

MOOG INC.  
Form 11-K  
March 14, 2019

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

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FORM 11-K

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(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended September 30, 2018

OR

TRANSITION REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission File Number: 1-5129

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A. Full title of the plan and the address of the plan, if different from that of the issuer named below:

MOOG INC. RETIREMENT SAVINGS PLAN

B. Name of issuer of the securities held pursuant to the plan and the address of its principal executive office:

MOOG INC.  
EAST AURORA, NEW YORK 14052-0018

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MOOG INC. RETIREMENT SAVINGS PLAN

FINANCIAL STATEMENTS AND SUPPLEMENTAL SCHEDULE

YEARS ENDED SEPTEMBER 30, 2018 and 2017

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Report of Independent Registered Public Accounting Firm

The Plan Administrator  
Moog Inc. Retirement Savings Plan

Opinion on the Financial Statements

We have audited the accompanying statements of net assets available for benefits of the Moog Inc. Retirement Savings Plan (the Plan) as of September 30, 2018 and 2017, and the related statements of changes in net assets available for benefits for the years then ended, and the related notes to the financial statements (collectively, the financial statements). In our opinion, the financial statements present fairly, in all material respects, the net assets available for benefits of the Plan as of September 30, 2018 and 2017, and the changes in net assets available for benefits for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on the Plan's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Plan in accordance with U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Report on Supplemental Information

The supplemental information in the accompanying schedule, Schedule H, Line 4i - Schedule of Assets (Held at End of Year) as of September 30, 2018 has been subjected to audit procedures performed in conjunction with the audit of the Plan's financial statements. The supplemental information is presented for the purpose of additional analysis and is not a required part of the financial statements but includes supplemental information required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. The supplemental information is the responsibility of the Plan's management. Our audit procedures included determining whether the supplemental information reconciles to the financial statements or the underlying accounting and other records, as applicable, and performing procedures to test the completeness and accuracy of the information presented in the supplemental information. In forming our opinion on the supplemental information in the accompanying schedule, we evaluated whether the supplemental information, including its form and content, is presented in conformity with the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. In our opinion, the supplemental information in the accompanying schedule is fairly stated in all material respects in relation to the financial statements as a whole.

/s/ FREED MAXICK CPAs, P.C.

We have served as the Plan's auditor since 2009.

Buffalo, NY  
March 14, 2019



MOOG INC. RETIREMENT SAVINGS PLAN

STATEMENTS OF NET ASSETS AVAILABLE FOR BENEFITS

	September 30,	
	2018	2017
Assets:		
Investments at fair value	\$798,931,784	\$735,331,296
Investments at contract value	46,538,735	46,257,321
Receivables:		
Notes receivable from participants	6,871,508	6,697,220
Participant contributions	1,922,969	2,001,850
Employer contributions	2,702,891	516,265
	11,497,368	9,215,335
Net assets available for benefits	\$856,967,887	\$790,803,952

See accompanying Notes to Financial Statements.

## MOOG INC. RETIREMENT SAVINGS PLAN

## STATEMENTS OF CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS

	Year Ended September 30,	
	2018	2017
Additions:		
Participant contributions	\$42,438,064	\$39,294,377
Employer contributions	17,871,166	14,189,604
Participant rollovers	7,402,450	3,347,367
Net appreciation in fair value of investments	44,595,366	99,655,764
Interest and dividend income	10,182,607	5,845,639
	122,489,653	162,332,751
Deductions:		
Distributions	56,103,485	49,554,132
Administrative expenses	222,233	238,843
	56,325,718	49,792,975
Net increase	66,163,935	112,539,776
Transfer from other plans	—	541,807
Net assets available for benefits at beginning of year	790,803,952	677,722,369
Net assets available for benefits at end of year	\$856,967,887	\$790,803,952

See accompanying Notes to Financial Statements.

MOOG INC. RETIREMENT SAVINGS PLAN

NOTES TO FINANCIAL STATEMENTS

SEPTEMBER 30, 2018 and 2017

1. Description of Plan

The following is a brief description of the Moog Inc. Retirement Savings Plan (the Plan) and is provided for general information purposes only. Participants should refer to the Plan Document and the Summary Plan Description for complete information.

General

The Plan is a defined contribution plan sponsored by Moog Inc. (the Company or the Plan Sponsor). The Plan is subject to the provisions of the Employee Retirement Income Security Act of 1974, as amended (ERISA). The Administrative Committee is responsible for the oversight of the Plan, determines the appropriateness of the Plan's investment offerings and monitors investment performance.

Eligibility

As of September 30, 2018, all domestic employees of the Company are eligible to participate in the Plan immediately upon hire.

Plan Mergers and Transfers

For the plan year ended September 30, 2017, the Company transferred assets and merged the associated plan of Moog Flo-Tork into the Plan.

Notes Receivable from Participants

Notes receivable from participants (loans) are valued at their unpaid principal balance plus any accrued but unpaid interest. Loans are limited to the lesser of \$50,000 or one-half of the participant's account balance with a minimum loan of \$1,000, payable over a term not to exceed five years. Interest is charged at a rate established by the Plan and is normally fixed at origination at prime plus 1%. The loans are secured by the balance in the participant's account. Principal and interest are paid ratably through payroll deductions.

Contributions and Investments

The Plan allows for voluntary pretax contributions to the Plan in the form of a 1% to 40% salary reduction subject to the Internal Revenue Code (IRC) limits. All employees are automatically enrolled in the Plan at a deferral of 3% of eligible employee compensation to the Plan, unless the employee elects not to make such a contribution to the Plan. Employees are also automatically enrolled in 1% annual increases up to a total deferral of 10%, unless the employee makes an affirmative election to contribute at a different rate or opt out of the automatic enrollment. The Plan also allows for Roth Elective Deferrals. Participants may designate all or a portion of automatic deferrals as Roth Elective Deferrals. The Plan permits participants age 50 and older to make "catch-up" contributions as provided by the Economic Growth and Tax Relief Reconciliation Act of 2001. Contributions are directed by the participant among the available investment options.

The Plan currently offers fourteen registered investment company funds, an investment in insurance contract, target date funds and Company Class B common stock as investment options for participants.

The Company's matching contribution is 25% of the first 2% of eligible pay that employees contribute. The Company Match is invested pursuant to participant allocation elections, which may include Company Class B common stock.

1. Description of Plan (continued)

All new employees hired on or after January 1, 2008 are not eligible to participate in the Company's defined benefit pension plan. Instead, the Company makes a contribution (Retirement Contributions) for those employees to an employee-directed investment fund in the Plan. The Retirement Contributions are based on a percentage of the employee's eligible compensation and age, and are in addition to the Company Match on voluntary employee contributions.

All employees hired before January 1, 2008 elected either to remain in the defined benefit pension plan and continue to accrue benefits or to elect to stop accruing future benefits in the defined benefit pension plan as of April 1, 2008. Employees who elected to stop accruing future benefits receive the Retirement Contribution in the Plan.

The Plan also provides that the Company may make discretionary contributions. For the plan year ended September 30, 2018, the Company made a discretionary contribution to the non-executive participants in the Plan in the form of five shares of Moog Class B Stock totaling \$2,125,494. For the plan year ended September 30, 2017, the Company did not elect to make any discretionary contributions.

Rollovers represent amounts contributed to the Plan by participants from prior employer plans.

Participant Accounts

Separate accounts are maintained for each plan participant. Each participant's account is credited with the participant's contribution, Retirement Contributions, Company Match and discretionary contributions, if applicable. Plan earnings, losses and fees of the participant's investment selections are reported in the participant's account as defined by the Plan. Participant accounts are fully and immediately vested in the participant's contributions and Company Match. The Retirement Contributions vest 100% after three years of credited service, which is defined as 1,000 hours of service in a plan year. Forfeitures are used to first reduce future Retirement Contributions, secondly to offset Plan expenses and lastly reallocated to remaining participants. The benefit to which a participant is entitled is the benefit that can be provided from the participant's account. Participants may transfer all or part of their accounts, including investments in Company stock, among the other investment options in the Plan.

Distributions

Subject to certain limitations, participants may withdraw all or part of their account balance upon attainment of age 59½. Distribution of a participant's account balance is also permitted in the event of death, disability, termination of employment or immediate financial hardship, as defined in the Plan Document. Distributions are required to begin at age 70½. Distributions are made in cash except for the Company Match, which can be distributed in cash or shares. Participants have the option to also receive the balances from their contributions in employer securities in either cash or shares. For distributions of Moog Class B Stock from the employer securities funds and matching account balances (for shares purchased after January 1, 1999), the shares of stock will carry a restrictive legend and the Company will have a right of first refusal at the time of sale, transfer or pledging of those shares.

Administrative Expenses

Certain costs of administering the Plan are borne by the Company, while others are borne by the Plan. Fees borne by the Plan include loan origination fees, investment management fees and recordkeeping fees. Loan origination fees are charged to the participant's account balance at the time the loan is processed. Investment management fees are allocated to all participants invested in the fund that charges the fee on a pro rata basis of account balances. Recordkeeping fees are only charged to participants that meet the minimum balance criteria.



## 2. Summary of Significant Accounting Policies

### Basis of Accounting

The financial statements are presented on the accrual basis of accounting.

### Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles in the United States requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

### Valuation of Investments and Income Recognition

Investments are reported at fair value, except for the fully benefit-responsive investment contract, which is reported at contract value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. See Note 3 for discussion of fair value measurements.

Purchases and sales of securities are recorded on a trade date basis. Net appreciation includes the Plan's gains and losses on investments bought and sold as well as held during the year. Dividends are recorded on the ex-dividend date. Interest income is recorded on an accrual basis.

### Risks and Uncertainties

The Plan invests in various investment securities. Investment securities are exposed to various risks such as interest rate, market and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect participants' account balances and the amounts reported in the Statements of Net Assets Available for Benefits.

### Payment of Benefits

Benefits are recorded when paid.

### 3. Fair Value

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Depending on the nature of the asset or liability, various techniques and assumptions can be used to estimate fair value. The definition of the fair value hierarchy is as follows:

Level 1 - Quoted prices in active markets for identical assets and liabilities.

Level 2 - Observable inputs other than quoted prices in active markets for similar assets and liabilities.

Level 3 - Inputs for which significant valuation assumptions are unobservable in a market and therefore value is based on the best available data, some of which is internally developed and considers risk premiums that a market participant would require.

The following is a description of the valuation methodologies used for assets measured at fair value. There have been no changes to the methodologies used at September 30, 2018 and 2017.

The Plan's assets are invested in shares of registered investment companies, employer securities, common collective trust funds and an investment in insurance contract.

Shares of registered investment companies: Consists of both equity and fixed income mutual funds. Valued at quoted market prices that represent the net asset value of shares held by the Plan at year end.

Employer securities: Certain assets of the Plan are invested in employer securities through a unitized stock fund, which includes common stock of Moog Inc. (Class B) and investments in a money market fund for liquidity purposes. Money market funds are stated at cost, which approximates fair value.

Common collective trust funds: Consist of pools of investments used by institutional investors to obtain exposure to equity and fixed income markets. Common collective trust funds held by the Plan invest in target date funds. Shares held in common collective trusts are reported at the net unit value of units held at year end. The unit value is determined by the total value of fund assets divided by the total number of units of the fund owned.

## 3. Fair Value (continued)

The following table presents the fair values and classification of the Plan's investments measured on a recurring basis as of September 30, 2018 and 2017:

	Assets at Fair Value as of September 30, 2018:			Total
	Level 1	Level 2	Level 3	
Shares of registered investment companies:				
Domestic:				
Large cap stocks	\$107,844,892	\$ —	—\$	—\$107,844,892
Other	92,299,397	—	—	92,299,397
International	25,534,444	—	—	25,534,444
Employer securities	121,312,654	—	—	121,312,654
Total investments in fair value hierarchy	346,991,387	—	—	346,991,387
Investments measured at NAV practical expedient (1)				451,940,397
Total investments at fair value	\$346,991,387	\$ —	—\$	—\$798,931,784

	Assets at Fair Value as of September 30, 2017:			Total
	Level 1	Level 2	Level 3	
Shares of registered investment companies:				
Domestic:				
Large cap stocks	\$84,784,526	\$ —	—\$	—\$84,784,526
Other	75,569,103	—	—	75,569,103
International	23,077,193	—	—	23,077,193
Employer securities	131,291,405	—	—	131,291,405
Total investments in fair value hierarchy	314,722,227	—	—	314,722,227
Investments measured at NAV practical expedient (1)				420,609,069
Total investments at fair value	\$314,722,227	\$ —	—\$	—\$735,331,296

(1) Per adoption of ASU 2015-07, certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the statement of net assets available for benefits.

#### 4. Fair Value of Investments that Use NAV Practical Expedient

The following table summarizes investments measured at fair value based on net asset value (NAV) per share as of September 30, 2018 and 2017, respectively:

	Fair Value as of		Unfunded	Redemption	Redemption Notice
	September 30,	September 30,	Commitments	Frequency	Period
	2018	2017			
Common collective trusts	\$451,940,397	\$420,609,069	\$	—Daily	None

#### 5. Income Tax Status

The Internal Revenue Service has determined and informed the Plan Sponsor by a letter dated June 29, 2012, that the Plan and related trust are designed in accordance with applicable sections of the Internal Revenue Code (IRC); therefore, the related trust is exempt from taxation. The Plan is required to operate in conformity with the IRC to maintain its qualification. Although the Plan has been amended since receiving this favorable determination letter, the Plan administrator and the Plan's tax counsel believe that the Plan is being operated in compliance with the applicable requirements of the IRC and, therefore, believe that the Plan, as amended, is qualified and the related trust is tax-exempt. The Plan is subject to routine audits by taxing jurisdictions; however, there are currently no audits for any tax periods in progress.

#### 6. Plan Termination

Although it has not expressed intent to do so, the Company has the right under the Plan to discontinue its contributions at any time and to terminate the Plan subject to the provisions of ERISA. If such termination were to occur, the Company will instruct the trustee to either continue the management of the trust's assets or liquidate the trust and distribute the assets to the participants in accordance with the Plan Document.

#### 7. Investment in Insurance Contract

The Plan has a group annuity contract with Great-West Life & Annuity Insurance Company. The group annuity contract, Key Guaranteed Portfolio Fund, is a fixed account that is part of the general account of Great-West Life & Annuity Insurance Company. The methodology for calculating the interest crediting rate is based on the earnings of the underlying assets in the entire medium long-term new portfolio compared to the minimum interest crediting rate (which will never be less than 0% as stated in the contract), and prevailing market conditions. Interest crediting rate is reset quarterly. At September 30, 2018 and 2017, the Key Guaranteed Portfolio Fund's fair value equaled its contract value. As described in Note 2, contract value is the relevant measurement attribute for this Fund.

Certain events limit the ability of the Plan to transact at contract value with the issuer. Such events include premature termination of the contracts by the Plan, plant closings, layoffs, plan termination, bankruptcy, mergers and early retirement incentives. The Plan does not believe that any events which would limit the Plan's ability to transact at contract value with participants are probable of occurring. There are no reserves against contract value for credit risk of the contract issuer or otherwise.

8. Related Party Transactions

Participants of the Plan may elect to invest in Moog Inc. Class B common stock within the Moog Inc. Common Stock Fund. Moog Inc. is the Plan Sponsor. Additionally, Plan investments include accounts with Great-West Financial Plan Services, LLC (Great-West), the Plan trustee. These transactions qualify as party-in-interest transactions. Net investment gains from investments sponsored by Great-West, Moog Inc. and participant loans for the plan year ended September 30, 2018 and 2017, amounted to \$1,698,661 and \$40,687,260, respectively.

9. Reconciliation of Financial Statements to Form 5500

The following is a reconciliation of net assets available for benefits per the financial statements to the Form 5500 as of September 30, 2018 and 2017:

	2018	2017
Net assets available for benefits per the financial statements	\$856,967,887	\$790,803,952
Differences in:		
Investments	6,871,508	6,697,220
Notes receivable from participants	(6,871,508 )	(6,697,220 )
Net assets available for benefits per Form 5500	\$856,967,887	\$790,803,952

EIN #16-0757636 Plan #002

Schedule H, Line 4i – Schedule of Assets  
 (Held at End of Year)  
 September 30, 2018

Identity of Issuer	Description	Current Value
BlackRock Lifepath Index Retirement	Target Date Fund	\$34,290,523
BlackRock Lifepath Index 2020	Target Date Fund	95,583,151
BlackRock Lifepath Index 2025	Target Date Fund	100,150,350
BlackRock Lifepath Index 2030	Target Date Fund	74,543,912
BlackRock Lifepath Index 2035	Target Date Fund	49,637,190
BlackRock Lifepath Index 2040	Target Date Fund	34,710,646
BlackRock Lifepath Index 2045	Target Date Fund	27,509,564
BlackRock Lifepath Index 2050	Target Date Fund	23,787,081
BlackRock Lifepath Index 2055	Target Date Fund	11,727,980
Common Collective Trusts		451,940,397
Vanguard Institutional Index Fund	Mutual Fund	58,779,863
Vanguard Windsor Fund	Mutual Fund	22,532,059
American Euro Pacific Growth	Mutual Fund	19,034,221
JPMorgan Large Cap Growth Fund	Mutual Fund	26,532,970
Vanguard Small Cap Index Fund	Mutual Fund	19,957,482
Pimco Income Fund Institutional Class	Mutual Fund	14,230,650
Vanguard Mid Cap Index Fund	Mutual Fund	15,140,859
T Rowe Price Diversified Small	Mutual Fund	14,512,577
Vanguard Total Bond Market Index Fund	Mutual Fund	10,699,445
Pimco Real Return Fund	Mutual Fund	6,133,983
JPMorgan Small Cap Growth Fund	Mutual Fund	4,866,643
Vanguard Total Intl Stock Index	Mutual Fund	6,500,223
Victory Sycamore Established Value Fund	Mutual Fund	3,477,337
Goldman Sachs Growth Opportunities	Mutual Fund	3,280,421
Shares of Registered Investment Companies		225,678,733
*Moog Inc. Employer Securities	Class B Common Stock	121,312,654 121,312,654

*Key Guaranteed Portfolio Fund	Group Annuity Contract	46,538,735
Investment in Insurance Contract		46,538,735
*Participant loans	Loans maturing at various dates through September 24, 2023 and bearing interest at rates ranging from 3.25% to 10.50%	6,871,508
Total Investments		\$852,342,027
*Denotes a party-in-interest		

SIGNATURE

The Plan. Pursuant to the requirements of the Securities Exchange Act of 1934, the trustees (or other persons who administer the employee benefit plan) have duly caused this annual report to be signed on its behalf by the undersigned hereunto duly authorized.

MOOG INC. RETIREMENT SAVINGS PLAN

Date: March 14, 2019 /s/ Paul Wilkinson  
Paul Wilkinson  
Plan Administrator

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EXHIBIT INDEX

Exhibit	Description
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<u>23.1</u>	Consent of Freed Maxick CPAs, P.C.
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