termination Recognized	Adjustment to Carrying Value of Hedged Item	Gain (Loss) on Termination Deferred	Hedge Effectiveness at Inception and at Termination (b)
095999999	Total Written Options - Floors											0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
096999999	Total Written Options - Collars											0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
097999999	Total Written Options - Other											0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
098999999	Total Written Options											(46,532,161)	0	(42,950,838)	0	0	XXX	(31,891,511)	0	0	3,561,323	0	0	XXX
104999999	Subtotal - Swaps - Hedging Effective Excluding Variable Annuity Guarantees Under SSAP No.108											0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
110999999	Subtotal - Swaps - Hedging Effective Variable Annuity Guarantees Under SSAP No.108											0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
116999999	Subtotal - Swaps - Hedging Other											0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
122999999	Subtotal - Swaps - Replication											0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
128999999	Subtotal - Swaps - Income Generation											0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
134999999	Subtotal - Swaps - Other											0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
135999999	Total Swaps - Interest Rate											0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
136999999	Total Swaps - Credit Default											0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
137999999	Total Swaps - Foreign Exchange											0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
138999999	Total Swaps - Total Return											0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
139999999	Total Swaps - Other											0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
140999999	Total Swaps											0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
147999999	Subtotal - Forwards											0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
150999999	Subtotal - SSAP No. 108 Adjustments											0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
168999999	Subtotal - Hedging Effective Excluding Variable Annuity Guarantees Under SSAP No.108											0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
169999999	Subtotal - Hedging Effective Variable Annuity Guarantees Under SSAP No.108											0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
170999999	Subtotal - Hedging Other											13,822,174	0	(11,667,009)	0	0	XXX	(35,733,372)	0	0	(25,489,183)	0	0	XXX
171999999	Subtotal - Replication											0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
172999999	Subtotal - Income Generation											0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
173999999	Subtotal - Other											0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
174999999	Subtotal - Adjustments for SSAP No. 108 Derivatives											0	0	0	0	0	XXX	0	0	0	0	0	0	XXX
175999999	Totals											13,822,174	0	(11,667,009)	0	0	XXX	(35,733,372)	0	0	(25,489,183)	0	0	XXX

(a)

Code	Description of Hedged Risk(s)

(b)

Code	Financial or Economic Impact of the Hedge at the End of the Reporting Period
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

Schedule DB - Part B - Section 2 - Futures Contracts Terminated

N O N E

ANNUAL STATEMENT FOR THE YEAR 2022 OF THE SEPARATE ACCOUNTS OF THE MASSMUTUAL ASCEND LIFE INSURANCE COMPANY

SCHEDULE DB - PART D - SECTION 1

Counterparty Exposure for Derivative Instruments Open December 31 of Current Year

1 Description of Exchange, Counterparty or Central Clearinghouse	2 Master Agreement (Y or N)	3 Credit Support Annex (Y or N)	Counterparty Offset		Book/Adjusted Carrying Value			Fair Value			12 Potential Exposure	13 Off-Balance Sheet Exposure	
			4 Fair Value of Acceptable Collateral	5 Present Value of Financing Premium	6 Contracts With Book/Adjusted Carrying Value >0	7 Contracts With Book/Adjusted Carrying Value <0	8 Exposure Net of Collateral	9 Contracts With Fair Value >0	10 Contracts With Fair Value <0	11 Exposure Net of Collateral			
0199999999 - Aggregate Sum of Exchange Traded Derivatives			XXX	XXX	XXX			0			0	0	
Bank Of America NA ISDA Uncleared	B4TYDEB6GKMZ0031MB27	Y	Y			16,460,323	(9,710,297)	6,750,026	16,460,323	(9,710,297)	6,750,026		
Barclays Bank PLC ISDA Uncleared	G5GSEF7VJP5170UK5573	Y	Y			15,964,264	(10,379,512)	5,584,752	15,964,264	(10,379,512)	5,584,752		
BNP Paribas London ISDA Uncleared	ROMUWSFUBMIPRO8K5P83	Y	Y			25,312,228	(15,360,108)	9,952,119	25,312,228	(15,360,108)	9,952,119		
Citibank N.A. ISDA Uncleared	E570DZVZ7FF321WEFA76	Y	Y			570,960	(10,907)	560,053	570,960	(10,907)	560,053		
Credit Suisse International ISDA Uncleared	E58DKGMJYYJLN8C3868	Y	Y			6,446	(16,861)	0	6,446	(16,861)	0		
Goldman Sachs International ISDA Uncleared	W22LROWP21HZNB8K528	Y	Y			5,808,155	(2,658,845)	3,149,310	5,808,155	(2,658,845)	3,149,310		
JPMorgan Chase Bank, N.A. ISDA Uncleared	7H6GLXDRUGOFU57RNE97	Y	Y			91,610		91,610	91,610		91,610		
Morgan Stanley & Co International PLC ISDA Uncleared	4PQUHNGJPFQFN38B653	Y	Y			343,164	(9,762)	333,402	343,164	(9,762)	333,402		
Morgan Stanley Capital Services ISDA Uncleared	17331LVCZKQKX5T7XV54	Y	Y					0			0		
MORGAN STANLEYCBO	4PQUHNGJPFQFN38B653	Y	Y			1,077,300	(49,408)	1,027,892	1,077,300	(49,408)	1,027,892		
Royal Bank of Canada	ES71P3U3RH1GC71XBU11	Y	Y			14,578,922	(19,511,134)	0	14,578,922	(19,511,134)	0		
Societe Generale ISDA Uncleared	O2RNEB1BXP4ROTDBPU41	Y	Y			22,038,579	(14,350,867)	7,687,712	22,038,579	(14,350,867)	7,687,712		
UBS AG ISDA Uncleared	BFM8T61CT2L1QCEM1K50	Y	Y			3,817		3,817	3,817		3,817		
Wells Fargo Bank, N.A. ISDA Uncleared	KB1H1DSPRFMYMCFXT09	Y	Y			1,443,575	(997,087)	446,488	1,443,575	(997,087)	446,488		
0299999999. Total NAIC 1 Designation					0	0	103,699,342	(73,054,788)	35,587,181	103,699,342	(73,054,788)	35,587,181	0
0899999999. Aggregate Sum of Central Clearinghouses (Excluding Exchange Traded)								0				0	
.....													
.....													
.....													
0999999999 - Gross Totals					0	0	103,699,342	(73,054,788)	35,587,181	103,699,342	(73,054,788)	35,587,181	0
1. Offset per SSAP No. 64													
2. Net after right of offset per SSAP No. 64							103,699,342	(73,054,788)					

E22

Schedule DB - Part D - Section 2 - Collateral for Derivative Instruments Open - Pledged By

N O N E

Schedule DB - Part D - Section 2 - Collateral for Derivative Instruments Open - Pledged To

N O N E

Schedule DB - Part E - Derivatives Hedging Variable Annuity Guarantees as of December 31 of
Current Year

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 - Month End Depository Balances

N O N E

Schedule E - Part 2 - Cash Equivalents Owned

N O N E

Schedule E - Part 3 - Special Deposits

N O N E