UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended April 1, 2023

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _________ to _________

Commission file number 1-05129

MOOG Inc.

(Exact name of registrant as specified in its charter)

New York	**16-0757636**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
400 Jamison Road East Aurora, New York	**14052-0018**
(Address of Principal Executive Offices)	(Zip Code)

(716) 652-2000

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Class A common stock	MOG.A	New York Stock Exchange
Class B common stock	MOG.B	New York Stock Exchange

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).
Yes ☐ No ☒

The number of shares outstanding of each class of common stock as of April 24, 2023 was:
Class A common stock, 28,718,571 shares
Class B common stock, 3,132,957 shares

MOOG Inc.

QUARTERLY REPORT ON FORM 10-Q
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PART I FINANCIAL INFORMATION
Item 1. Financial Statements

MOOG Inc.

Consolidated Condensed Statements of Earnings
(Unaudited)

	Three Months Ended		Six Months Ended	
(dollars in thousands, except share and per share data)	April 1, 2023	April 2, 2022	April 1, 2023	April 2, 2022
Net sales	$ 836,792	$ 770,787	$ 1,596,895	$ 1,494,873
Cost of sales	615,477	556,070	1,171,894	1,085,776
Inventory write-down	—	1,705	—	3,205
Gross profit	221,315	213,012	425,001	405,892
Research and development	26,743	30,720	50,605	58,428
Selling, general and administrative	116,695	111,019	229,860	222,816
Interest	14,963	8,263	28,095	16,245
Asset impairment	1,219	15,236	1,219	15,236
Restructuring	2,017	7,793	3,095	7,793
Gain on sale of business	—	—	—	(16,146)
Gain on sale of buildings	(527)	—	(10,030)	—
Other	3,901	1,268	5,552	1,384
Earnings before income taxes	56,304	38,713	116,605	100,136
Income taxes	13,291	9,626	27,576	24,784
Net earnings	$ 43,013	$ 29,087	$ 89,029	$ 75,352
Net earnings per share				
Basic	$ 1.35	$ 0.91	$ 2.80	$ 2.35
Diluted	$ 1.34	$ 0.91	$ 2.79	$ 2.34
Average common shares outstanding				
Basic	31,848,140	31,984,674	31,797,071	32,021,036
Diluted	32,043,910	32,120,726	31,959,315	32,154,442

See accompanying Notes to Consolidated Condensed Financial Statements.

MOOG Inc.

Consolidated Condensed Statements of Comprehensive Income
(Unaudited)

	Three Months Ended		Six Months Ended	
(dollars in thousands)	April 1, 2023	April 2, 2022	April 1, 2023	April 2, 2022
Net earnings	$ 43,013	$ 29,087	$ 89,029	$ 75,352
Other comprehensive income (loss) ("OCI"), net of tax:				
Foreign currency translation adjustment	11,544	(18,283)	62,279	(24,843)
Retirement liability adjustment	2,032	4,538	3,231	8,628
Change in accumulated income on derivatives	1,080	(295)	2,999	(160)
Other comprehensive income (loss), net of tax	14,656	(14,040)	68,509	(16,375)
Comprehensive income	$ 57,669	$ 15,047	$ 157,538	$ 58,977

See accompanying Notes to Consolidated Condensed Financial Statements.

MOOG Inc.

Consolidated Condensed Balance Sheets
(Unaudited)

(dollars in thousands)	April 1, 2023	October 1, 2022
ASSETS		
Current assets		
Cash and cash equivalents	$ 107,012	$ 103,895
Restricted cash	2,642	15,338
Receivables, net	1,079,980	990,262
Inventories, net	679,045	588,466
Prepaid expenses and other current assets	64,501	60,349
Total current assets	1,933,180	1,758,310
Property, plant and equipment, net	737,599	668,908
Operating lease right-of-use assets	62,569	69,072
Goodwill	826,498	805,320
Intangible assets, net	82,421	85,410
Deferred income taxes	9,327	8,630
Other assets	48,015	36,191
Total assets	$ 3,699,609	$ 3,431,841
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities		
Current installments of long-term debt	$ 728	$ 916
Accounts payable	238,603	232,104
Accrued compensation	73,999	93,141
Contract advances	317,253	296,899
Accrued liabilities and other	212,267	215,376
Total current liabilities	842,850	838,436
Long-term debt, excluding current installments	958,414	836,872
Long-term pension and retirement obligations	148,693	140,602
Deferred income taxes	58,080	63,527
Other long-term liabilities	111,795	115,591
Total liabilities	2,119,832	1,995,028
Shareholders' equity		
Common stock - Class A	43,807	43,807
Common stock - Class B	7,473	7,473
Additional paid-in capital	576,506	516,123
Retained earnings	2,432,225	2,360,055
Treasury shares	(1,056,187)	(1,047,012)
Stock Employee Compensation Trust	(99,880)	(73,602)
Supplemental Retirement Plan Trust	(81,634)	(58,989)
Accumulated other comprehensive loss	(242,533)	(311,042)
Total shareholders' equity	1,579,777	1,436,813
Total liabilities and shareholders' equity	$ 3,699,609	$ 3,431,841

See accompanying Notes to Consolidated Condensed Financial Statements.

MOOG Inc.

Consolidated Condensed Statements of Shareholders' Equity
(Unaudited)

	Three Months Ended		Six Months Ended	
(dollars in thousands)	April 1, 2023	April 2, 2022	April 1, 2023	April 2, 2022
COMMON STOCK				
Beginning and end of period	$ 51,280	$ 51,280	$ 51,280	$ 51,280
ADDITIONAL PAID-IN CAPITAL				
Beginning of period	550,511	518,857	516,123	509,622
Issuance of treasury shares	2,087	5,854	4,315	7,609
Equity-based compensation expense	2,128	1,594	4,571	3,999
Adjustment to market - SECT and SERP	21,780	16,987	51,497	22,062
End of period	576,506	543,292	576,506	543,292
RETAINED EARNINGS				
Beginning of period	2,397,814	2,276,082	2,360,055	2,237,848
Net earnings	43,013	29,087	89,029	75,352
Dividends [1]	(8,602)	(8,320)	(16,859)	(16,351)
End of period	2,432,225	2,296,849	2,432,225	2,296,849
TREASURY SHARES AT COST				
Beginning of period	(1,055,735)	(1,023,086)	(1,047,012)	(1,007,506)
Class A and B shares issued related to compensation	7,283	4,496	9,007	5,573
Class A and B shares purchased	(7,735)	(9,824)	(18,182)	(26,481)
End of period	(1,056,187)	(1,028,414)	(1,056,187)	(1,028,414)
STOCK EMPLOYEE COMPENSATION TRUST ("SECT")				
Beginning of period	(89,689)	(82,721)	(73,602)	(79,776)
Issuance of shares	7,234	5,499	9,795	7,574
Purchase of shares	(5,468)	(8,121)	(7,221)	(10,396)
Adjustment to market	(11,957)	(9,205)	(28,852)	(11,950)
End of period	(99,880)	(94,548)	(99,880)	(94,548)
SUPPLEMENTAL RETIREMENT PLAN ("SERP") TRUST				
Beginning of period	(71,811)	(66,094)	(58,989)	(63,764)
Adjustment to market	(9,823)	(7,782)	(22,645)	(10,112)
End of period	(81,634)	(73,876)	(81,634)	(73,876)
ACCUMULATED OTHER COMPREHENSIVE LOSS				
Beginning of period	(257,189)	(249,895)	(311,042)	(247,560)
Other comprehensive income (loss)	14,656	(14,040)	68,509	(16,375)
End of period	(242,533)	(263,935)	(242,533)	(263,935)
TOTAL SHAREHOLDERS’ EQUITY	$ 1,579,777	$ 1,430,648	$ 1,579,777	$ 1,430,648

See accompanying Notes to Consolidated Condensed Financial Statements.

[1] Cash dividends were $0.27 and $0.53 per share for the three and six months ended April 1, 2023, respectively. Cash dividends were $0.26 and $0.51 per share for three and six months ended April 2, 2022, respectively.

MOOG Inc.

Consolidated Condensed Statements of Shareholders' Equity, Shares
(Unaudited)

(share data)	Three Months Ended April 1, 2023	Three Months Ended April 2, 2022	Six Months Ended April 1, 2023	Six Months Ended April 2, 2022
COMMON STOCK - CLASS A				
Beginning of period	43,806,835	43,803,236	43,806,835	43,803,236
Conversion of Class B to Class A	—	625	—	625
End of period	43,806,835	43,803,861	43,806,835	43,803,861
COMMON STOCK - CLASS B				
Beginning of period	7,472,878	7,476,477	7,472,878	7,476,477
Conversion of Class B to Class A	—	(625)	—	(625)
End of period	7,472,878	7,475,852	7,472,878	7,475,852
TREASURY SHARES - CLASS A COMMON STOCK				
Beginning of period	(14,666,508)	(14,326,118)	(14,614,444)	(14,157,721)
Class A shares issued related to compensation	6,069	6,987	41,619	29,029
Class A shares purchased	(2,677)	(57,943)	(90,291)	(248,382)
End of period	(14,663,116)	(14,377,074)	(14,663,116)	(14,377,074)
TREASURY SHARES - CLASS B COMMON STOCK				
Beginning of period	(2,991,901)	(3,154,267)	(3,020,291)	(3,179,055)
Class B shares issued related to compensation	129,791	140,834	202,531	199,172
Class B shares purchased	(84,728)	(68,834)	(129,078)	(102,384)
End of period	(2,946,838)	(3,082,267)	(2,946,838)	(3,082,267)
SECT - CLASS A COMMON STOCK				
Beginning and end of period	(425,148)	(425,148)	(425,148)	(425,148)
SECT - CLASS B COMMON STOCK				
Beginning of period	(602,600)	(603,707)	(611,942)	(600,880)
Issuance of shares	82,356	68,763	112,425	93,763
Purchase of shares	(57,083)	(97,116)	(77,810)	(124,943)
End of period	(577,327)	(632,060)	(577,327)	(632,060)
SERP - CLASS B COMMON STOCK				
Beginning and end of period	(826,170)	(826,170)	(826,170)	(826,170)

See accompanying Notes to Consolidated Condensed Financial Statements.

MOOG Inc.

Consolidated Condensed Statements of Cash Flows
(Unaudited)

(dollars in thousands)	Six Months Ended April 1, 2023	Six Months Ended April 2, 2022
CASH FLOWS FROM OPERATING ACTIVITIES		
Net earnings	$ 89,029	$ 75,352
Adjustments to reconcile net earnings to net cash provided by operating activities:		
Depreciation	36,810	38,316
Amortization	5,862	6,735
Deferred income taxes	(9,970)	4,834
Equity-based compensation expense	5,765	4,578
Gain on sale of business	—	(16,146)
Gain on sale of buildings	(10,030)	—
Asset impairment and inventory write-down	1,219	18,441
Other	3,292	2,692
Changes in assets and liabilities providing (using) cash:		
Receivables	(76,676)	(4,223)
Inventories	(72,346)	6,951
Accounts payable	1,971	24,388
Contract advances	17,067	60,392
Accrued expenses	(33,030)	(28,324)
Accrued income taxes	11,965	8,217
Net pension and post retirement liabilities	7,119	8,927
Other assets and liabilities	(11,063)	(30,933)
Net cash provided (used) by operating activities	(33,016)	180,197
CASH FLOWS FROM INVESTING ACTIVITIES		
Acquisitions of businesses, net of cash acquired	—	(11,837)
Purchase of property, plant and equipment	(89,743)	(74,087)
Net proceeds from businesses sold	959	38,611
Net proceeds from buildings sold	18,825	—
Other investing transactions	(4,241)	(835)
Net cash used by investing activities	(74,200)	(48,148)
CASH FLOWS FROM FINANCING ACTIVITIES		
Proceeds from revolving lines of credit	503,232	463,950
Payments on revolving lines of credit	(381,300)	(455,476)
Payments on long-term debt	(188)	(80,181)
Payments on finance lease obligations	(1,899)	(1,085)
Payment of dividends	(16,859)	(16,351)
Proceeds from sale of treasury stock	9,148	8,701
Purchase of outstanding shares for treasury	(20,457)	(26,481)
Proceeds from sale of stock held by SECT	9,795	7,574
Purchase of stock held by SECT	(7,221)	(10,396)
Other financing transactions	(2,024)	—
Net cash provided (used) by financing activities	92,227	(109,745)
Effect of exchange rate changes on cash	5,410	(1,087)
Increase (decrease) in cash, cash equivalents and restricted cash	(9,579)	21,217
Cash, cash equivalents and restricted cash at beginning of period	119,233	100,914
Cash, cash equivalents and restricted cash at end of period	$ 109,654	$ 122,131
SUPPLEMENTAL CASH FLOW INFORMATION		
Treasury shares issued as compensation	$ 4,174	$ 4,482
Equipment and property acquired through lease financing	11,007	17,648

See accompanying Notes to Consolidated Condensed Financial Statements.

MOOG Inc.

Notes to Consolidated Condensed Financial Statements
Six Months Ended April 1, 2023
(Unaudited)
(dollars in thousands, except per share data)

Note 1 - Basis of Presentation

The accompanying unaudited consolidated condensed financial statements have been prepared by management in accordance with U.S. generally accepted accounting principles for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X. In the opinion of management, all adjustments consisting of normal recurring adjustments considered necessary for the fair presentation of results for the interim period have been included. The results of operations for the three and six months ended April 1, 2023 are not necessarily indicative of the results expected for the full year. The accompanying unaudited consolidated condensed financial statements should be read in conjunction with the financial statements and notes thereto included in our Form 10-K for the fiscal year ended October 1, 2022. All references to years in these financial statements are to fiscal years.

Impairment of Assets

Long-lived assets, including acquired intangible assets, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of those assets may not be recoverable. We use undiscounted cash flows to determine whether impairment exists and measure any impairment loss using discounted cash flows, or another comparable method.

In 2023, we recorded a $1,000 impairment charge on long-lived assets in our Aircraft Controls segment. These charges relate to equipment that experienced a decline in value due to the U.S. Air Force announcement to retire the KC-10 aerial refueling tanker. In addition, we have recorded a $219 impairment charge on receivables in our Space and Defense Controls segment associated with an expected cancellation of a contract.These charges are included in asset impairment in the Consolidated Condensed Statement of Earnings.

In 2022, we recorded impairment charges on long-lived assets in our Aircraft Controls segment. These charges relate to equipment that experienced a significant decline in value due to a slower than expected recovery of our commercial aircraft business. In addition, we recorded impairment charges on receivables and inventories associated with Russian actions in Ukraine. These charges are included in asset impairment in the Consolidated Condensed Statement of Earnings.

Reclassifications

Certain prior year amounts have been reclassified to conform to current year's presentation, which management does not consider to be material.

Recent Accounting Pronouncements Adopted

There have been no accounting pronouncements adopted for the six months ended April 1, 2023.

Recent Accounting Pronouncements Not Yet Adopted

We consider the applicability and impact of all Accounting Standard Updates ("ASU"). ASUs not listed were assessed and determined to be either not applicable, or had or are expected to have an immaterial impact on our financial statements and related disclosures.

Note 2 - Revenue from Contracts with Customers

We recognize revenue from contracts with customers using the five-step model prescribed in ASC 606. The first step is identifying the contract. The identification of a contract with a customer requires an assessment of each party's rights and obligations regarding the products or services to be transferred, including an evaluation of termination clauses and presently enforceable rights and obligations. Each party's rights and obligations and the associated terms and conditions are typically determined in purchase orders. For sales that are governed by master supply agreements under which provisions define specific program requirements, purchase orders are issued under these agreements to reflect presently enforceable rights and obligations for the units of products and services being purchased.

Contracts are sometimes modified to account for changes in contract specifications and requirements. When this occurs, we assess the modification as prescribed in ASC 606 and determine whether the existing contract needs to be modified (and revenue cumulatively caught up), whether the existing contract needs to be terminated and a new contract needs to be created, or whether the existing contract remains and a new contract needs to be created. This is determined based on the rights and obligations within the modification as well as the associated transaction price.

The next step is identifying the performance obligations. A performance obligation is a promise to transfer goods or services to a customer that is distinct in the context of the contract, as defined by ASC 606. We identify a performance obligation for each promise in a contract to transfer a distinct good or service to the customer. As part of our assessment, we consider all goods and/or services promised in the contract, regardless of whether they are explicitly stated or implied by customary business practices. The products and services in our contracts are typically not distinct from one another due to their complexity and reliance on each other or, in many cases, we provide a significant integration service. Accordingly, many of our contracts are accounted for as one performance obligation. In limited cases, our contracts have more than one distinct performance obligation, which occurs when we perform activities that are not highly complex or interrelated or involve different product life cycles. Warranties are provided on certain contracts, but do not typically provide for services beyond standard assurances and are therefore not distinct performance obligations under ASC 606.

The third step is determining the transaction price, which represents the amount of consideration we expect to be entitled to receive from a customer in exchange for providing the goods or services. There are times when this consideration is variable, for example a volume discount, and must be estimated. Sales, use, value-added, and excise taxes are excluded from the transaction price, where applicable.

The fourth step is allocating the transaction price. The transaction price must be allocated to the performance obligations identified in the contract based on relative stand-alone selling prices when available, or an estimate for each distinct good or service in the contract when standalone prices are not available. Our contracts with customers generally require payment under normal commercial terms after delivery. Payment terms are typically within 30 to 60 days of delivery. The timing of satisfaction of our performance obligations does not significantly vary from the typical timing of payment.

The final step is the recognition of revenue. We recognize revenue as the performance obligations are satisfied. ASC 606 provides guidance to help determine if we are satisfying the performance obligation at a point in time or over time. In determining when performance obligations are satisfied, we consider factors such as contract terms, payment terms and whether there is an alternative use of the product or service. In essence, we recognize revenue when, or as control of, the promised goods or services transfer to the customer.

Revenue is recognized either over time using the cost-to-cost method, or point in time method. The over-time method of revenue recognition is predominantly used in Aircraft Controls and Space and Defense Controls. We use this method for U.S. Government contracts and repair and overhaul arrangements as we are creating or enhancing assets that the customer controls as the assets are being created or enhanced. In addition, many of our large commercial contracts qualify for over-time accounting as our performance does not create an asset with an alternative use and we have an enforceable right to payment for performance completed to date. Our over-time contracts are primarily firm fixed price.

Revenue recognized at the point in time control is transferred to the customer is used most frequently in Industrial Systems. We use this method for commercial contracts in which the asset being created has an alternative use. We determine the point in time control transfers to the customer by weighing the five indicators provided by ASC 606 - the entity has a present right to payment; the customer has legal title; the customer has physical possession; the customer has significant risks and rewards of ownership; and the customer has accepted the asset. When control has transferred to the customer, profit is generated as cost of sales is recorded and as revenue is recognized. Inventory costs include all product manufacturing costs such as direct material, direct labor, other direct costs and indirect overhead cost allocations. Shipping and handling costs are considered costs to fulfill a contract and not considered performance obligations. They are included in cost of sales as incurred.

Revenue is recognized on contracts using the cost-to-cost method of accounting as work progresses toward completion as determined by the ratio of cumulative costs incurred to date to estimated total contract costs at completion, multiplied by the total estimated contract revenue, less cumulative revenue recognized in prior periods. We believe that cumulative costs incurred to date as a percentage of estimated total contract costs at completion is an appropriate measure of progress toward satisfaction of performance obligations as this measure most accurately depicts the progress of our work and transfer of control to our customers. Changes in estimates affecting sales, costs and profits are recognized in the period in which the change becomes known using the cumulative catch-up method of accounting, resulting in the cumulative effect of changes reflected in the period. Estimates are reviewed and updated quarterly for substantially all contracts. For the three and six months ended April 1, 2023 we recognized additional revenue of $2,233 and lower revenue of $2,066, respectively, for adjustments made to performance obligations satisfied (or partially satisfied) in previous periods. For the three and six months ended April 2, 2022 we recognized lower revenue of $2,238 and additional revenue of $8,740, respectively, for adjustments made to performance obligations satisfied (or partially satisfied) in previous periods.

Contract costs include only allocable, allowable and reasonable costs which are included in cost of sales when incurred. For applicable U.S. Government contracts, contract costs are determined in accordance with the Federal Acquisition Regulations and the related Cost Accounting Standards. The nature of these costs includes development engineering costs and product manufacturing costs such as direct material, direct labor, other direct costs and indirect overhead costs. Contract profit is recorded as a result of the revenue recognized less costs incurred in any reporting period. Variable consideration and contract modifications, such as performance incentives, penalties, contract claims or change orders are considered in estimating revenues, costs and profits when they can be reliably estimated and realization is considered probable. Revenue recognized on contracts for unresolved claims or unapproved contract change orders was not material for the three and six months ended April 1, 2023.

As of April 1, 2023, we had contract reserves of $45,602. For contracts with anticipated losses at completion, a provision for the entire amount of the estimated remaining loss is charged against income in the period in which the loss becomes known. Contract losses are determined considering all direct and indirect contract costs, exclusive of any selling, general or administrative cost allocations that are treated as period expenses. Loss reserves are more common on firm fixed-price contracts that involve, to varying degrees, the design and development of new and unique controls or control systems to meet the customers’ specifications. In accordance with ASC 606, we calculate contract losses at the contract level, versus the performance obligation level. Recall reserves are recorded when additional work is needed on completed products for them to meet contract specifications. Contract-related loss reserves are recorded for the additional work needed on completed and delivered products in order for them to meet contract specifications.

Contract Assets and Liabilities

Unbilled receivables (contract assets) primarily represent revenues recognized for performance obligations that have been satisfied but for which amounts have not been billed. These are included as Receivables on the Consolidated Condensed Balance Sheets. Contract advances (contract liabilities) relate to payments received from customers in advance of the satisfaction of performance obligations for a contract. We do not consider contract advances to be significant financing components as the intent of these payments in advance are for reasons other than providing a significant financing benefit and are customary in our industry.

Total contract assets and contract liabilities are as follows:

	April 1, 2023	October 1, 2022
Unbilled receivables	$ 685,398	$ 614,760
Contract advances	317,253	296,899
Net contract assets	$ 368,145	$ 317,861

The increase in contract assets reflects the net impact of additional unbilled revenues recorded in excess of revenue recognized during the period. The increase in contract liabilities reflects the net impact of additional deferred revenues recorded in excess of revenue recognized during the period. For the three and six months ended April 1, 2023, we recognized $76,349 and $165,148 of revenue, that was included in the contract liability balance at the beginning of the year.

Remaining Performance Obligations

As of April 1, 2023, the aggregate amount of the transaction price allocated to the performance obligations that are unsatisfied (or partially unsatisfied) was $5,200,000. We expect to recognize approximately 44% of that amount as sales over the next twelve months and the balance thereafter.

Disaggregation of Revenue

See Note 20 - Segments, for disclosures related to disaggregation of revenue.

Note 3 - Acquisitions and Divestitures

Acquisitions

On February 21, 2022, we acquired TEAM Accessories Limited ("TEAM") based in Dublin, Ireland for a purchase price, net of acquired cash, of $14,394, consisting of $11,832 in cash and contingent consideration with an initial fair value of $2,562. TEAM specializes in Maintenance, Repair and Overhaul of engine and airframe components. This operation is included in our Aircraft Controls segment.

Divestitures

On September 30, 2022, we sold a sonar business based in the United Kingdom previously included in our Industrial Systems segment. We have cumulatively received net proceeds of $13,075 and recorded a loss of $15,246, net of transaction costs. The transaction is subject to adjustments associated with amounts currently held in escrow.

On September 20, 2022, we sold assets of a security business based in Northbrook, Illinois previously included in our Space and Defense Controls segment. We have cumulatively received net proceeds of $9,108 and recorded a loss of $4,324, net of transaction costs. The transaction is subject to adjustments associated with amounts currently held in escrow.

On December 3, 2021, we sold the assets of our Navigation Aids ("NAVAIDS") business based in Salt Lake City, Utah previously included in our Aircraft Controls segment to Thales USA Inc. We have cumulatively received net proceeds of $36,550 and recorded a gain of $16,146, net of transaction costs. The transaction is subject to adjustments associated with amounts currently held in escrow.

Note 4 - Receivables

Receivables consist of:

		April 1, 2023		October 1, 2022
Accounts receivable	$	382,114	$	363,137
Unbilled receivables		685,398		614,760
Other		16,547		16,973
Less allowance for credit losses		(4,079)		(4,608)
Receivables, net	$	1,079,980	$	990,262

Moog Receivables LLC (the "Receivables Subsidiary"), a wholly owned bankruptcy remote special purpose subsidiary of Moog Inc. (the "Company"), as seller, the Company, as master servicer, Wells Fargo Bank, N.A., as administrative agent (the "Agent") and certain purchasers (collectively, the "Purchasers") entered into an Amended and Restated Receivables Purchase Agreement (the "RPA"). The RPA matures on November 4, 2024 and is subject to customary termination events related to transactions of this type.

Under the RPA, the Receivables Subsidiary may sell receivables to the Purchasers in amounts up to a $100,000 limit. The receivables will be sold to the Purchasers in consideration for the Purchasers making payments of cash, which is referred to as "capital" for purposes of the RPA, to the Receivables Subsidiary in accordance with the terms of the RPA. The Receivables Subsidiary may sell receivables to the Purchasers so long as certain conditions are satisfied, including that, at any date of determination, the aggregate capital paid to the Receivables Subsidiary does not exceed a "capital coverage amount", equal to an adjusted net receivables pool balance minus a required reserve. Each Purchaser's share of capital accrues yield at a variable rate plus an applicable margin.

The parties intend that the conveyance of receivables to the Agent, for the ratable benefit of the Purchasers will constitute a purchase and sale of receivables and not a pledge for security. The Receivables Subsidiary has guaranteed to each Purchaser and Agent the prompt payment of sold receivables, and to secure the prompt payment and performance of such guaranteed obligations, the Receivables Subsidiary has granted a security interest to the Agent, for the benefit of the Purchasers, in all assets of the Receivables Subsidiary. The assets of the Receivables Subsidiary are not available to pay our creditors or any affiliate thereof. In our capacity as master servicer under the RPA, we are responsible for administering and collecting receivables and have made customary representations, warranties, covenants and indemnities. We also provided a performance guarantee for the benefit of the Purchaser.

The proceeds of the RPA are classified as operating activities in our Consolidated Condensed Statement of Cash Flows and were used to pay off the outstanding balance of the Securitization Program. Cash received from collections of sold receivables is used by the Receivables Subsidiary to fund additional purchases of receivables on a revolving basis or to return all or any portion of outstanding capital of the Purchaser. Subsequent collections on the pledged receivables, which have not been sold, will be classified as operating cash flows at the time of collection. Total receivables sold and cash collections under the RPA were $123,434 and $238,476 for the three and six months ended April 1, 2023, respectively. The fair value of the sold receivables approximated book value due to their credit quality and short-term nature, and as a result, no gain or loss on sale of receivables was recorded.

As of April 1, 2023, the amount sold to the Purchasers was $100,000, which was derecognized from the Consolidated Condensed Balance Sheets. As collateral against sold receivables, the Receivables Subsidiary maintains a certain level of unsold receivables, which was $731,260 at April 1, 2023.

The allowance for credit losses is based on our assessment of the collectability of customer accounts. The allowance is determined by considering factors such as historical experience, credit quality, age of the accounts receivable, current economic conditions and reasonable forecasted financial information that may affect a customer's ability to pay.

Note 5 - Inventories

Inventories, net of reserves, consist of:

	April 1, 2023	October 1, 2022
Raw materials and purchased parts	$ 260,179	$ 219,893
Work in progress	339,540	305,328
Finished goods	79,326	63,245
Inventories, net	$ 679,045	$ 588,466

There are no material inventoried costs relating to over-time contracts where revenue is accounted for using the cost-to-cost method of accounting as of April 1, 2023 and October 1, 2022.

Note 6 - Property, Plant and Equipment

Property, plant and equipment consists of:

	April 1, 2023	October 1, 2022
Land	$ 30,644	$ 32,164
Buildings and improvements	554,583	502,050
Machinery and equipment	832,321	786,562
Computer equipment and software	218,708	201,960
Property, plant and equipment, at cost	1,636,256	1,522,736
Less accumulated depreciation and amortization	(898,657)	(853,828)
Property, plant and equipment, net	$ 737,599	$ 668,908

Note 7 - Leases

We lease certain manufacturing facilities, office space and machinery and equipment globally. At inception we evaluate whether a contractual arrangement contains a lease. Specifically, we consider whether we control the underlying asset and have the right to obtain substantially all the economic benefits or outputs from the asset. If the contractual arrangement contains a lease, we then determine the classification of the lease, operating or finance, using the classification criteria described in ASC 842. We then determine the term of the lease based on terms and conditions of the contractual arrangement, including whether the options to extend or terminate the lease are reasonably certain to be exercised. We have elected to not separate lease components from non-lease components, such as common area maintenance charges and instead, account for the lease and non-lease components as a single component.

Our lease right-of-use ("ROU") assets represent our right to use an underlying asset for the lease term and our lease liabilities represent our obligation to make lease payments. Operating lease ROU assets are included in Operating lease right-of-use assets and operating lease liabilities are included in Accrued liabilities and other and Other long-term liabilities on the Consolidated Condensed Balance Sheets. Finance lease ROU assets are included in Property, plant and equipment and finance lease liabilities are included in Accrued liabilities and other and Other long-term liabilities on the Consolidated Condensed Balance Sheets. Operating lease cost is included in Cost of sales and Selling, general and administrative on the Consolidated Condensed Statements of Earnings. Finance lease cost is included in Cost of sales, Selling, general and administrative and Interest on the Consolidated Condensed Statements of Earnings.

The ROU assets and lease liabilities for both operating and finance leases are recognized as of the commencement date at the net present value of the fixed minimum lease payments over the term of the lease, using the discount rate described below. Variable lease payments are recorded in the period in which the obligation for the payment is incurred. Variable lease payments based on an index or rate are initially measured using the index or rate as of the commencement date of the lease and included in the fixed minimum lease payments. For short-term leases that have a term of 12 months or less as of the commencement date, we do not recognize a ROU asset or lease liability on our balance sheet; we recognize expense as the lease payments are made over the lease term.

The discount rate used to calculate the present value of our leases is the rate implicit in the lease. If the information necessary to determine the rate implicit in the lease is not available, we use our incremental borrowing rate for collateralized debt, which is determined using our credit rating and other information available as of the lease commencement date.

The components of lease expense were as follows:

	Three Months Ended		Six Months Ended	
	April 1, 2023	April 2, 2022	April 1, 2023	April 2, 2022
Operating lease cost	$ 7,560	$ 7,218	$ 14,955	$ 14,158
Finance lease cost:				
Amortization of right-of-use assets	$ 1,146	$ 672	$ 2,118	$ 1,259
Interest on lease liabilities	427	247	791	464
Total finance lease cost	$ 1,573	$ 919	$ 2,909	$ 1,723

Supplemental cash flow information related to leases was as follows:

	Six Months Ended	
	April 1, 2023	April 2, 2022
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flow for operating leases	$ 15,094	$ 14,615
Operating cash flow for finance leases	791	464
Financing cash flow for finance leases	1,899	1,085
Assets obtained in exchange for lease obligations:		
Operating leases	$ 1,393	$ 9,744
Finance leases	9,614	7,904

Supplemental balance sheet information related to leases was as follows:

	April 1, 2023	October 1, 2022
Operating Leases:		
Operating lease right-of-use assets	$ 62,569	$ 69,072
Accrued liabilities and other	$ 11,169	$ 13,002
Other long-term liabilities	61,180	66,167
Total operating lease liabilities	$ 72,349	$ 79,169
Finance Leases:		
Property, plant, and equipment, at cost	$ 40,842	$ 30,614
Accumulated depreciation	(7,900)	(5,606)
Property, plant, and equipment, net	$ 32,942	$ 25,008
Accrued liabilities and other	$ 4,493	$ 3,244
Other long-term liabilities	30,441	23,529
Total finance lease liabilities	$ 34,934	$ 26,773
Weighted average remaining lease term in years:		
Operating leases	7.8	7.7
Finance leases	14.5	16.7
Weighted average discount rates:		
Operating leases	5.1 %	5.0 %
Finance leases	5.3 %	4.8 %

Maturities of lease liabilities were as follows:

	April 1, 2023	
	Operating Leases	Finance Leases
2023	$ 7,582	$ 3,108
2024	13,405	6,203
2025	11,467	6,021
2026	10,778	5,734
2027	9,680	4,978
Thereafter	36,690	31,361
Total lease payments	89,602	57,405
Less: imputed interest	(17,253)	(22,471)
Total	$ 72,349	$ 34,934

Note 8 - Goodwill and Intangible Assets

The changes in the carrying amount of goodwill are as follows:

	Aircraft Controls	Space and Defense Controls	Industrial Systems	Total
Balance at October 1, 2022	$ 199,519	$ 259,407	$ 346,394	$ 805,320
Adjustments to prior year acquisitions	122	—	—	122
Foreign currency translation	4,754	76	16,226	21,056
Balance at April 1, 2023	$ 204,395	$ 259,483	$ 362,620	$ 826,498

Goodwill in our Space and Defense Controls segment is net of a $4,800 accumulated impairment loss at April 1, 2023. Goodwill in our Medical Devices reporting unit, included in our Industrial Systems segment, is net of a $38,200 accumulated impairment loss at April 1, 2023.

The components of intangible assets are as follows:

		April 1, 2023		October 1, 2022	
	Weighted-Average Life (years)	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Customer-related	11	$ 138,912	$ (92,925)	$ 135,899	$ (88,179)
Technology-related	9	71,567	(55,791)	69,856	(52,951)
Program-related	23	37,723	(20,981)	35,305	(18,817)
Marketing-related	8	22,395	(18,684)	21,925	(17,833)
Other	10	1,837	(1,632)	1,693	(1,488)
Intangible assets	12	$ 272,434	$ (190,013)	$ 264,678	$ (179,268)

All acquired intangible assets other than goodwill are being amortized. Customer-related intangible assets primarily consist of customer relationships. Technology-related intangible assets primarily consist of technology, patents, intellectual property and software. Program-related intangible assets consist of long-term programs represented by current contracts and probable follow on work. Marketing-related intangible assets primarily consist of trademarks, trade names and non-compete agreements.

Amortization of acquired intangible assets is as follows:

	Three Months Ended		Six Months Ended	
	April 1, 2023	April 2, 2022	April 1, 2023	April 2, 2022
Acquired intangible asset amortization	$ 2,865	$ 3,329	$ 5,852	$ 6,727

Based on acquired intangible assets recorded at April 1, 2023, amortization is estimated to be approximately:

	2023	2024	2025	2026	2027
Estimated future amortization of acquired intangible assets	$ 11,700	$ 10,900	$ 9,800	$ 9,600	$ 8,700

Note 9 - Equity Method Investments and Joint Ventures

Investments and operating results in which we do not have a controlling interest, however we do have the ability to exercise significant influence over operations are accounted for using the equity method of accounting. Equity method investments and joint ventures consists of:

	April 1, 2023		
		Income (Loss)	
	Net investment balance	Three Months Ended	Six Months Ended
Moog Aircraft Service Asia	$ 1,225	$ 51	$ (77)
NOVI LLC	609	—	—
Suffolk Technologies Fund 1, L.P.	1,048	182	105
Total	$ 2,882	$ 233	$ 28

Net investment balances are included as Other assets in the Consolidated Condensed Balance Sheets. Income (loss) from equity method investments and joint ventures is included in Other in the Consolidated Condensed Statements of Earnings.

Moog Aircraft Services Asia ("MASA") is a joint venture included in our Aircraft Controls segment in which we currently hold a 51% ownership share. MASA is intended to provide maintenance, repair and overhaul services for our manufactured flight control systems.

We hold a 42.5% ownership interest in NOVI LLC ("NOVI") that is included in our Space and Defense Controls segment. NOVI specializes in applying machine learning algorithms to space situational awareness.

Suffolk Technologies Fund 1, L.P., is a limited partnership included in our Industrial Systems segment that invests in startups to transform the construction, real estate and property maintenance industries in the U.S. We have a remaining on-call capital commitment of up to $6,751.

Hybrid Motion Solutions (“HMS”) is a joint venture in our Industrial Systems segment in which we hold a 50% ownership interest. HMS specializes in hydrostatic servo drives and leverages synergies to enter new markets. The joint venture focuses on research and development, design and assembly as well as service. Our share of cumulative losses to date has exceeded our initial investment, and as such, we had no net investment balance recorded as of April 1, 2023. In addition to the investment, we have also loaned HMS $2,985 that is included as Other assets in the Consolidated Condensed Balance Sheet.

Investments in, and the operating results of, entities in which we do not have a controlling financial interest or the ability to exercise significant influence over the operations are accounted for using the cost method of accounting. As of April 1, 2023 we had cost method investments of $9,795, which are included as Other assets in the Consolidated Condensed Balance Sheets.

Note 10 - Indebtedness

We maintain short-term line of credit facilities with banks throughout the world that are principally demand lines subject to revision by the banks.

Long-term debt consists of:

	April 1, 2023	October 1, 2022
U.S. revolving credit facility	$ 435,846	$ 321,300
SECT revolving credit facility	28,000	20,000
Senior notes 4.25%	500,000	500,000
Other long-term debt	728	916
Senior debt	964,574	842,216
Less deferred debt issuance cost	(5,432)	(4,428)
Less current installments	(728)	(916)
Long-term debt	$ 958,414	$ 836,872

On October 27, 2022, we amended our U.S. revolving credit facility, which extended the maturity date of the credit facility from October 15, 2024 to October 27, 2027. The credit facility has a capacity of $1,100,000 and provides an expansion option, which permits us to request an increase of up to $400,000 to the credit facility upon satisfaction of certain conditions. Interest on the majority of our outstanding borrowings is principally based on SOFR plus the applicable margin. The credit facility is secured by substantially all of our U.S. assets. The loan agreement contains various covenants which, among others, specify interest coverage and maximum leverage. We are in compliance with all covenants.

The SECT has a revolving credit facility with a borrowing capacity of $35,000, maturing on July 26, 2024. Interest is based on LIBOR plus an applicable margin. A commitment fee is also charged based on a percentage of the unused amounts available and is not material.

We have $500,000 aggregate principal amount of 4.25% senior notes due December 15, 2027 with interest paid semiannually on June 15 and December 15 of each year. The senior notes are unsecured obligations, guaranteed on a senior unsecured basis by certain subsidiaries and contain normal incurrence-based covenants and limitations such as the ability to incur additional indebtedness, pay dividends, make other restricted payments and investments, create liens and certain corporate acts such as mergers and consolidations. We are in compliance with all covenants.

Note 11 - Other Accrued Liabilities

Other accrued liabilities consists of:

	April 1, 2023	October 1, 2022
Employee benefits	$ 47,043	$ 56,136
Contract reserves	45,602	46,547
Warranty accrual	22,062	23,072
Accrued income taxes	24,778	17,776
Other	72,782	71,845
Other accrued liabilities	$ 212,267	$ 215,376

In the ordinary course of business, we warrant our products against defects in design, materials and workmanship typically over periods ranging from twelve to sixty months. We determine warranty reserves needed by product line based on historical experience and current facts and circumstances. Activity in the warranty accrual is summarized as follows:

	Three Months Ended		Six Months Ended	
	April 1, 2023	April 2, 2022	April 1, 2023	April 2, 2022
Warranty accrual at beginning of period	$ 22,429	$ 25,026	$ 23,072	$ 26,602
Warranties issued during current period	2,994	2,835	4,952	3,400
Adjustments to pre-existing warranties	(229)	(42)	(443)	(66)
Reductions for settling warranties	(3,179)	(3,139)	(5,984)	(4,854)
Divestiture adjustment	—	(38)	—	(368)
Foreign currency translation	47	(171)	465	(243)
Warranty accrual at end of period	$ 22,062	$ 24,471	$ 22,062	$ 24,471

Note 12 - Derivative Financial Instruments

We principally use derivative financial instruments to manage foreign exchange risk related to foreign operations and foreign currency transactions and interest rate risk associated with long-term debt. We enter into derivative financial instruments with a number of major financial institutions to minimize counterparty credit risk.

Derivatives designated as hedging instruments

We use foreign currency contracts as cash flow hedges to effectively fix the exchange rates on future payments and revenue. To mitigate exposure in movements between various currencies, including the Philippine peso, we had outstanding foreign currency contracts with notional amounts of $14,124 at April 1, 2023. These contracts mature at various times through March 1, 2024.

We use forward currency contracts to hedge our net investment in certain foreign subsidiaries. As of April 1, 2023, we had no outstanding net investment hedges.

Interest rate swaps are used to adjust the proportion of total debt that is subject to variable and fixed interest rates. The interest rate swaps are designated as hedges of the amount of future cash flows related to interest payments on variable-rate debt that, in combination with the interest payments on the debt, convert a portion of the variable-rate debt to fixed-rate debt. At April 1, 2023, we had no outstanding interest rate swaps.

Foreign currency contracts, net investment hedges and interest rate swaps are recorded in the Consolidated Condensed Balance Sheets at fair value and the related gains or losses are deferred in Shareholders' Equity as a component of Accumulated Other Comprehensive Income (Loss) ("AOCIL"). These deferred gains and losses are reclassified into the Consolidated Condensed Statements of Earnings, as necessary, during the periods in which the related payments or receipts affect earnings. However, to the extent the foreign currency contracts and interest rate swaps are not perfectly effective in offsetting the change in the value of the payments and revenue being hedged, the ineffective portion of these contracts is recognized in earnings immediately. Ineffectiveness was not material in the first six months of 2023 or 2022.

Derivatives not designated as hedging instruments

We also have foreign currency exposure on balances, primarily intercompany, that are denominated in a foreign currency and are adjusted to current values using period-end exchange rates. The resulting gains or losses are recorded in the Consolidated Condensed Statements of Earnings. To minimize foreign currency exposure, we have foreign currency contracts with notional amounts of $122,789 at April 1, 2023. The foreign currency contracts are recorded in the Consolidated Condensed Balance Sheets at fair value and resulting gains or losses are recorded in the Consolidated Condensed Statements of Earnings. We recorded the following gains and losses on foreign currency contracts which are included in other income or expense and generally offset the gains or losses from the foreign currency adjustments on the intercompany balances that are also included in other income or expense:

		Three Months Ended		Six Months Ended	
	Statements of Earnings location	April 1, 2023	April 2, 2022	April 1, 2023	April 2, 2022
Net gain (loss)					
Foreign currency contracts	Other	$ (890)	$ (2,134)	$ 3,105	$ (4,038)

Summary of derivatives

The fair value and classification of derivatives is summarized as follows:

	Balance Sheets location	April 1, 2023	October 1, 2022
Derivatives designated as hedging instruments:			
Foreign currency contracts	Other current assets	$ 549	$ 562
Foreign currency contracts	Other assets	—	165
	Total asset derivatives	$ 549	$ 727
Foreign currency contracts	Accrued liabilities and other	$ 878	$ 3,877
Foreign currency contracts	Other long-term liabilities	—	751
	Total liability derivatives	$ 878	$ 4,628
Derivatives not designated as hedging instruments:			
Foreign currency contracts	Other current assets	$ 28	$ 679
Foreign currency contracts	Accrued liabilities and other	$ 130	$ 738

Note 13 - 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.

Our derivatives are valued using various pricing models or discounted cash flow analyses that incorporate observable market data, such as interest rate yield curves and currency rates, and are classified as Level 2 within the valuation hierarchy.

The following table presents the fair values and classification of our financial assets and liabilities measured on a recurring basis, all of which are classified as Level 2, except for the acquisition contingent consideration, which is classified as Level 3:

	Balance Sheets location	April 1, 2023	October 1, 2022
Foreign currency contracts	Other current assets	$ 577	$ 1,241
Foreign currency contracts	Other assets	—	165
	Total assets	$ 577	$ 1,406
Foreign currency contracts	Accrued liabilities and other	$ 1,008	$ 4,615
Foreign currency contracts	Other long-term liabilities	—	751
Acquisition contingent consideration	Other long-term liabilities	2,954	3,272
	Total liabilities	$ 3,962	$ 8,638

The changes in financial liabilities classified as Level 3 within the fair value hierarchy are as follows:

	Three Months Ended		Six Months Ended	
	April 1, 2023	April 2, 2022	April 1, 2023	April 2, 2022
Balance at beginning of period	$ 3,365	$ —	$ 3,272	$ —
Additions from acquisition	(491)	3,053	(491)	3,053
Increase in discounted future cash flows recorded as interest expense	80	31	173	31
Balance at end of period	$ 2,954	$ 3,084	$ 2,954	$ 3,084

Our only financial instrument for which the carrying value differs from its fair value is long-term debt. At April 1, 2023, the fair value of long-term debt was $920,817 compared to its carrying value of $964,574. The fair value of long-term debt is classified as Level 2 within the fair value hierarchy and was estimated based on quoted market prices.

Note 14 - Restructuring

Restructuring activity for severance and other costs by segment and reconciliation to consolidated amounts is as follows:

	Aircraft Controls	Space and Defense Controls	Industrial Systems	Total
Balance at October 1, 2022	$ 229	$ 228	$ 6,678	$ 7,135
Charged to expense - 2022 plan	—	687	2,408	3,095
Adjustments to provision	(16)	37	—	21
Cash payments - 2022 plan	(213)	(448)	(300)	(961)
Cash payments - 2020 plan	—	—	(180)	(180)
Cash payments - 2018 plan	—	—	(286)	(286)
Foreign currency translation	—	—	447	447
Balance at April 1, 2023	$ —	$ 504	$ 8,767	$ 9,271

As of April 1, 2023, the restructuring accrual consists of $5,263 for the 2022 plan, $2,707 for the 2020 plan and $1,301 for the 2018 plan. Restructuring is expected to be paid within a year, except portions classified as long-term liabilities based on the nature of the reserve.

Note 15 - Employee Benefit Plans

Pension expense for our defined contribution plans consists of:

	Three Months Ended		Six Months Ended	
	April 1, 2023	April 2, 2022	April 1, 2023	April 2, 2022
U.S. defined contribution plans	$ 12,003	$ 11,169	$ 22,188	$ 21,714
Non-U.S. defined contribution plans	2,047	2,386	4,112	4,538
Total expense for defined contribution plans	$ 14,050	$ 13,555	$ 26,300	$ 26,252

Net periodic benefit costs for our defined benefit pension plans are as follows:

	Three Months Ended		Six Months Ended	
	April 1, 2023	April 2, 2022	April 1, 2023	April 2, 2022
U.S. Plans				
Service cost	$ 3,228	$ 4,956	$ 6,456	$ 9,913
Interest cost	7,028	4,561	14,056	9,123
Expected return on plan assets	(7,147)	(7,450)	(14,294)	(14,901)
Amortization of actuarial loss	3,362	3,897	6,724	7,793
Expense for U.S. defined benefit plans	$ 6,471	$ 5,964	$ 12,942	$ 11,928
Non-U.S. Plans				
Service cost	$ 666	$ 1,107	$ 1,308	$ 2,229
Interest cost	1,354	627	2,657	1,261
Expected return on plan assets	(1,057)	(886)	(2,074)	(1,783)
Amortization of prior service cost	14	15	27	30
Amortization of actuarial loss	99	1,004	195	2,026
Expense for non-U.S. defined benefit plans	$ 1,076	$ 1,867	$ 2,113	$ 3,763

Note 16 - Income Taxes

The effective tax rate for the three and six months ended April 1, 2023 was 23.6%. The effective tax rate for the three and six months ended April 2, 2022 was 24.9% and 24.8%, respectively. The effective tax rates for the three and six months ended April 1, 2023 and April 2, 2022 are higher than expected from applying the U.S. federal statutory tax rate of 21% to earnings before income taxes due to tax on earnings generated outside the U.S.

Note 17 - Accumulated Other Comprehensive Income (Loss)

The changes in AOCIL, net of tax, by component for the six months ended April 1, 2023 are as follows:

	Accumulated foreign currency translation	Accumulated retirement liability	Accumulated gain (loss) on derivatives	Total
AOCIL at October 1, 2022	$ (182,024)	$ (125,231)	$ (3,787)	$ (311,042)
OCI before reclassifications	61,952	(1,198)	1,302	62,056
Amounts reclassified from AOCIL	327	4,429	1,697	6,453
OCI, net of tax	62,279	3,231	2,999	68,509
AOCIL at April 1, 2023	$ (119,745)	$ (122,000)	$ (788)	$ (242,533)

Net gains and losses on net investment hedges are recorded in Accumulated foreign currency translation to the extent that the instruments are effective in hedging the designated risk.

The amounts reclassified from AOCIL into earnings are as follows:

		Three Months Ended		Six Months Ended	
	Statements of Earnings location	April 1, 2023	April 2, 2022	April 1, 2023	April 2, 2022
Retirement liability:					
Prior service cost		$ 14	$ 15	$ 27	$ 30
Actuarial losses		2,882	4,583	5,759	9,183
Reclassification from AOCIL into earnings		2,896	4,598	5,786	9,213
Tax effect		(679)	(1,090)	(1,357)	(2,183)
Net reclassification from AOCIL into earnings		$ 2,217	$ 3,508	$ 4,429	$ 7,030
Derivatives:					
Foreign currency contracts	Sales	$ 211	$ 176	$ 517	$ 244
Foreign currency contracts	Cost of sales	701	299	1,673	349
Reclassification from AOCIL into earnings		912	475	2,190	593
Tax effect		(206)	(105)	(493)	(129)
Net reclassification from AOCIL into earnings		$ 706	$ 370	$ 1,697	$ 464

Reclassification from AOCIL into earnings for the Retirement liability are included in the computation of non-service pension expense, which is included in Other on the Consolidated Condensed Statement of Earnings.

The effective portion of amounts deferred in AOCIL are as follows:

	Three Months Ended		Six Months Ended	
	April 1, 2023	April 2, 2022	April 1, 2023	April 2, 2022
Foreign currency contracts	$ 489	$ (857)	$ 1,687	$ (802)
Net gain (loss)	489	(857)	1,687	(802)
Tax effect	(115)	192	(385)	178
Net deferral in AOCIL of derivatives	$ 374	$ (665)	$ 1,302	$ (624)

Note 18 - Stock Employee Compensation Trust and Supplemental Retirement Plan Trust

The SECT assists in administering and provides funding for equity-based compensation plans and benefit programs, including the Moog Inc. Retirement Savings Plan ("RSP"), RSP(+) and the Employee Stock Purchase Plan ("ESPP"). The SERP Trust provides funding for benefits under the SERP provisions of the Moog Inc. Plan to Equalize Retirement Income and Supplemental Retirement Income. Both the SECT and the SERP Trust hold Moog shares as investments. The shares in the SECT and SERP Trust are not considered outstanding for purposes of calculating earnings per share. However, in accordance with the trust agreements governing the SECT and SERP Trust, the trustees vote all shares held by the SECT and SERP Trust on all matters submitted to shareholders.

Note 19 - Earnings per Share

Basic and diluted weighted-average shares outstanding, as well as shares considered to be anti-dilutive, are as follows:

	Three Months Ended		Six Months Ended	
	April 1, 2023	April 2, 2022	April 1, 2023	April 2, 2022
Basic weighted-average shares outstanding	31,848,140	31,984,674	31,797,071	32,021,036
Dilutive effect of equity-based awards	195,770	136,052	162,244	133,406
Diluted weighted-average shares outstanding	32,043,910	32,120,726	31,959,315	32,154,442
Anti-dilutive shares from equity-based awards	3,425	54,057	12,576	58,204

Note 20 - Segments

Disaggregation of net sales by segment for the three and six months ended April 1, 2023 and April 2, 2022 are as follows:

	Three Months Ended		Six Months Ended	
Market Type	April 1, 2023	April 2, 2022	April 1, 2023	April 2, 2022
Net sales:				
Military	$ 175,701	$ 192,089	$ 347,419	$ 378,038
Commercial	171,303	119,179	309,844	236,547
Aircraft Controls	347,004	311,268	657,263	614,585
Space	111,873	87,074	207,758	174,657
Defense	133,980	136,275	255,880	256,548
Space and Defense Controls	245,853	223,349	463,638	431,205
Energy	28,980	32,316	60,550	63,782
Industrial Automation	125,538	110,411	236,656	212,554
Simulation and Test	24,765	29,625	53,090	51,800
Medical	64,652	63,818	125,698	120,947
Industrial Systems	243,935	236,170	475,994	449,083
Net sales	$ 836,792	$ 770,787	$ 1,596,895	$ 1,494,873

	Three Months Ended		Six Months Ended	
Customer Type	April 1, 2023	April 2, 2022	April 1, 2023	April 2, 2022
Net sales:				
Commercial	$ 171,303	$ 119,179	$ 309,844	$ 236,547
U.S. Government (including OEM)	134,062	138,026	263,845	281,905
Other	41,639	54,063	83,574	96,133
Aircraft Controls	347,004	311,268	657,263	614,585
Commercial	29,216	28,554	53,789	52,877
U.S. Government (including OEM)	202,579	180,109	382,017	350,124
Other	14,058	14,686	27,832	28,204
Space and Defense Controls	245,853	223,349	463,638	431,205
Commercial	240,190	235,165	466,029	442,400
U.S. Government (including OEM)	838	153	2,118	3,939
Other	2,907	852	7,847	2,744
Industrial Systems	243,935	236,170	475,994	449,083
Commercial	440,709	382,898	829,662	731,824
U.S. Government (including OEM)	337,479	318,288	647,980	635,968
Other	58,604	69,601	119,253	127,081
Net sales	$ 836,792	$ 770,787	$ 1,596,895	$ 1,494,873

Revenue Recognition Method	Three Months Ended April 1, 2023	Three Months Ended April 2, 2022	Six Months Ended April 1, 2023	Six Months Ended April 2, 2022
Net sales:				
Over-time	$ 276,638	$ 239,720	$ 523,533	$ 486,369
Point in time	70,366	71,548	133,730	128,216
Aircraft Controls	347,004	311,268	657,263	614,585
Over-time	229,073	207,309	431,163	399,755
Point in time	16,780	16,040	32,475	31,450
Space and Defense Controls	245,853	223,349	463,638	431,205
Over-time	27,862	40,287	60,918	69,312
Point in time	216,073	195,883	415,076	379,771
Industrial Systems	243,935	236,170	475,994	449,083
Over-time	533,573	487,316	1,015,614	955,436
Point in time	303,219	283,471	581,281	539,437
Net sales	$ 836,792	$ 770,787	$ 1,596,895	$ 1,494,873

Operating profit is net sales less cost of sales and other operating expenses, excluding interest expense, equity-based compensation expense, non-service pension expense and other corporate expenses. Cost of sales and other operating expenses are directly identifiable to the respective segment or allocated on the basis of sales, manpower or profit. Operating profit by segment for the three and six months ended April 1, 2023 and April 2, 2022 and a reconciliation of segment operating profit to earnings before income taxes are as follows:

	Three Months Ended April 1, 2023	Three Months Ended April 2, 2022	Six Months Ended April 1, 2023	Six Months Ended April 2, 2022
Operating profit:				
Aircraft Controls	$ 31,862	$ 12,441	$ 61,580	$ 54,356
Space and Defense Controls	27,507	24,075	47,801	45,374
Industrial Systems	24,397	20,723	61,148	37,914
Total operating profit	83,766	57,239	170,529	137,644
Deductions from operating profit:				
Interest expense	14,963	8,263	28,095	16,245
Equity-based compensation expense	2,791	1,920	5,765	4,578
Non-service pension expense	3,115	1,472	6,214	2,957
Corporate and other expenses, net	6,593	6,871	13,850	13,728
Earnings before income taxes	$ 56,304	$ 38,713	$ 116,605	$ 100,136

Note 21 - Related Party Transactions

John Scannell, Moog's Non-Executive Chairman of the Board of Directors, is a member of the Board of Directors of M&T Bank Corporation and M&T Bank. We currently engage with M&T Bank in the ordinary course of business for various financing activities, all of which were initiated prior to the election of Mr. Scannell to the Board. M&T Bank provides credit extension for routine purchases, which for the three and six months ended April 1, 2023 totaled $3,637 and $7,054, respectively. Credit extension for the three and six months ended April 2, 2022 totaled $4,220 and $7,863, respectively. At April 1, 2023, we held outstanding leases with a total original cost of $14,245. At April 1, 2023, outstanding deposits on our behalf for future equipment leases totaled $2,950. M&T Bank also maintains an interest of approximately 12% in our U.S. revolving credit facility. Further details of the U.S. revolving credit facility can be found in Note 10 - Indebtedness. Wilmington Trust, a subsidiary of M&T Bank, is the trustee of the pension assets for our qualified U.S. defined benefit plan.

Note 22 - Commitments and Contingencies

From time to time, we are involved in legal proceedings. We are not a party to any pending legal proceedings which management believes will result in a material adverse effect on our financial condition, results of operations or cash flows.

We are engaged in administrative proceedings with governmental agencies and legal proceedings with governmental agencies and other third parties in the normal course of our business, including litigation under Superfund laws, regarding environmental matters. We believe that adequate reserves have been established for our share of the estimated cost for all currently pending environmental administrative or legal proceedings and do not expect that these environmental matters will have a material adverse effect on our financial condition, results of operations or cash flows.

In the ordinary course of business we could be subject to ongoing claims or disputes from our customers, the ultimate settlement of which could have a material adverse impact on our consolidated results of operations. While the receivables and any loss provisions recorded to date reflect management's best estimate of the projected costs to complete a given project, there is still significant effort required to complete the ultimate deliverable. Future variability in internal cost and future profitability is dependent upon a number of factors including deliveries, performance and government budgetary pressures. The inability to achieve a satisfactory contractual solution, further unplanned delays, additional developmental cost growth or variations in any of the estimates used in the existing contract analysis could lead to further loss provisions. Additional losses could have a material adverse impact on our financial condition, results of operations or cash flows in the period in which the loss may be recognized.

We are contingently liable for $22,027 related to standby letters of credit issued by a bank to third parties on our behalf at April 1, 2023.

Note 23 - Subsequent Event

On April 27, 2023, we declared a $0.27 per share quarterly dividend payable on issued and outstanding shares of our Class A and Class B common stock on May 30, 2023 to shareholders of record at the close of business on May 12, 2023.

Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations.

The following should be read in conjunction with Management’s Discussion and Analysis of Financial Condition and Results of Operations contained in the Company’s Annual Report filed on Form 10-K for the fiscal year ended October 1, 2022. In addition, the following should be read in conjunction with our Consolidated Financial Statements and Notes to Consolidated Condensed Financial Statements contained herein. All references to years in this Management’s Discussion and Analysis of Financial Condition and Results of Operations are to fiscal years. Amounts may differ from reported values due to rounding.

OVERVIEW

We are a worldwide designer, manufacturer and systems integrator of high performance precision motion and fluid controls and control systems for a broad range of applications in aerospace and defense and industrial markets.

Within the aerospace and defense market, our products and systems include:

- Defense market - primary and secondary flight controls for military aircraft, turreted weapon systems, stabilization and automatic ammunition loading controls for armored combat vehicles, tactical and strategic missile steering controls and gun aiming controls.
- Commercial aircraft market - primary and secondary flight controls for commercial aircraft.
- Space market - satellite positioning controls and thrust vector controls, as well as integrated space vehicles and hypersonic applications.

In the industrial market, our products are used in a wide range of applications including:

- Industrial automation market - components and systems for injection and blow molding machinery, heavy industry applications for steel and aluminum production, metal forming presses, flight simulation motion control systems and material and automotive structural and fatigue testing systems.
- Medical market - components and pumps for enteral clinical nutrition and infusion therapy, CT scan medical equipment, ultrasonic sensors and surgical handpieces and sleep apnea equipment.
- Energy market - control and safety components for steam and gas power generation turbines and oil and gas exploration components and systems.

We operate under three segments, Aircraft Controls, Space and Defense Controls and Industrial Systems. Our principal manufacturing facilities are located in the United States, Philippines, United Kingdom, Germany, Italy, Costa Rica, China, Netherlands, Luxembourg, Japan, Czech Republic, Canada, India and Lithuania.

Under ASC 606, 64% of revenue was recognized over time for the quarter ended April 1, 2023, using the cost-to-cost method of accounting. The over-time method of revenue recognition is predominantly used in Aircraft Controls and Space and Defense Controls. We use this method for U.S. Government contracts and repair and overhaul arrangements as we are creating or enhancing assets that the customer controls. In addition, many of our large commercial contracts qualify for over-time accounting as our performance does not create an asset with an alternative use and we have an enforceable right to payment for performance completed to date.

For the quarter ended April 1, 2023, 36% of revenue was recognized at the point in time control transferred to the customer. This method of revenue recognition is used most frequently in Industrial Systems. We use this method for commercial contracts in which the asset being created has an alternative use. We determine the point in time control transfers to the customer by weighing the five indicators provided by ASC 606. When control has transferred to the customer, profit is generated as cost of sales is recorded and as revenue is recognized.

We concentrate on providing our customers with products designed and manufactured to the highest quality standards. Our technical experts work collaboratively with customers around the world, delivering capabilities for mission-critical solutions. This approach is critical in creating products that are applied in demanding applications, "When Performance Really Matters®." By capitalizing on this customer intimacy, we believe we have achieved a leadership position in the high performance, precision controls market. Additionally, these strengths yield a broad control product portfolio, across a diverse base of customers and end markets.

By focusing on customer intimacy and commitment to solving our customers' most demanding technical problems, we have been able to expand our motion control franchise to multiple markets; organically growing from a high-performance components manufacturer to a high-performance systems designer, manufacturer and systems integrator. In addition, we continue expanding our content positions on our current platforms, seeking to be the market-leading supplier in the niche markets we serve. We also look for innovation in all aspects of our business, employing new technologies to improve productivity and operational performance.

Our path to success comes from our talented employees building a sustainable company for current and future generations. We are concentrating our efforts on: customer focus, people, community and the planet, and financial strength. Initiatives in these three areas will drive accountability, improve operational performance, increase employee engagement and workforce diversity and, with business simplification, result in improved financial results and increased shareholder value.

We will improve shareholder value through strategic revenue growth, both organic and acquired, through improving operating efficiencies and manufacturing productivity and through utilizing low cost manufacturing facilities without compromising quality. Historically, we have taken a balanced approach to capital deployment in order to maximize shareholder returns over the long term. These activities have included strategic acquisitions, share buybacks and dividend payments. Today, we believe we can create long term value for our shareholders by continuing to invest in our business through both capital expenditures as well as investments in new market opportunities. We will also continue exploring opportunities to make strategic acquisitions and return capital to shareholders.

Acquisitions and Divestitures

Acquisitions

On February 21, 2022, we acquired TEAM Accessories Limited ("TEAM") based in Dublin, Ireland for a purchase price, net of acquired cash, of $14 million, consisting of $12 million in cash and contingent consideration with an initial fair value of $3 million. TEAM specializes in Maintenance, Repair and Overhaul of engine and airframe components. This operation is included in our Aircraft Controls segment.

Divestitures

On September 30, 2022, we sold a sonar business based in the United Kingdom previously included in our Industrial Systems segment. We have cumulatively received net proceeds of $13 million and recorded a loss of $15 million, net of transaction costs. The transaction is subject to adjustments associated with amounts currently held in escrow.

On September 20, 2022, we sold assets of a security business based in Northbrook, Illinois previously included in our Space and Defense Controls segment. We have cumulatively received net proceeds of $9 million and recorded a loss of $4 million, net of transaction costs. The transaction is subject to adjustments associated with amounts currently held in escrow.

On December 3, 2021, we sold the assets of our Navigation Aids ("NAVAIDS") business based in Salt Lake City, Utah previously included in our Aircraft Controls segment to Thales USA Inc. We have cumulatively received net proceeds of $37 million and recorded a gain of $16 million, net of transaction costs. The transaction is subject to adjustments associated with amounts currently held in escrow.

CRITICAL ACCOUNTING POLICIES

On a regular basis, we evaluate the critical accounting policies used to prepare our consolidated financial statements, including revenue recognition on long-term contracts, contract reserves, reserves for inventory valuation, reviews for impairment of goodwill, reviews for impairment of long-lived assets, pension assumptions and income taxes.

RECENT ACCOUNTING PRONOUNCEMENTS

See Note 1 - Basis of Presentation in the Consolidated Condensed Financial Statements included in Item 1, Financial Statements of this report for further information regarding Financial Accounting Standards Board issued ASUs.

CONSOLIDATED RESULTS OF OPERATIONS

(dollars and shares in millions, except per share data)	Three Months Ended April 1, 2023	Three Months Ended April 2, 2022	Three Months Ended $ Variance	Three Months Ended % Variance	Six Months Ended April 1, 2023	Six Months Ended April 2, 2022	Six Months Ended $ Variance	Six Months Ended % Variance
Net sales	$ 837	$ 771	$ 66	9%	$ 1,597	$ 1,495	$ 102	7%
Gross margin	*26.4 %*	*27.6 %*			*26.6 %*	*27.2 %*		
Research and development expenses	$ 27	$ 31	$ (4)	(13%)	$ 51	$ 58	$ (8)	(13%)
Selling, general and administrative expenses as a percentage of sales	*13.9 %*	*14.4 %*			*14.4 %*	*14.9 %*		
Interest expense	$ 15	$ 8	$ 7	81%	$ 28	$ 16	$ 12	73%
Asset impairment	$ 1	$ 15	$ (14)	(92%)	$ 1	$ 15	$ (14)	(92%)
Restructuring expense	$ 2	$ 8	$ (6)	(74%)	$ 3	$ 8	$ (5)	(60%)
Gain on sale of business	$ —	$ —	$ —	—%	$ —	$ (16)	$ 16	(100%)
Gain on sale of buildings	$ (1)	$ —	$ (1)	n/a	(10)	—	$ (10)	n/a
Other	$ 4	$ 1	$ 3	n/a	$ 6	$ 1	$ 4	n/a
Effective tax rate	*23.6 %*	*24.9 %*			*23.6 %*	*24.8 %*		
Net earnings	$ 43	$ 29	$ 14	48%	$ 89	$ 75	$ 14	18%
Diluted earnings per share	$ 1.34	$ 0.91	$ 0.43	47%	$ 2.79	$ 2.34	$ 0.45	19%
Twelve-month backlog					$ 2,300	$ 2,300	$ —	—%

Net sales increased in the second quarter and in the first half of 2023 compared to the same periods of 2022 across all of our segments. Weaker foreign currencies, primarily the Euro and the British Pound, relative to the U.S. Dollar, decreased sales $10 million in the second quarter and $26 million in the first half of 2023 relative to the same periods of 2022. Additionally, the absence of sales associated with our divested businesses in 2022 decreased sales $8 million in the second quarter and $20 million through the first half of 2023. The 2023 sales increases excluding these effects compared to the same periods of 2022 were 11% in the second quarter and 10% in the first half.

Gross margin in the second quarter of 2023 included an unfavorable sales mix in Aircraft Controls, contract-related charges in Space and Defense Controls and operational charges in Industrial Systems. Partially offsetting these negative impacts was the benefit of higher sales volumes. Gross margin also decreased in the first half of 2023 compared to the first half of 2022 due mostly to the same factors as the second quarter.

Research and development expenses decreased in the second quarter and in the first half of 2023 compared to the same periods of 2022. We had lower research and development activity due to our prioritization of our engineering activities on funded development programs.

Selling, general and administrative expense as a percentage of sales decreased in the second quarter and in the first half of 2023 compared to the second quarter and the first half of 2022 reflecting the incremental benefit of higher sales volume.

Interest expense in the second quarter and in the first half of 2023 increased due to higher interest rates on our outstanding debt balances and, to a lesser extent, higher debt levels.

The second quarter of 2023 included $3 million of charges for various restructuring activities and impairments across all of our segments. The second quarter of 2022 included $15 million of asset impairments, $8 million of restructuring expenses, primarily in Aircraft Controls, and $2 million of inventory write-down charges.

Through the first half of 2023, we benefited from a $10 million gain from the sale of three buildings in Industrial Systems. The first half of 2022 included a $16 million gain from the sale of our NAVAIDS business in Aircraft Controls.

The effective tax rate in the second quarter of 2023 decreased compared to the second quarter of 2022 due to the incremental benefit from share exercises.

The twelve-month backlog was relatively unchanged in the second quarter of 2023 compared with the second quarter of 2022. Within Industrial Systems, we had higher orders for simulation and test programs and for our core industrial programs. The twelve-month backlog decreased slightly in Aircraft Controls as the work-down of various military development programs was partially offset by higher orders for our business jet and commercial aftermarket programs. Space and Defense Controls' twelve-month backlog decreased slightly due in part to the absence of orders from our divested security business. Additionally, higher orders for space vehicles was offset by the timing of new and follow-on missile program orders.

SEGMENT RESULTS OF OPERATIONS

Operating profit, as presented below, is net sales less cost of sales and other operating expenses, excluding interest expense, equity-based compensation expense, non-service pension expense and other corporate expenses. Cost of sales and other operating expenses are directly identifiable to the respective segment or allocated on the basis of sales, manpower or profit. Operating profit is reconciled to earnings before income taxes in Note 20 - Segments in the Notes to Consolidated Condensed Financial Statements included in this report.

Aircraft Controls

	Three Months Ended				Six Months Ended			
(dollars in millions)	April 1, 2023	April 2, 2022	$ Variance	% Variance	April 1, 2023	April 2, 2022	$ Variance	% Variance
Net sales - military aircraft	$ 176	$ 192	$ (16)	(9%)	$ 347	$ 378	$ (31)	(8%)
Net sales - commercial aircraft	171	119	52	44%	310	237	73	31%
	$ 347	$ 311	$ 36	11%	$ 657	$ 615	$ 43	7%
Operating profit	$ 32	$ 12	$ 19	156%	$ 62	$ 54	$ 7	13%
Operating margin	*9.2 %*	*4.0 %*			*9.4 %*	*8.8 %*		

Aircraft Controls' net sales increased in the second quarter and in the first half of 2023 compared to the second quarter and first half of 2022, as the continued commercial aircraft market recovery was partially offset by lower military sales.

In the second quarter of 2023, sales increased $43 million in our commercial OEM programs and $9 million in our commercial aftermarket programs as both continued to recover. Within commercial OEM, sales increased $20 million across all of our wide-body programs. Also, higher sales volumes for business jets and a strong order book for our Genesys programs increased sales $14 million. Within our commercial aftermarket programs, higher amounts of spares and repair volume increased sales $7 million for the A350 program.

Partially offsetting the commercial sales increase was a sales decline of $10 million in military aftermarket spread across most programs, as we benefited from a strong quarter a year ago. Additionally, sales for military OEM programs decreased $6 million. Lower volume on funded development programs and lower deliveries across our legacy programs were partially offset by a $7 million increase in the F-35 program.

The sales increases in the first half of 2023 compared to the first half of 2022 were largely due to the same factors as the second quarter. The continued recovery of the commercial market increased OEM program sales by $46 million and aftermarket sales by $27 million. Within our military programs, sales decreased across both our OEM and aftermarket programs due mostly to the same factors as the second quarter.

Operating margin increased in the second quarter of 2023 compared to the same period of 2022. The second quarter of 2023 included a $1 million impairment charge, whereas the second quarter of 2022 included $15 million of impairment and $4 million of restructuring expenses. Excluding these charges, adjusted operating margin in the second quarter of 2023 was 9.5% compared to 10.0% in the second quarter of 2022. The resulting decrease in adjusted operating margin was due to an unfavorable sales mix from higher amounts of commercial OEM sales, partially offset by lower research and development expenses.

Operating margin increased in the first half of 2023 compared to the first half of 2022. Adjustments in the first half of 2023 consisted of the second quarter charges, whereas the first half of 2022 included a $16 million gain associated with a divested business. Excluding this gain and the charges in the second quarter, the adjusted operating margin in the first half of 2023 was 9.5% and 9.3% in the first half of 2022. The resulting slight increase in adjusted operating margin in the first half of 2023 compared to the same period of 2022 is due to incremental sales volumes and $4 million of lower research and development expenses. Partially offsetting these benefits was the unfavorable sales mix due to higher levels of commercial OEM sales.

Space and Defense Controls

	Three Months Ended				Six Months Ended			
(dollars in millions)	April 1, 2023	April 2, 2022	$ Variance	% Variance	April 1, 2023	April 2, 2022	$ Variance	% Variance
Net sales	$ 246	$ 223	$ 23	10%	$ 464	$ 431	$ 32	8%
Operating profit	$ 28	$ 24	$ 3	14%	$ 48	$ 45	$ 2	5%
Operating margin	*11.2 %*	*10.8 %*			*10.3 %*	*10.5 %*		

Space and Defense Controls' net sales increased in the second quarter and in the first half of 2023 compared to the second quarter and first half of 2022 primarily driven by growth in both of our markets.

In the first quarter of 2023, we shifted a product line from our defense market into our space market. Excluding this product shift, the increase in our space market sales in the second quarter of 2023 compared to the second quarter of 2022 was $18 million. This increase is primarily due to accelerated activity on satellite avionics and components programs, as well as growth on our space vehicle programs. Within our defense market, the sales increase was $5 million. The production ramp of our RIwP turret program, which hit full-rate production levels in the first quarter of 2023, increased sales $11 million. Partially offsetting the defense sales increase was a $5 million decrease due to the absence of prior year sales related to our security business that we divested in the fourth quarter of 2022.

The sales increases in the first half of 2023 compared to the first half of 2022 were largely due to the same factors as the second quarter. The strong demand for our space programs and our RIwP turret program were partially offset by the absence of sales from our divested security business.

Operating margin increased in the second quarter of 2023 compared to the second quarter of 2022. The second quarter of 2023 included $1 million of restructuring and impairment charges, while the second quarter of 2022 included $2 million of restructuring charges. Excluding these charges, adjusted operating margin for the second quarter of 2023 was 11.7% compared to 11.6% in the second quarter of 2022. The benefit of higher sales and improvements in the core business were mostly offset by close to 300 basis points of development charges on our space vehicle programs.

Excluding $2 million of restructuring and impairment charges in the first half of 2023, adjusted operating margin was 10.6%. Excluding $3 million of restructuring and inventory write-down charges in the first half of 2022, adjusted operating margin was 11.3%. The resulting decline in adjusted operating margin is primarily due to cost growth on our space vehicle development programs, partially offset by the incremental margin from higher sales and improved operational performance.

Industrial Systems

(dollars in millions)	Three Months Ended April 1, 2023	Three Months Ended April 2, 2022	$ Variance	% Variance	Six Months Ended April 1, 2023	Six Months Ended April 2, 2022	$ Variance	% Variance
Net sales	$ 244	$ 236	$ 8	3%	$ 476	$ 449	$ 27	6%
Operating profit	$ 24	$ 21	$ 4	18%	$ 61	$ 38	$ 23	61%
Operating margin	*10.0%*	*8.8 %*			*12.8 %*	*8.4 %*		

Industrial Systems' net sales increased in the second quarter and in the first half of 2023 compared to the second quarter and the first half of 2022, primarily due to general market recoveries. Weaker foreign currencies, primarily the Euro relative to the U.S. Dollar, decreased sales $7 million and $18 million, respectively. Also, sales decreased $3 million and $6 million, respectively, due to the absence of prior year sales associated with our sonar business that we divested in the fourth quarter of 2022. Excluding the impacts of weaker foreign currencies and the divested sales, the resulting sales increases in the second quarter and first half of 2023 were 8% and 12%, respectively.

In the second quarter of 2023 compared to the second quarter of 2022, sales increased $15 million in our industrial automation market, driven by higher demand for industrial components and for our core industrial products. Partially offsetting the increase was a $5 million sales decline in our simulation and test market due to the timing for various programs within this market.

In the first half of 2023 compared to the same period of 2022, sales increased across our markets due to recovering demand. Sales increased $24 million for our industrial automation programs, $5 million in our medical market and $1 million in our simulation and test market. Additionally, sales increased $3 million in our energy market excluding the lost sales associated with our divested business.

Operating margin increased in the second quarter of 2023 compared to the second quarter of 2022. The second quarter of 2023 included $1 million of restructuring and other adjustments, while the second quarter of 2022 included a total of $4 million of impairment and restructuring charges. Excluding these items, adjusted operating margin for the second quarter of 2023 was 10.4% compared to 10.5% in the second quarter of 2022. Charges related to operations across various programs decreased margins. However, these were mostly offset by incremental margin from higher sales.

Operating margin in the first half of 2023 included a $10 million gain related to the sales of three buildings as we consolidated operations. Excluding this gain and the other charges in the second quarter, adjusted operating margin in the first half of 2023 was 11.3%. Adjusted operating margin in the first half of 2022 was 9.3% after excluding $4 million of similar charges. The resulting increase in adjusted operating margin was driven by the incremental margin from higher sales volumes.

CONSOLIDATED SEGMENT OUTLOOK

			2023 vs. 2022	
(dollars in millions, except per share data)	2023 Outlook	2022	$ Variance	% Variance
Net sales:				
Aircraft Controls	$ 1,330	$ 1,256	$ 74	6%
Space and Defense Controls	920	872	48	5%
Industrial Systems	940	907	33	4%
	$ 3,190	$ 3,036	$ 154	5%
Operating profit:				
Aircraft Controls	$ 136	$ 124	$ 12	10%
Space and Defense Controls	106	87	19	21%
Industrial Systems	113	72	40	56%
	$ 354	$ 283	$ 71	25%
Operating margin:				
Aircraft Controls	10.2 %	9.8 %		
Space and Defense Controls	11.5 %	10.0 %		
Industrial Systems	12.0 %	8.0 %		
	11.1 %	9.3 %		
Net earnings	$ 186	$ 155		
Diluted earnings per share	$ 5.81	$ 4.83		

Total Company – We expect higher sales in 2023, driven by both the continued recoveries in commercial aircraft and industrial markets, as well as higher demand for space and defense programs. Excluding the lost sales associated with our divestitures in 2022, and the weaker foreign currencies through the first half of 2023, we expect our sales growth to be 7%. We expect operating margin will increase due to the incremental sales volumes, combined with lower amounts of charges related to restructuring and impairments. Excluding these charges, we expect adjusted operating margin will increase to 11.0%, from an adjusted operating margin in 2022 of 10.2%. Net earnings in 2023 are expected to benefit from the incremental operating margin, which we expect to be partially offset by higher interest expense due to higher interest rates. We expect adjusted diluted earnings per share will range between $5.50 and $5.90, with a midpoint of $5.70. Management believes that the adjusted outlook may be useful in evaluating the financial condition and results of operations of the Company.

Aircraft Controls – In 2023, we anticipate sales increases across all of our major commercial OEM programs as the commercial aircraft market recovers and as our customers match the increasing air travel demand with increased orders. However, in our military programs, we anticipate a sales decrease primarily driven by our military aftermarket programs. We expect operating margin in 2023 will increase slightly due to improved factory utilization from the higher sales volume, mostly offset by an unfavorable sales mix.

Space and Defense Controls – In 2023, we anticipate sales increases in our space programs from the higher activity on integrated space vehicle programs and for our satellite programs. Excluding the impact of lost sales associated with our divested security business, we expect sales increases across our defense programs, primarily driven by the continued production ramp of our RIwP program. We expect operating margin will increase in 2023 resulting from the incremental margin from higher sales volume and from the absence of charges from our security business sale. Partially offsetting the increases are the charges associated with our space vehicle programs in the first half of 2023.

Industrial Systems – In 2023, we anticipate sales increases across our markets due to recovering demand and our growing backlog. We expect operating margin will increase in 2023 resulting from the gain associated with the sale of buildings and due to lower amounts of charges related to impairments and restructuring. Excluding these charges, we expect adjusted operating margin to increase due to the incremental margin from higher sales volume, and from the benefits of our portfolio shaping and pricing activities.

LIQUIDITY AND CAPITAL RESOURCES

Consolidated Statement of Cash Flows

	Six Months Ended		
(dollars in millions)	April 1, 2023	April 2, 2022	$ Variance
Net cash provided (used) by:			
Operating activities	$ (33)	$ 180	$ (213)
Investing activities	(74)	(48)	(26)
Financing activities	92	(110)	202

Operating activities

Net cash was used by operating activities in the first half of 2023 compared to providing cash in the first half of 2022. Inventory used $79 million more cash as all of our segments experienced supply chain constraints preventing the release of products. We continue to strategically purchase materials ahead of requirements to reduce the risk of shipment delays. Accounts receivable used $72 million more cash, as last year included a $100 million benefit from the RPA program. Additionally, customer advances generated $43 million less cash due to the work-down of defense program milestones, primarily in our Space and Defense Controls segment.

We expect cash from operations in 2023 to be $165 million, a decrease compared to 2022, primarily due to the impact of the RPA transactions in the previous year.

Investing activities

Net cash used by investing activities in the first half of 2023 included $90 million of capital expenditures, including a $28 million building purchase, as we continue to prioritize internal investments to support core business growth. The first half of 2023 also included $20 million of proceeds from the sales of buildings and businesses.

Net cash used by investing activities in the first half of 2022 included $74 million for capital expenditures. Also, the first half of 2022 included $12 million for the acquisition of TEAM Accessories. These cash outflows were partially offset by the proceeds from the sale of a business.

We expect capital expenditures in 2023 to be $165 million, as we continue to invest in facilities and infrastructure to support future growth and operational improvements.

Financing activities

Net cash provided by financing activities in the first half of 2023 included $122 million of net borrowings on our credit facilities. Additionally, financing activities used $17 million of cash for dividend payments and $8 million for share repurchases.

Net cash used by financing activities in the first half of 2022 included $72 million of net payments on our credit facilities. Additionally, financing activities in the first half of 2022 included $17 million of share repurchases and $16 million of cash dividends.

General

Cash flows from our operations, together with our various financing arrangements, fund on-going activities, debt service requirements, organic growth, acquisition opportunities and the ability to return capital to shareholders. We believe these sources of funding will be sufficient to meet our cash requirements for the next 12 months and for the foreseeable future thereafter.

At April 1, 2023, our cash balances were $110 million, which includes $99 million held outside of the U.S. by foreign operations. We regularly assess our cash needs, including repatriation of foreign earnings which may be subject to regulatory approvals and withholding taxes, where applicable by law.

Financing Arrangements

In addition to operations, our capital resources include bank credit facilities and an accounts receivable financing program to fund our short and long-term capital requirements. We continuously evaluate various forms of financing to improve our liquidity and position ourselves for future opportunities, which from time to time, may result in selling debt and equity securities to fund acquisitions or take advantage of favorable market conditions.

We are generally not required to obtain the consent of lenders of the U.S. revolving credit facility before raising significant additional debt financing; however, certain limitations and conditions may apply that would require consent to be obtained. We have demonstrated our ability to secure consents to access debt markets. We have also been successful in accessing equity markets from time to time. We believe that we will be able to obtain additional debt or equity financing as needed.

In the normal course of business, we are exposed to interest rate risk from our long-term debt. To manage these risks, we may enter into derivative instruments such as interest rate swaps which are used to adjust the proportion of total debt that is subject to variable and fixed interest rates.

Our U.S. revolving credit facility, which matures on October 27, 2027, has a capacity of $1.1 billion and also provides an expansion option, which permits us to request an increase of up to $400 million to the credit facility upon satisfaction of certain conditions. The weighted-average interest rate on the majority of the outstanding credit facility borrowings was 6.08% and is principally based on SOFR plus the applicable margin, which was 1.60% at April 1, 2023.

The U.S. revolving credit facility contains various covenants. The minimum for the interest coverage ratio, defined as the ratio of EBITDA to interest expense for the most recent four quarters, is 3.0. The maximum for the leverage ratio, defined as the ratio of net debt to EBITDA for the most recent four quarters, is 4.0. EBITDA is defined in the loan agreement as (i) the sum of net income, interest expense, income taxes, depreciation expense, amortization expense, other non-cash items reducing consolidated net income and non-cash equity-based compensation expenses minus (ii) other non-cash items increasing consolidated net income.

The SECT has a revolving credit facility with a borrowing capacity of $35 million, maturing on July 26, 2024. Interest was 6.88% as of April 1, 2023 and is based on LIBOR plus a margin of 2.13%.

We have $500 million aggregate principal amount of 4.25% senior notes due December 15, 2027 with interest paid semiannually on June 15 and December 15 of each year. The senior notes are unsecured obligations, guaranteed on a senior unsecured basis by certain subsidiaries and contain normal incurrence-based covenants and limitations such as the ability to incur additional indebtedness, pay dividends, make other restricted payments and investments, create liens and certain corporate acts such as mergers and consolidations.

Our Receivables Purchase Agreement, which matures on November 4, 2024, allows the Receivables Subsidiary to sell receivables to the Purchasers in amounts up to a $100 million limit so long as certain conditions are satisfied. The receivables are sold to the Purchasers in consideration for the Purchasers making payments of cash. Each Purchaser's share of capital accrues yield at a variable rate plus an applicable margin, which totaled 5.76% as of April 1, 2023.

At April 1, 2023, we had $663 million of unused capacity, including $645 million from the U.S. revolving credit facility after considering standby letters of credit. Our leverage ratio covenant limits our ability to increase net debt by $591 million as of April 1, 2023.

We are in compliance with all covenants under each of our financing arrangements.

See Note 10 – Indebtedness, of Part I, Item 1, Financial Information of this report for additional details.

Dividends and Common Stock

We believe we can create long term value for our shareholders by continuing to invest in our business through both capital expenditures as well as investments in new market opportunities. We will also continue exploring opportunities to make strategic acquisitions and return capital to shareholders.

We are currently paying quarterly cash dividends on our Class A and Class B common stock and expect to continue to do so for the foreseeable future. See the Consolidated Condensed Statement of Shareholders Equity and Cash Flows, of Part I, Item 1, Financial Information, of this report for additional details.

The Board of Directors authorized a share repurchase program that permits repurchases for both Class A and Class B common stock, and allows us to buy up to an aggregate 3 million common shares. There are approximately 2.2 million common shares remaining under this authorization. See the Consolidated Condensed Statement of Shareholders Equity and Cash Flows, of Part I, Item 1, Financial Information and Part II, Item 2, Unregistered Sales of Equity Securities and Use of Proceeds, of this report for additional details.

Today, we believe we can create long term value for our shareholders by continuing to invest in our business through both capital expenditures as well as investments in new market opportunities. We will also continue exploring opportunities to make strategic acquisitions and return capital to shareholders.

Off Balance Sheet Arrangements

We do not have any material off balance sheet arrangements that have or are reasonably likely to have a material future effect on our financial condition, results of operations or cash flows.

Contractual Obligations and Commercial Commitments

Our contractual obligations and commercial commitments have not changed materially from the disclosures in our Annual Report on Form 10-K for the year ended October 1, 2022. See Note 7 - Leases, Note 10 - Indebtedness, Note 15 - Employee Benefit Plans and Note 22 - Commitments and Contingencies, of Part I, Item 1, Financial Information, of this report for additional details.

ECONOMIC CONDITIONS AND MARKET TRENDS

We operate within the aerospace and defense and industrial markets. Our businesses are facing varying levels of supply chain pressures from the residual impacts of the COVID-19 pandemic.

Our aerospace and defense businesses represented 70% of our 2022 sales. Within the defense market, our programs are directly affected by funding levels, which has recently increased. Our commercial aircraft market, which represented less than 18% of our 2022 sales, is still recovering from the initial, dramatic, reductions in air travel at the onset of the COVID-19 pandemic. While domestic travel has recovered, global international travel remains below pre-pandemic levels.

Within our industrial markets, which represented 30% of our 2022 sales, our programs benefited from increased order demand within industrial automation, simulation and test and energy markets. However, as customer demand increases, across these markets, we are now experiencing supply chain pressures.

A common factor throughout our markets is the continuing demand for technologically advanced products.

Aerospace and Defense

Within aerospace and defense, we serve three end markets: defense, commercial aircraft and space.

The defense market is dependent on military spending for development and production programs. We have a growing development program order book for future generation aircraft and hypersonic missiles, and we strive to embed our technologies within these high-performance military programs of the future. Aircraft production programs are typically long-term in nature, offering predictable capacity needs and future revenues. We maintain positions on numerous high priority programs, including the Lockheed Martin F-35 Lightning II and V-22 Osprey. The large installed base of our products leads to attractive aftermarket sales and service opportunities. The tactical and strategic missile, missile defense and defense controls markets are dependent on many of the same market conditions as military aircraft, including overall military spending and program funding levels. At times when there are perceived threats to national security, U.S. defense spending can increase; at other times, defense spending can decrease. Future levels of defense spending have increased in the near-term given the current global tensions, and are subject to presidential and congressional approval.

The commercial OEM aircraft market has depended on a number of factors, including both the last decade's increasing global demand for air travel and increasing fuel prices. Both factors contributed to the demand for new, more fuel-efficient aircraft with lower operating costs that led to large production backlogs for Boeing and Airbus. While domestic air travel has recovered from the impact of the COVID-19 pandemic, international travel utilizing wide-body aircraft continues to be a longer recovery period. We believe Boeing and Airbus will continue to directionally match their wide-body aircraft production rates with the post-pandemic air traffic volumes, which affects our demand for our flight control systems.

The commercial aftermarket is driven by usage and the age of the existing aircraft fleet for passenger and cargo aircraft, which drives the need for maintenance and repairs. While there were initial dramatic reductions in flight hours at the onset of the COVID-19 pandemic, we have seen a recovery in the demand volume for our maintenance services and spare parts.

The space market is comprised of four customer markets: the civil market, the U.S. Department of Defense market, the commercial space market and the new space market. The civil market, namely NASA, is driven by investment for commercial and exploration activities, including NASA's return to the moon. The U.S. Department of Defense market is driven by governmental-authorized levels of defense spending, including funding for hypersonic defense technologies. Levels of U.S. defense spending could increase as there is growing emphasis on space as the next frontier of potential future conflicts. The commercial space market is comprised of large satellite customers, which traditionally sell to communications companies. Trends for this market, as well as for commercial launch vehicles, follow demand for increased capacity. This, in turn tends to track with underlying demand for increased consumption of telecommunication services, satellite replacements and global navigation needs. The new space market is driven by investments to increase the speed and access to space through smaller satellites at reduced cost.

Industrial

Within industrial, we serve two end markets: industrial and medical.The industrial market consists of industrial automation products, simulation and test products and energy generation and exploration products. The medical market consists of medical devices and medical components products.

The industrial market we serve with our industrial automation products is influenced by several factors including capital investment levels, the pace of product innovation, economic conditions, cost-reduction efforts, technology upgrades and the subsequent effects of the COVID-19 pandemic. As our industrial market continues to recover, ongoing supply chain constraints continue to impact our operations, as will potential future economic recessions.

Our simulation and test products operate in markets that were largely affected by the same factors and investment challenges stemming from the COVID-19 pandemic. However, we have seen stronger order demand for flight simulation systems as the airline training market recovers.

Our energy generation and exploration products operate in a market that is influenced by changing oil and natural gas prices, global urbanization and the resulting change in supply and demand for global energy. Historically, drivers for global growth include investments in power generation infrastructure and exploration of new oil and gas resources. Recently, we have seen oil prices rise above pre-pandemic levels due, in part, to global disruptions; but future energy crises could increase the market's uncertainty.

The medical market we serve, in general, is influenced by economic conditions, regulatory environments, hospital and outpatient clinic spending on equipment, population demographics, medical advances, patient demands and the need for precision control components and systems. When the COVID-19 pandemic altered the way hospitals provided care by asking non-critical patients to recuperate at home, our medical devices products saw an increase in orders. This surge in demand has waned, as our customers have resized their inventory levels.

Foreign Currencies

We are affected by the movement of foreign currencies compared to the U.S. dollar, particularly in Aircraft Controls and Industrial Systems. About one-fifth of our 2022 sales were denominated in foreign currencies. During the first six months of 2023, average foreign currency rates generally weakened against the U.S. dollar compared to 2022. The translation of the results of our foreign subsidiaries into U.S. dollars decreased sales by $26 million compared to the same period one year ago.

Cautionary Statement

Information included or incorporated by reference in this report that does not consist of historical facts, including statements accompanied by or containing words such as “may,” “will,” “should,” “believes,” “expects,” “expected,” “intends,” “plans,” “projects,” “approximate,” “estimates,” “predicts,” “potential,” “outlook,” “forecast,” “anticipates,” “presume” and “assume,” are forward-looking statements. Such forward-looking statements are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are not guarantees of future performance and are subject to several factors, risks and uncertainties, the impact or occurrence of which could cause actual results to differ materially from the expected results described in the forward-looking statements. In evaluating these forward-looking statements, you should carefully consider the factors set forth below.

Although it is not possible to create a comprehensive list of all factors that may cause actual results to differ from the results expressed or implied by our forward-looking statements or that may affect our future results, some of these factors and other risks and uncertainties that arise from time to time are described in Item 1A “Risk Factors” of our Annual Report on Form 10-K and in our other periodic filings with the SEC and include the following:

STRATEGIC RISKS

- We operate in highly competitive markets with competitors who may have greater resources than we possess;
- Our research and development and innovation efforts are substantial and may not be successful, which could reduce our sales and earnings;
- If we are unable to adequately enforce and protect our intellectual property or defend against assertions of infringement, our business and our ability to compete could be harmed; and
- Our sales and earnings may be affected if we cannot identify, acquire or integrate strategic acquisitions, or as we conduct divestitures.

MARKET CONDITION RISKS

- The markets we serve are cyclical and sensitive to domestic and foreign economic conditions and events, which may cause our operating results to fluctuate;
- We depend heavily on government contracts that may not be fully funded or may be terminated, and the failure to receive funding or the termination of one or more of these contracts could reduce our sales and increase our costs;
- The loss of The Boeing Company or Lockheed Martin as a customer or a significant reduction in sales to either company could adversely impact our operating results; and
- We may not realize the full amounts reflected in our backlog as revenue, which could adversely affect our future revenue and growth prospects.

OPERATIONAL RISKS

- A reduced supply, as well as inflated prices, across various raw materials and third-party provided components and sub-assemblies within our supply chain could have a material impact on our ability to manufacture and ship our products, in addition to adversely impacting our operating profit and balance sheet;
- We face various risks related to health pandemics, such as the COVID-19 pandemic, which have had material adverse consequences on our operations, financial position, cash flows, and those of our customers and suppliers;
- If our subcontractors or suppliers fail to perform their contractual obligations, our prime contract performance and our ability to obtain future business could be materially and adversely impacted;
- We face, and may continue to face, risks related to information systems interruptions, intrusions or new software implementations, which may adversely affect our business operations;
- We may not be able to prevent, or timely detect, issues with our products and our manufacturing processes, which may adversely affect our operations and our earnings; and
- The failure or misuse of our products may damage our reputation, necessitate a product recall or result in claims against us that exceed our insurance coverage, thereby requiring us to pay significant damages.

FINANCIAL RISKS
▪ We make estimates in accounting for over-time contracts, and changes in these estimates may have significant impacts on our earnings;
▪ We enter into fixed-price contracts, which could subject us to losses if we have cost overruns;
▪ Our indebtedness and restrictive covenants under our credit facilities and indenture governing our senior notes could limit our operational and financial flexibility;
▪ Significant changes in discount rates, rates of return on pension assets, mortality tables and other factors could adversely affect our earnings and equity and increase our pension funding requirements;
▪ A write-off of all or part of our goodwill or other intangible assets could adversely affect our operating results and net worth; and
▪ Unforeseen exposure to additional income tax liabilities may affect our operating results.

LEGAL AND COMPLIANCE RISKS
▪ Contracting on government programs is subject to significant regulation, including rules related to bidding, billing and accounting standards, and any false claims or non-compliance could subject us to fines, penalties or possible debarment;
▪ Our operations in foreign countries expose us to currency, political and trade risks and adverse changes in local legal and regulatory environments could impact our results of operations;
▪ Government regulations could limit our ability to sell our products outside the United States and otherwise adversely affect our business;
▪ We are involved in various legal proceedings, the outcome of which may be unfavorable to us;
▪ Our operations are subject to environmental laws and complying with those laws may cause us to incur significant costs; and
▪ We may face reputational, regulatory or financial risks from a perceived, or an actual, failure to achieve our sustainability goals.

GENERAL RISKS
▪ Future terror attacks, war, natural disasters or other catastrophic events beyond our control could negatively impact our business; and
▪ Our performance could suffer if we cannot maintain our culture as well as attract, retain and engage our employees.

While we believe we have identified and discussed above the material risks affecting our business, there may be additional factors, risks and uncertainties not currently known to us or that we currently consider immaterial that may affect the forward-looking statements made herein. Given these factors, risks and uncertainties, investors should not place undue reliance on forward-looking statements as predictive of future results. Any forward-looking statement speaks only as of the date on which it is made, and we disclaim any obligation to update any forward-looking statement made in this report, except as required by law.

Item 3. Quantitative and Qualitative Disclosures about Market Risk.

Refer to the Company’s Annual Report on Form 10-K for the year ended October 1, 2022 for a complete discussion of our market risk. There have been no material changes in the current year regarding this market risk information.

Item 4. Controls and Procedures.

(a) Disclosure Controls and Procedures. We carried out an evaluation, under the supervision and with the participation of our management, including the Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures as defined in Exchange Act Rules 13a-15(e) and 15d-15(e). Based on that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that these disclosure controls and procedures are effective as of April 1, 2023 to ensure that information required to be disclosed in reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission’s rules and forms, and that such information is accumulated and communicated to management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosures.

(b) Changes in Internal Control over Financial Reporting. There have been no changes during the most recent fiscal quarter that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II OTHER INFORMATION

Item 1A. Risk Factors.

Refer to the Company's Annual Report on Form 10-K for the year ended October 1, 2022 for a complete discussion of our risk factors. There have been no material changes in the current year regarding our risk factors.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

(c) The following table summarizes our purchases of our common stock for the quarter ended April 1, 2023.

Period	(a) Total Number of Shares Purchased (1) (2)(3)		(b) Average Price Paid Per Share	(c) Total number of Shares Purchased as Part of Publicly Announced Plans or Programs (3)	(d) Maximum Number (or Approx. Dollar Value) of Shares that May Yet Be Purchased Under Plans or Programs (3)
January 1, 2023 - January 28, 2023	92,322	$	87.13	—	2,198,081
January 29, 2023 - February 25, 2023	28,745		97.79	—	2,198,081
February 26, 2023 - April 1, 2023	23,421		100.30	—	2,198,081
Total	144,488	$	91.39	—	2,198,081

(1) Reflects purchases by the SECT of shares of Class B common stock from the ESPP, the RSP and from equity-based compensation award recipients under right of first refusal terms at average prices as follows: 15,297 shares at $88.06 in January; 20,558 shares at $97.03 in February and 21,228 shares at $100.21 in March.

(2) In connection with the exercise of equity-based compensation awards, we accept delivery of shares to pay for the exercise price and withhold shares for tax withholding obligations at average prices as follows: In January, we accepted delivery of 272 Class A shares at $91.56 and 13 Class B shares at $85.23. In February, we accepted delivery of 1,316 Class A shares at $100.16 and 2,359 Class B shares at $98.29. In March, we accepted delivery of 1,089 Class A shares at $102.00. In connection with the issuance of equity-based awards, we purchased 76,740 Class B shares at $86.93 per share from the SECT in January, 4,512 Class B shares at $100.32 in February and 1,104 Class B shares at $100.47 in March.

(3) The Board of Directors has authorized a share repurchase program that permits the purchase of up to 3 million common shares of Class A or Class B common stock in open market or privately negotiated transactions at the discretion of management.

Item 6. Exhibits.

(a) Exhibits

10.1	Form of Employment Termination Benefits Agreement between Moog Inc. and Employee-Officers.
31.1	Certification of Chief Executive Officer pursuant to Exchange Act Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Chief Financial Officer pursuant to Exchange Act Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101	Interactive Date files (submitted electronically herewith)

(101.INS)	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
(101.SCH)	XBRL Taxonomy Extension Schema Document
(101.CAL)	XBRL Taxonomy Extension Calculation Linkbase Document
(101.DEF)	XBRL Taxonomy Extension Definition Linkbase Document
(101.LAB)	XBRL Taxonomy Extension Label Linkbase Document
(101.PRE)	XBRL Taxonomy Extension Presentation Linkbase Document

104	Cover Page Interactive Data File - the cover page XBRL tags are embedded within the Inline XBRL document and are contained within Exhibit 101.

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SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

			Moog Inc.
			(Registrant)
Date:	April 28, 2023	By	/s/ Pat Roche
			Pat Roche Chief Executive Officer (Principal Executive Officer)
Date:	April 28, 2023	By	/s/ Jennifer Walter
			Jennifer Walter Vice President and Chief Financial Officer (Principal Financial Officer)
Date:	April 28, 2023	By	/s/ Michael J. Swope
			Michael J. Swope Controller (Principal Accounting Officer)

[TEMPLATE
AMENDED AND RESTATED FEBRUARY 2023]

EMPLOYMENT TERMINATION BENEFITS AGREEMENT FOR OFFICERS

THIS EMPLOYMENT TERMINATION BENEFITS AGREEMENT (the "Agreement"), dated as of , 20 (the "Effective Date"), is between MOOG INC., a New York corporation with a corporate office at 400 Jamison Road, East Aurora, New York 14052 and________________________, an individual residing at ______________________ (the "Executive").

RECITALS:

A. The Executive is presently employed by the Company; and

B. This Agreement supersedes any and all Employment Termination Benefits Agreements previously entered into by the Company and the Executive; and

C. The Board recognizes that the Executive's contribution to the growth and success of the Company has been substantial; and

D. The Board wishes to provide for continued employment of the Executive and to establish appropriate employment arrangements that the Board has determined will reinforce and encourage the Executive's continued attention and dedication to the Company's business and success; and

E. The Executive is willing to commit to continue serving the Company on the terms and conditions provided in this Agreement.

NOW, THEREFORE, in consideration of the promises and covenants contained in this Agreement, the Company and the Executive agree as follows:

ARTICLE I.

DEFINITIONS

Section 1.1. Terms Defined. For purposes of this Agreement, the following terms have the meanings stated below unless the context clearly indicates otherwise:

(a) "Board" means the Board of Directors of the Company.

(b) "Cause" means:

(1) any harmful act or omission that constitutes a willful and a continuing material failure by the Executive to perform the material and essential obligations under this Agreement (other than as a result of the Executive's death or total or partial incapacity due to physical or mental illness);

(2) the Executive's conviction of a felony;

(3) any willful perpetration by the Executive of a common law fraud upon the Company; or

(4) any willful misconduct or bad faith omission by the Executive constituting dishonesty, fraud or immoral conduct that is materially injurious to the Company's financial condition or business reputation.

Anything in this definition to the contrary notwithstanding, the termination of the Executive's employment by the Company will not be considered to have been for Cause if the termination results from: bad judgment or mere negligence on the Executive's part; an act or omission by the Executive without intending to gain, directly or indirectly, a substantial personal profit to which the Executive is not legally entitled; or an act or omission by the Executive that the Executive believed in good faith to have been in the Company's interests or not opposed to such interests.

(c) "Change of Control" means any one or more of the following:

(1) Any individual, entity or group (within the meaning of Section 13(d)(3) or 14(d)(2) of the Securities Exchange Act of 1934, as amended (the "Exchange Act")) (a "Person"), becomes, directly or indirectly, the beneficial owner (within the meaning of Rule 13d-3 under the Exchange Act) of 25% or more of either (i) the then-outstanding shares of Common Stock (the "Outstanding Moog Common Stock") or (ii) the combined voting power of the then-outstanding voting securities of the Company entitled to vote generally in the election of directors (the "Outstanding Moog Voting Securities"); provided, however, that, for purposes of this definition, the following acquisitions will not constitute a Change of Control: (A) any acquisition directly from the Company, (B) any acquisition by the Company, (C) any acquisition by any employee benefit plan (or related trust) sponsored or maintained by the Company or any affiliated company, (D) any acquisition pursuant to a transaction described in subsections (3)(i), (3)(ii) and (3)(iii) below;

(2) Any time at which individuals who, as of the date hereof, constitute the Board (the "Incumbent Board") cease for any reason to constitute at least a majority of the Board; provided, however, that any individual becoming a director subsequent to the date hereof whose election, or nomination for election by the Company's shareholders, was approved by a vote of at least a majority of the directors then comprising the Incumbent Board will be considered as though such individual were a member of the Incumbent Board, but excluding, for this purpose, any such individual whose initial assumption of office occurs as a result of an actual or threatened election contest with respect to the election or removal of directors or other actual or threatened solicitation of proxies or consents by or on behalf of a Person other than the Board;

(3) Consummation of a reorganization, merger, statutory share exchange or consolidation or similar transaction involving the Company or any of its Subsidiaries, a sale or other

disposition of all or substantially all of the assets of the Company, or the acquisition of assets or stock of another entity by the Company or any of its Subsidiaries (each, a "Business Combination"), in each case unless, following such Business Combination:

(i) all or substantially all of the individuals and entities that were the beneficial owners of the Outstanding Moog Common Stock and the Outstanding Moog Voting Securities immediately prior to such Business Combination beneficially own, directly or indirectly, more than 75% of the then-outstanding shares of common stock (or, for a non-corporate entity, equivalent securities) and the combined voting power of the then-outstanding voting securities entitled to vote generally in the election of directors (or, for a non-corporate entity, equivalent governing body), as the case may be, of the entity resulting from such Business Combination (including, without limitation, an entity that, as a result of such transaction, owns the Company or all or substantially all of the Company's assets either directly or through one or more subsidiaries) in substantially the same proportions as their ownership immediately prior to such Business Combination of the Outstanding Moog Common Stock and the Outstanding Moog Voting Securities, as the case may be,

(ii) no Person (excluding any corporation resulting from such Business Combination or any employee benefit plan (or related trust) of the Company or such corporation resulting from such Business Combination) beneficially owns, directly or indirectly, 25% or more of, respectively, the then-outstanding shares of common stock of the corporation resulting from such Business Combination (including, without limitation, an entity that, as a result of such transaction, owns the Company or all or substantially all of the Company's assets either directly or through one or more subsidiaries) or the combined voting power of the then-outstanding voting securities of such corporation, except to the extent that such ownership existed prior to the Business Combination, and

(iii) at least a majority of the members of the board of directors (or, for a non-corporate entity, equivalent governing body) of the entity resulting from such Business Combination were members of the Incumbent Board at the time of the execution of the initial agreement or of the action of the Board providing for such Business Combination; or

(4) Approval by the Company's shareholders of a complete liquidation or dissolution of the Company.

(d) "Code" means the Internal Revenue Code of 1986, as amended.

(e) "Common Stock" means the Class A and Class B $1.00 par value shares of the capital stock of the Company, as well as all other securities with voting rights or convertible into securities with voting rights.

(f) "Company" means Moog Inc., as well as any successors or assigns of Moog Inc., whether by transfer, merger, consolidation, acquisition of all or substantially all of the business assets, change in identity, or otherwise by operation of law. For purposes of the Executive's employment, "Company" also means any parent, subsidiary or affiliated entity to which the Executive's services may be assigned.

(g) "Compensation," for a fiscal year, means the base salary actually paid to the Executive in the year, plus any Short-Term Incentive attributable to that fiscal year. If any Short-Term Incentive attributable to a given fiscal year has been earned but has not yet been paid to the Executive at the time of an Involuntary Termination of Employment, Compensation for that fiscal year also includes the amount of the earned but unpaid Short-Term Incentive, calculated in accordance with the terms of the applicable Short-Term Incentive plan or program. The Short-Term Incentive will be deemed earned if the Short-Term Incentive either (i) will be paid to the Executive at a later date, or (ii) would have been paid to the Executive had he or she remained employed until the date the Short-Term Incentive otherwise would have been payable.

(h) "Compensation Committee" means the Executive Compensation Committee of the Board, as it is constituted from time to time.

(i) "Disability" means the inability of the Executive to perform a substantial portion of his or her duties under this Agreement for a continuous period of six months or more, as determined under Section 4.3.

(j) "Involuntary Termination of Employment" means a termination of the Executive's employment relationship prior to age 65 (excluding any termination for death, Disability, Retirement, or Cause),

(1) by or at the instigation of the Company, or

(2) by or at the instigation of the Executive where the Executive's base salary has been diminished or reduced to a greater extent than any diminution or reduction in the base salary of the Company's executives generally.

Where there has been a Change of Control, an Involuntary Termination of Employment also includes a termination of the employment relationship with the Company by or at the instigation of the Executive (whether before or after age 65), on or within two years following the Change of Control, where, without the Executive's actual or implied consent, (i) the duties, responsibilities, status, base salary or perquisites of office and employment have been diminished or downgraded, or (ii) the Executive's duties and responsibilities have been substantially increased without a commensurate increase in base salary. Notwithstanding the preceding sentence, the Executive will be deemed to have consented to any general decrease in base salary that is approved by a majority of those executives who are parties to agreements similar to this Agreement.

(k) "Monthly Payment" means the average of the Compensation paid to the Executive for the three highest fiscal years of the five fiscal years preceding the fiscal year in which the Executive terminates employment, divided by 12.

(l) "Retirement" means the election of the Executive to retire from active employment with the Company on or after the Executive attains age 65.

(m) "Service" means the period for which the Executive has worked or will have worked for the Company since the date the Executive was first hired by the Company. A period during which the Executive receives no compensation will not be counted for purposes of computing Years of Service. The Executive's Service for purposes of Years of Service credit will include up to six months of Service during which the Executive is on a leave of absence while receiving Company-provided short-term disability insurance benefits.

(n) "Short-Term Incentive" means the annual profit share or other short-term incentive award under any profit share or other short-term incentive plan or program maintained by the Company.

(o) "Subsidiary" means any corporation or other entity in which, at the time of reference, Moog owns, directly or indirectly, stock or similar interests comprising more than 50% of the combined voting power of all outstanding securities of such entity.

(p) "Term" means the period of employment under this Agreement, as defined in Section 2.1.

(q) "Voluntary Termination of Employment" means a termination of the Employment relationship with the Company by or at the instigation of the Executive, other than (1) a termination upon death, Disability or Retirement, or (2) a termination occurring under the conditions defined in subsection (j) above.

(r) "Years of Service" means a 12-month period of Service with the Company. Years of Service are measured in years and completed months, beginning with the Executive's last date of hire with the Company. In computing the Executive's Years of Service, credit will be given for the years and completed months of Service. If the Executive became an employee of the Company as a result of the acquisition of an acquired business by the Company, the Executive will be granted Years of Service credit for prior employment with the acquired business. If the Executive resigned from the Company and was later re-employed by the Company, the Compensation Committee may, in its sole discretion, award Years of Service credit for the employee's pre-resignation Service.

ARTICLE II.

EMPLOYMENT, TERM, DUTIES

Section 2.1. Term of Employment. Subject to the terms and conditions set forth in this Agreement, the Executive's employment under this Agreement will commence on the Effective Date and will continue until the Executive's attainment of age 65 (the "Initial Term"). Upon the expiration of the Initial Term, at the request of the Executive, the term of the Executive's employment and this Agreement may be extended by the Company in its sole discretion on a year-by-year basis (the Initial Term, together with any extension, constitutes the "Term"). Notwithstanding the foregoing, (a) the Executive's employment may be terminated before the expiration of the Term in accordance with Article IV, or (b) the Executive's employment with the Company may continue on an at-will or other basis after the expiration of the Term.

Section 2.2. Capacity. During the Term, the Executive will serve in such executive or managerial capacity as the Board or the Chief Executive Officer of the Company determines, and will have all of the duties, responsibilities, obligations and privileges commensurate with his or her position.

Section 2.3. Duties. The Executive agrees to devote his or her full business time and energy to the Company's business and affairs, and to utilize his or her best efforts, skill and abilities to promote the Company's interests. The Executive agrees to perform such executive level duties as he or she may be assigned. The Company agrees that the Executive will have such powers and authority as are reasonably required to enable the Executive to discharge his or her duties in an efficient manner.

Section 2.4. Base of Operations. The Company agrees that the Executive's base of operations will be the Executive's assigned work location as of the Effective Date. Although the Executive recognizes that substantial traveling may be required in connection with employment, the Executive will not be required to operate from any other assigned work location without the Executive's prior consent.

ARTICLE III.

COMPENSATION AND BENEFITS

Section 3.1. Base Salary and Short-Term Incentive. During the Term, the Company will pay to the Executive for all services rendered under this Agreement, a base salary as determined from time to time by the Compensation Committee, plus a management profit share or other Short-Term Incentive award under any Short-Term Incentive plan or programmaintained by the Company for any given year. The base salary is payable in periodic installments not less frequently than on a monthly basis. Any Short-Term Incentive award will be paid annually in the month of December or as otherwise provided under the terms of the applicable plan or program.

This Agreement will not be deemed abrogated or terminated if the Company, in its discretion, decides to modify the Executive's base salary for any period of time, and the Executive accepts such modification. Notwithstanding the preceding sentence, nothing contained in this Agreement obligates the Company to make any increase in base salary.

Section 3.2. Other Employment Benefits. The Executive will be entitled to all rights and benefits for which he or she is eligible under:

(a) any benefit plan or program that the Company provides for its employees generally (including any retirement, profit sharing, employee stock purchase, vacation or savings and investment plan; and any business travel, group life, disability, accident or health insurance plan or program); and

(b) any benefit plan or program that the Company provides for executive personnel having duties and responsibilities similar to those of the Executive (including any equity compensation, incentive compensation, deferred compensation, extended vacation or supplemental retirement plan; club memberships; and supplemental medical and life insurance coverages).

Section 3.3. Reimbursement of Expenses. During the Term, the Company will pay or reimburse the Executive for all reasonable traveling or other expenses incurred or paid by the Executive in connection with the performance of services under this Agreement upon presentation expense statements or vouchers, and such other supporting information as the Company may from time to time request.

ARTICLE IV.

EFFECT OF TERMINATION OF EMPLOYMENT

Section 4.1. Termination of Employment. If the Executive's employment with the Company terminates for any reason before the end of the Term, this Agreement will also terminate, except for the provisions of Articles IV, V and VI, which will survive such termination. Unless the Agreement specifies otherwise, in the event of a termination of the Executive's employment with the

Company, the Executive's rights to any benefits or awards (including any short- or long-term incentive awards or equity-based awards) under any Company benefit plan or program will be determined under the provisions of the applicable plan or program and any related award agreement.

Section 4.2. Death. In the event of the Executive's death during the Term, the Executive's base salary will continue to be paid to the Executive's spouse, or, if none, to the Executive's estate, for a period of six months following the Executive's death. The Executive's surviving spouse or estate will also be entitled to:

(a) any death benefits that may be provided under any Company retirement plan or supplemental retirement plan;

(b) the right to receive a payment in cash for any unutilized vacation benefits accrued for the Executive; and

(c) any other benefits provided generally by the Company to its executives on death.

Section 4.3. Termination on Disability. If the Executive's employment with the Company is terminated because of Disability, as determined under this Section, the Executive will be entitled to:

(a) all basic and long term Disability benefits generally provided under plans made available by the Company to its executives, including any rights available upon Disability under any Company retirement plan or supplemental retirement plan; and

(b) the right to receive a payment in cash for any unutilized vacation benefits accrued for the Executive.

The existence of Disability, as defined in Section 1.1(i), will be determined in the sole judgment of the Compensation Committee. Effective upon delivery to the Executive of written notice that a determination of Disability has been made, the Executive's employment will be terminated and the Executive will be removed from all positions with the Company, including as a Company officer or director.

Section 4.4. Termination on Retirement. If the Executive's employment with the Company is terminated because of the Executive's Retirement, he or she will be entitled to:

(a) all benefits provided generally by the Company to its executives upon Retirement, including benefits under any Company retirement plan or supplemental retirement plan;

(b) any insurance benefits provided upon Retirement; and

(c) the right to receive a payment in cash for any unutilized vacation benefits accrued for the Executive.

Section 4.5. Termination for Cause. If the Executive's employment with the Company is terminated by the Company for Cause, the Executive will be entitled to:

(a) his or her base salary up to the date of termination;

(b) any vested benefits under any Company retirement plan or supplemental retirement plan, unless the terms of the applicable plan provide for forfeiture on termination for Cause; and

(c) payment in cash for any unutilized vacation benefits accrued for the Executive.

However, the Executive will not be entitled to receive any Short-Term Incentive award payable after the date of termination.

Section 4.6. Voluntary Termination of Employment. If the Executive's employment with the Company is terminated because of the Executive's Voluntary Termination of Employment, the Executive will be entitled to:

(a) his or her employment benefits up to the date of termination, including any vested benefits under any Company retirement plan or supplemental retirement plan; and

(b) payment in cash for any unutilized vacation benefits accrued for the Executive.

The Executive will not receive payment for any Short-Term Incentive award for the fiscal year of termination unless the award is (i) earned prior to the Executive's Voluntary Termination of Employment, and (ii) payable to the Executive on a Voluntary Termination of Employment under the terms of the applicable plan or program.

Section 4.7. Involuntary Termination of Employment. If the Executive's employment with the Company is terminated because of the Executive's Involuntary Termination of Employment other than for Cause, the Executive will be entitled to:

(a) any vested benefits under any Company retirement plan or supplemental retirement plan;

(b) continuation for one year after termination of any Company-paid club memberships held by the Executive for which reimbursement was provided by the Company immediately prior to termination;

(c) any Short-Term Incentive attributable to the fiscal year prior to the fiscal year of termination that has been earned but has not yet been paid to the Executive at the time of termination, such Short-Term Incentive to be deemed "earned" if it either (i) will be paid to the Executive at a later date, or (ii) would have been paid to the Executive had he or she remained employed until the date the Short-Term Incentive otherwise would have been payable;

(d) continuation for one year after termination of the same health insurance coverages for which the Executive was eligible during employment, with the Executive continuing to pay the same share of premiums as he or she paid during active employment and provided that the Executive makes a timely COBRA election if requested by the Company;

(e) payment in cash for any unutilized vacation benefits accrued for the Executive through the date of termination; and

(f) provision of Company-paid professional out-placement services to assist the Executive in securing other employment, provided that all out-placement expenses covered under this arrangement must be incurred and paid or reimbursed before the end of the second calendar year following the calendar year in which the termination occurs.

Section 4.8. Continuation of Compensation on Involuntary Termination. In addition to the benefits of Section 4.7, upon an Involuntary Termination of Employment other than for Cause, the Executive will receive Compensation continuation in the form of Monthly Payments from the Company, provided the Executive timely executes and does not revoke a general release and waiver of claims in a form acceptable to the Company (the "Release"). If the Executive does not sign the Release and deliver it to the Company within the time period prescribed in the Release, or if the Executive revokes the Release, the Executive will forfeit all rights to the Monthly Payments, and any Monthly Payments that have already commenced will immediately cease as of the expiration of the statutory revocation period applicable to the Release. Subject to the provisions of this Section and Section 4.9, Monthly Payments will commence as soon as practicable following the Executive's Involuntary Termination of

Employment, and will continue for the number of months set forth below, based upon the Executive's Years of Service with the Company and the circumstances of the termination.

(a) Involuntary Termination Not on a Change of Control. If the Involuntary Termination of Employment does not occur in connection with a Change of Control, the duration of the Monthly Payments will be determined as follows:

YEARS OF SERVICE		**MONTHS OF COMPENSATION CONTINUATION**
More Than	**Less Than**	
0	10 years	12 months
10	11 years	13 months
11	12 years	14 months
12	13 years	15 months
13	14 years	16 months
14	15 years	17 months
15	16 years	18 months
16	17 years	19 months
17	18 years	20 months
18	19 years	21 months
19	20 years	22 months
20	21 years	24 months
21	22 years	25 months
22	23 years	26 months
23	24 years	27 months
24	25 years	28 months
25	26 years	30 months
26	27 years	31 months
27	28 years	32 months
28	29 years	33 months
29	30 years	34 months
more than 30 years		36 months

(b) Involuntary Termination on a Change of Control. If the Involuntary Termination of Employment occurs in connection with a Change of Control, as determined under Section 1.1(j) the duration of the Monthly Payments will be determined as follows:

YEARS OF SERVICE		**MONTHS OF COMPENSATION CONTINUATION**
More Than	**Less Than**	
0	3 years	12 months
3	10 years	24 months
10	15 years	27 months
15	20 years	30 months
more than 20 years		36 months

Section 4.9. Six-Month Delay. Notwithstanding any other provision in this Agreement, if it is determined that the Executive is a Specified Employee and that any amount, fringe benefit or reimbursement payable under this Agreement (a) is subject to Code Section 409A and (b) is payable solely because the Executive has incurred a "separation from service" within the meaning of Code Section 409A, those amounts, fringe benefits or reimbursements will not be paid prior to the date that is six months after the date of separation from service (or, if earlier, the date of the Executive's death). Payment of any amount, fringe benefit or reimbursement to which the Executive would otherwise be entitled during the first six months following the date of separation from service will be accumulated and paid, along with any interest, on the day that is six months after the date of separation from service. During the period of payment suspension, all amounts accumulated will earn interest. Interest will be calculated using the average of the monthly borrowing rate under the Company's principal U.S. credit facilities or its equivalent for the six months prior to separation from service. Interest due the Executive will be determined by multiplying each delayed payment by the interest rate as determined, with the product then multiplied by a fraction, the numerator of which is the number of months each payment was

delayed and the denominator of which is 12. For purposes of this Section a "Specified Employee" is an employee who is determined to be a "specified employee" within the meaning of Code Section 409A and related guidance, based on an identification date of December 31. If the Executive is a Specified Employee at any time during a 12-month period ending on December 31, he will be deemed to be a Specified Employee for the 12-month period commencing the following April 1.

Section 4.10. Executive Obligations Upon Termination. The Executive agrees that upon termination of services under this Agreement for any reason whatsoever, he or she will deliver to the Company all of the Company's property in the Executive's custody or control, including but not limited to: any keys, key fobs, or electronic swipe cards providing access to any of the Company's facilities or secure areas; corporate credit cards; powers of attorney; ID/access badge; Company-issued personal or laptop computers, cell phones, tablets, and mobile devices; the originals and copies of any and all documents, drawings, papers, correspondence, financial records, notes, employee records, files, manuals, reports, letters, memoranda, handbooks, and agreements; and all other tangible material on which information is stored or recorded, including electronically stored data in any form, and all copies thereof that the Executive has in his or her control or possession that are in any way related to the business of the Company, its customers, suppliers or affiliates.

ARTICLE V.

NON COMPETITION, CONFIDENTIAL DATA

Section 5.1. Non-Competition. During the Term, and, in the event of an Involuntary Termination of Employment, until the last payment of any Monthly Payments to the Executive under Section 4.8 of this Agreement, the Executive will not:

(a) directly or indirectly enter the employ of, or render any service to any customer or former customer, or any other person, partnership, association or corporation engaged in any business in which the Company was engaged during the Term; or

(b) engage in any such business on his or her own account, or become interested in any such business, directly or indirectly as an individual, partner, shareholder, director, officer, principal, agent, employee, trustee, consultant, or in any other relationship or capacity, except that the Executive may own securities constituting no more than one percent of any class of securities of a publicly traded company.

Section 5.2. Confidential Information. The Executive agrees, during the Term and thereafter, not to use or make use of or to divulge to anyone other than authorized personnel or representatives of the Company, any Confidential Information, except to the extent the Executive is required to divulge such Confidential Information in connection with any legal proceeding, or to the extent that the Executive can establish the Confidential Information to be generally known to the public or recognized as standard practice in the business in which the Company is engaged. For purposes of this Section, "Confidential Information" means any information or knowledge relating to the business, business methods or techniques of the Company including, without being limited to, information about accounting procedures, training methods or techniques, data, processes, research manufacturing formulae, products, technology, costing, sales prospects, customers' or suppliers' lists, bidding formulae, sales, profits or costs.

Section 5.3. Patents and Inventions. The Executive agrees that any patents, inventions, improvements, discoveries, formulae or processes that he or she may obtain, make or conceive during the period of employment under this Agreement will be the sole and exclusive property of the Company. The Executive further agrees to sign and execute any and all applications, assignments or other instruments necessary or appropriate to assign, convey or otherwise make available exclusively to the Company all such patents, inventions, improvements, discoveries, formulae or processes.

Section 5.4. Enforcement. The Executive agrees that if he or she breaches or threatens to breach any provision of this Article, the Company may institute legal proceedings to compel the Executive's compliance under this Agreement, including injunctive relief and any other remedy provided in law or equity. If the scope of any restriction contained in this Agreement is too broad to permit enforcement of the restriction to its full extent, then the restriction will be enforced to the maximum extent permitted by law. The Executive hereby consents and agrees that the scope may be judicially modified accordingly in any proceeding brought to enforce the restriction. If the Company determines in its sole judgment that the judicial modification is contrary to its best interests, the Company may, within 10 days after notification of the modification, terminate all obligations of the Company under this Agreement by giving the Executive at least 15 days' notice of the termination.

Section 5.5. Protected Activity Not Prohibited.

(a) Nothing contained in this Agreement limits the Executive's ability to file a charge or complaint with the Equal Employment Opportunity Commission, the National Labor Relations Board, the Occupational Safety and Health Administration, the Securities and Exchange Commission or any other federal, state or local governmental agency or commission ("Government Agencies"). Further, this Agreement does not limit the Executive's ability to communicate with any Government Agencies or otherwise participate in any investigation or proceeding that may be conducted by any Government Agency, including providing documents or other information, without notice to the Company, provided that the Executive agrees to take all reasonable precautions to prevent any unauthorized use or disclosure of any information that may constitute Confidential Information to any parties other than the Government Agencies and the Executive agrees and understands that he or she is not permitted to disclose the Company's attorney-client privileged communications or attorney work product. This Agreement does not limit the Executive's right to receive an award for information provided to any Government Agencies.

(b) Notwithstanding any provision in this Agreement to the contrary, in accordance with the Defend Trade Secrets Act of 2016, the Executive will not be held criminally or civilly liable under any federal or state trade secret law for the disclosure of a trade secret that: (i) is made (A) in confidence to a federal, state, or local government official, either directly or indirectly, or to an attorney; and (B) solely for the purpose of reporting or investigating a suspected violation of law; or (ii) is made in a complaint or other document that is filed under seal in a lawsuit, arbitration, or other proceeding. If the Executive files a lawsuit or initiates an arbitration about retaliation by the Company for reporting a suspected violation of law, the Executive may disclose the Company's trade secrets to the Executive's attorney and use the trade secret information in the court or arbitration proceeding if the Executive: (i) files any document containing the trade secret under seal; and (ii) does not disclose the trade secret, except pursuant to the court or arbitrator's order.

ARTICLE VI.

MISCELLANEOUS

Section 6.1. Notices. All notices, requests, demands and other communications required or permitted under this Agreement must be in writing and will be deemed to have been duly given when received, if personally delivered, electronically transmitted, or mailed, first class postage prepaid, addressed to the Company at 400 Jamison Road, East Aurora, New York 14052 (with a copy to Office of the General Counsel, Moog Inc. 400 Jamison Road, East Aurora , New York 14052), or to the Executive at the address on the first page, or such other address as either party may designate by notice in accordance with the provisions of this Section.

Section 6.2. Arbitration. All disputes, differences and controversies arising under or in connection with this Agreement, including but not limited to its interpretation, construction, performance or application, will be settled and finally determined by arbitration in the City of Buffalo, New York, under the then existing rules of the American Arbitration Association.

Section 6.3. Entire Agreement. This instrument contains the entire agreement of the parties with respect to its subject matter, and supersedes and replaces any prior agreement or understanding. No amendment, modification or waiver of any provision of this Agreement will be valid unless it is in writing and signed by the Company and the Executive.

Section 6.4. Non-Waiver. The waiver of, or failure to take action with regard to, any breach of any term or condition of this Agreement will not be deemed to constitute a continuing waiver or a waiver of any other breach of the same or any other term or condition.

Section 6.5. Paragraph and Other Headings. The section and other headings contained in this Agreement are for reference purposes only and do not affect in any way, the meaning or interpretation of this Agreement.

Section 6.6. Number and Person. The singular or plural, as used in this Agreement, is deemed to include the plural or singular when required by the context, and the word "person" includes corporation, firm, partnership or other form of association.

Section 6.7. Counterparts. This Agreement may be executed simultaneously in two or more counterparts, any of which will be deemed an original, and all of which together will constitute one and the same instrument, notwithstanding that all of the parties are not signatory to the original or the same counterpart.

Section 6.8. Persons Bound - Non-Assignment. This Agreement and all of its provisions are binding upon the Company and the Executive, their legal representatives, heirs, distributees, successors and assigns. Except as expressly stated in this Agreement, nothing in this Agreement is intended to confer upon any other person any rights or remedies under or by reason of this Agreement. Neither this Agreement nor any rights under this Agreement will be assignable by the Executive.

Section 6.9. Guarantee of Company. If the Executive's services are assigned to any parent, subsidiary or affiliate of Company, the Company will remain liable as a guarantor of the obligations under this Agreement.

Section 6.10. Inconsistent Provisions. If any provision of this Agreement is inconsistent with any provision or any plan or policy providing benefits substantially similar to those provided by this Agreement or any other document required or executed pursuant to this Agreement, the provisions of this Agreement will be controlling.

Section 6.11. Severability. If any provision of this Agreement or its application to any person or circumstances is held invalid, the remainder of this Agreement and the application of such provision to the other person and circumstances will not be affected, and each term and condition of the Agreement will be valid and enforced to the fullest extent permitted by law.

Section 6.12. Choice of Law. This Agreement will be construed as to both validity and performance and enforced in accordance with and governed by the laws of the State of New York, without giving effect to the choice of law principles of those laws.

Section 6.13. No Conflicting Agreement. The Executive represents and warrants to the Company that he or she is not a party to, or bound by, any agreement, understanding or plan that would interfere with or prevent performance under this Agreement. The Company similarly represents and warrants the same to the Executive.

Section 6.14. Attorney's Fees. In the event that any dispute or difference arising under or in connection with this Agreement results in arbitration or litigation, the Company will reimburse the Executive for all reasonable Attorney's fees and expenses if the Executive prevails in the proceeding.

Section 6.15. Authorization. The Company represents to the Executive that this Agreement has been duly approved by its Board and execution by an appropriate officer has been duly authorized.

Section 6.16. Compliance with Code Section 409A

(a) It is intended that all amounts payable under this Agreement are either exempt from or comply with Code Section 409A and all regulations, guidance and other interpretive authority issued thereunder. The provisions of this Agreement will be construed and interpreted to avoid the imputation of any additional tax, penalty or interest under Code Section 409A yet preserve (to the greatest extent reasonably possible) the intended benefit payable to the Executive. All terms of this Agreement that are undefined or ambiguous must be interpreted in a manner that is consistent with Code Section 409A if necessary to comply with Code Section 409A.

(b) Notwithstanding any other provision in this Agreement, to the extent any amounts payable under this Agreement (i) are subject to Code Section 409A, and (ii) the time or form of payment of those amounts would not be in compliance with Code Section 409A, then, to the extent possible, payment of those amounts will be made at such time and in such a manner that payment will be in compliance with Code Section 409A. If the time or form of payment cannot be modified in such a way as to be in compliance with Code Section 409A, then the payment will be made as otherwise provided in this Agreement, disregarding the provisions of this Section.

(c) To the extent any reimbursements or in-kind benefit payments under this Agreement are subject to Code Section 409A, such reimbursements and in-kind benefit payments will be made in accordance with Treasury Regulation §1.409A-3(i)(1)(iv) (or any similar or successor provisions).

(d) The Executive acknowledges and agrees that the Company has made no representation to the Executive as to the tax treatment of the compensation and benefits provided under this Agreement and that the Executive is solely responsible for all taxes due with respect to any such compensation and benefits. The Company will not be liable to the Executive or any beneficiary with respect to any adverse tax consequences arising under Code Section 409A or other provision of the Code.

IN WITNESS WHEREOF, the undersigned parties hereto have duly executed this Agreement as of the day and year first above written.

MOOG INC.

WITNESS:

_________________________ By _________________________

WITNESS:

_________________________ _________________________

[NAME], Executive

Revised February 2023

Exhibit 31.1

Certification of Chief Executive Officer pursuant to Exchange Act Rule 13a-14(a) as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Pat Roche, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Moog Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date April 28, 2023

/s/ Pat Roche
Pat Roche
Chief Executive Officer

Exhibit 31.2

Certification of Chief Financial Officer pursuant to Exchange Act Rule 13a-14(a) as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Jennifer Walter, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Moog Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing equivalent functions):

    a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date April 28, 2023

/s/ Jennifer Walter
Jennifer Walter
Chief Financial Officer

Exhibit 32.1

Certification pursuant to
18 U.S.C. Section 1350,
as adopted pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002

Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned officers of Moog Inc. (the “Company”) hereby certify that:

The Company’s Quarterly Report on Form 10-Q for the quarter ended April 1, 2023 fully complies with the requirements of section 13(a) or 15(d) of the Securities and Exchange Act of 1934 and the information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: April 28, 2023

/s/ Pat Roche
Pat Roche
Chief Executive Officer

/s/ Jennifer Walter
Jennifer Walter
Chief Financial Officer

This certification shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), or otherwise subject to the liability of that section. This certification shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, except to the extent specifically incorporated by the Company into such filing.