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 3, 2021

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 Rd 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 and posted 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, or a smaller reporting company. See the definitions of “large accelerated filer,” “accelerated filer” and “smaller reporting company,” and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

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 Act).
Yes ☐ No ☒

The number of shares outstanding of each class of common stock as of April 26, 2021 was:
Class A common stock, 29,267,852 shares
Class B common stock, 2,874,849 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 3, 2021	March 28, 2020	April 3, 2021	March 28, 2020
Net sales	$ 736,402	$ 765,277	$ 1,420,356	$ 1,520,120
Cost of sales	536,493	557,223	1,030,804	1,100,809
Gross profit	199,909	208,054	389,552	419,311
Research and development	30,453	26,688	58,461	54,896
Selling, general and administrative	105,131	107,251	204,734	205,618
Interest	8,629	10,251	17,049	20,483
Other	(6,432)	2,333	(3,191)	9,879
Earnings before income taxes	62,128	61,531	112,499	128,435
Income taxes	13,440	11,786	25,969	28,663
Net earnings	$ 48,688	$ 49,745	$ 86,530	$ 99,772
Net earnings per share				
Basic	$ 1.51	$ 1.49	$ 2.69	$ 2.94
Diluted	$ 1.51	$ 1.48	$ 2.68	$ 2.91
Dividends declared per share	$ 0.25	$ 0.25	$ 0.50	$ 0.50
Average common shares outstanding				
Basic	32,146,247	33,434,420	32,110,365	33,972,635
Diluted	32,325,494	33,685,395	32,281,158	34,236,399

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 3, 2021	March 28, 2020	April 3, 2021	March 28, 2020
Net earnings	$ 48,688	$ 49,745	$ 86,530	$ 99,772
Other comprehensive income (loss), net of tax:				
Foreign currency translation adjustment	(12,935)	(23,418)	20,562	(1,885)
Retirement liability adjustment	4,322	6,116	5,918	10,479
Change in accumulated income (loss) on derivatives	(702)	(1,163)	(604)	239
Other comprehensive income (loss), net of tax	(9,315)	(18,465)	25,876	8,833
Comprehensive income	$ 39,373	$ 31,280	$ 112,406	$ 108,605

See accompanying Notes to Consolidated Condensed Financial Statements.

MOOG Inc.

Consolidated Condensed Balance Sheets
(Unaudited)

(dollars in thousands)	April 3, 2021	October 3, 2020
ASSETS		
Current assets		
Cash and cash equivalents	$ 90,110	$ 84,583
Restricted cash	902	489
Receivables, net	922,092	855,535
Inventories, net	636,580	623,043
Prepaid expenses and other current assets	48,278	49,837
Total current assets	1,697,962	1,613,487
Property, plant and equipment, net	628,550	600,498
Operating lease right-of-use assets	65,410	68,393
Goodwill	860,239	821,856
Intangible assets, net	114,820	85,046
Deferred income taxes	18,808	18,924
Other assets	20,051	17,627
Total assets	$ 3,405,840	$ 3,225,831
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities		
Current installments of long-term debt	$ 71,652	$ 350
Accounts payable	175,061	176,868
Accrued compensation	99,223	109,510
Contract advances	256,080	203,338
Accrued liabilities and other	225,915	220,488
Total current liabilities	827,931	710,554
Long-term debt, excluding current installments	896,955	929,982
Long-term pension and retirement obligations	180,112	183,366
Deferred income taxes	48,778	40,474
Other long-term liabilities	113,607	118,372
Total liabilities	2,067,383	1,982,748
Shareholders' equity		
Common stock - Class A	43,802	43,799
Common stock - Class B	7,478	7,481
Additional paid-in capital	519,006	472,645
Retained earnings	2,183,218	2,112,734
Treasury shares	(1,000,389)	(990,783)
Stock Employee Compensation Trust	(85,034)	(64,242)
Supplemental Retirement Plan Trust	(70,047)	(53,098)
Accumulated other comprehensive loss	(259,577)	(285,453)
Total shareholders' equity	1,338,457	1,243,083
Total liabilities and shareholders' equity	$ 3,405,840	$ 3,225,831

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 3, 2021	March 28, 2020	April 3, 2021	March 28, 2020
COMMON STOCK				
Beginning and end of period	$ 51,280	$ 51,280	$ 51,280	$ 51,280
ADDITIONAL PAID-IN CAPITAL				
Beginning of period	505,038	518,822	472,645	510,546
Issuance of treasury shares	3,421	(722)	6,539	3,767
Equity-based compensation expense	1,955	890	4,367	3,271
Adjustment to market - SECT and SERP	8,592	(69,270)	35,455	(67,864)
End of period	519,006	449,720	519,006	449,720
RETAINED EARNINGS				
Beginning of period	2,142,566	2,170,105	2,112,734	2,128,739
Net earnings	48,688	49,745	86,530	99,772
Dividends	(8,036)	(8,388)	(16,046)	(17,049)
End of period	2,183,218	2,211,462	2,183,218	2,211,462
TREASURY SHARES AT COST				
Beginning of period	(1,000,795)	(828,453)	(990,783)	(769,569)
Class A and B shares issued related to compensation	7,592	3,921	8,442	4,448
Class A and B shares purchased	(7,186)	(132,550)	(18,048)	(191,961)
End of period	(1,000,389)	(957,082)	(1,000,389)	(957,082)
STOCK EMPLOYEE COMPENSATION TRUST (SECT)				
Beginning of period	(78,597)	(115,503)	(64,242)	(111,492)
Issuance of shares	—	18,325	274	18,325
Purchase of shares	(1,904)	(3,769)	(2,559)	(6,209)
Adjustment to market	(4,533)	40,561	(18,507)	38,990
End of period	(85,034)	(60,386)	(85,034)	(60,386)
SUPPLEMENTAL RETIREMENT PLAN (SERP) TRUST				
Beginning of period	(65,986)	(71,381)	(53,098)	(71,546)
Adjustment to market	(4,061)	28,709	(16,949)	28,874
End of period	(70,047)	(42,672)	(70,047)	(42,672)
ACCUMULATED OTHER COMPREHENSIVE LOSS				
Beginning of period	(250,262)	(388,179)	(285,453)	(415,477)
Other comprehensive income (loss)	(9,315)	(18,465)	25,876	8,833
End of period	(259,577)	(406,644)	(259,577)	(406,644)
TOTAL SHAREHOLDERS' EQUITY	$ 1,338,457	$ 1,245,678	$ 1,338,457	$ 1,245,678

See accompanying Notes to Consolidated Condensed Financial Statements.

MOOG Inc.

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

	Three Months Ended		Six Months Ended	
(share data)	April 3, 2021	March 28, 2020	April 3, 2021	March 28, 2020
COMMON STOCK - CLASS A				
Beginning of period	43,802,229	43,796,335	43,799,229	43,794,935
Conversion of Class B to Class A	—	2,894	3,000	4,294
End of period	43,802,229	43,799,229	43,802,229	43,799,229
COMMON STOCK - CLASS B				
Beginning of period	7,477,484	7,483,378	7,480,484	7,484,778
Conversion of Class B to Class A	—	(2,894)	(3,000)	(4,294)
End of period	7,477,484	7,480,484	7,477,484	7,480,484
TREASURY SHARES - CLASS A COMMON STOCK				
Beginning of period	(14,018,121)	(11,767,540)	(13,959,998)	(11,101,512)
Class A shares issued related to compensation	3,108	14,521	17,560	17,599
Class A shares purchased	(96,878)	(1,617,591)	(169,453)	(2,286,697)
End of period	(14,111,891)	(13,370,610)	(14,111,891)	(13,370,610)
TREASURY SHARES - CLASS B COMMON STOCK				
Beginning of period	(3,366,679)	(3,260,602)	(3,344,877)	(3,345,489)
Class B shares issued related to compensation	175,994	44,217	247,053	138,784
Class B shares purchased	(646)	(128,492)	(93,507)	(138,172)
End of period	(3,191,331)	(3,344,877)	(3,191,331)	(3,344,877)
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	(561,951)	(914,896)	(557,543)	(886,300)
Issuance of shares	—	221,256	4,135	221,256
Purchase of shares	(23,633)	(40,966)	(32,176)	(69,562)
End of period	(585,584)	(734,606)	(585,584)	(734,606)
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)

	Six Months Ended	
(dollars in thousands)	April 3, 2021	March 28, 2020
CASH FLOWS FROM OPERATING ACTIVITIES		
Net earnings	$ 86,530	$ 99,772
Adjustments to reconcile net earnings to net cash provided by operating activities:		
Depreciation	37,622	36,962
Amortization	6,436	6,676
Deferred income taxes	(1,187)	(1,346)
Equity-based compensation expense	4,629	3,271
Other	(3,115)	5,674
Changes in assets and liabilities providing (using) cash:		
Receivables	(47,697)	(42,208)
Inventories	9,301	(49,467)
Accounts payable	(5,088)	(14,891)
Contract advances	51,349	46,468
Accrued expenses	(1,799)	(9,920)
Accrued income taxes	12,691	(14,040)
Net pension and post retirement liabilities	3,846	15,785
Other assets and liabilities	(16,151)	(2,032)
Net cash provided by operating activities	137,367	80,704
CASH FLOWS FROM INVESTING ACTIVITIES		
Acquisitions of businesses, net of cash acquired	(77,600)	(54,265)
Purchase of property, plant and equipment	(58,019)	(53,463)
Other investing transactions	1,895	(3,706)
Net cash used by investing activities	(133,724)	(111,434)
CASH FLOWS FROM FINANCING ACTIVITIES		
Proceeds from revolving lines of credit	503,200	829,000
Payments on revolving lines of credit	(467,700)	(758,500)
Proceeds from long-term debt	39,800	4,300
Payments on long-term debt	(39,903)	(4,300)
Proceeds from senior notes, net of issuance costs	—	491,769
Payments on senior notes	—	(300,000)
Payments on finance lease obligations	(1,042)	(412)
Payment of dividends	(16,046)	(17,049)
Proceeds from sale of treasury stock	4,230	3,199
Purchase of outstanding shares for treasury	(18,844)	(191,961)
Proceeds from sale of stock held by SECT	274	14,278
Purchase of stock held by SECT	(2,559)	(6,209)
Other financing transactions	—	(5,877)
Net cash provided by financing activities	1,410	58,238
Effect of exchange rate changes on cash	887	(791)
Increase in cash, cash equivalents and restricted cash	5,940	26,717
Cash, cash equivalents and restricted cash at beginning of period	85,072	92,548
Cash, cash equivalents and restricted cash at end of period	$ 91,012	$ 119,265
SUPPLEMENTAL CASH FLOW INFORMATION		
Treasury shares issued as compensation	$ 10,751	$ 9,063
Equipment and property acquired through lease financing	9,433	13,090

See accompanying Notes to Consolidated Condensed Financial Statements.

Notes to Consolidated Condensed Financial Statements
Six Months Ended April 3, 2021
(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 3, 2021 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 3, 2020. All references to years in these financial statements are to fiscal years.

COVID-19 Impacts On Our Business

On March 11, 2020, the World Health Organization classified the COVID-19 outbreak as a pandemic. In response, we established two clear priorities; first, the health and safety of our employees and their families and, second, continuing to meet the needs of our customers and secure the financial well-being of the Company by implementing short-term actions to maintain liquidity. While substantially all of our operations and production activities have, to-date, remained operational as many are considered essential and exempt from closure directives, the pandemic did have a material impact on our financial statements in the last six months of the fiscal year ended October 3, 2020. We recorded impairment charges on long-lived assets and recorded inventory reserves for businesses impacted by lower sales. We continue to monitor the impacts of COVID-19 on the fair value of assets. While we do not currently anticipate any additional material impairments on assets as a result of COVID-19, future changes in sales, earnings and cash flows related to long-lived assets to be held and used and goodwill could cause these assets to become impaired. COVID-19 is discussed in more detail throughout “Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

Reclassifications

Certain prior year amounts have been reclassified to conform to current year's presentation. Management does not consider the amounts reclassified to be material.

Recent Accounting Pronouncements Adopted

Standard	Description	Financial Statement Effect or Other Significant Matters
ASU no. 2016-13 *Measurement of Credit Losses on Financial Instruments*	The standard replaces the incurred loss model with the current expected credit loss (CECL) model to estimate credit losses for financial assets measured at amortized cost and certain off-balance sheet credit exposures. The CECL model requires a Company to estimate credit losses expected over the life of the financial assets based on historical experience, current conditions and reasonable and supportable forecasts. The provisions of the standard are effective for fiscal years beginning after December 15, 2019 and interim periods within those fiscal years. Early adoption is permitted. The amendment requires a modified retrospective approach by recording a cumulative-effect adjustment to retained earnings as of the beginning of the period of adoption.	We adopted this standard using a modified retrospective approach. Based on immateriality, there was no cumulative-effect adjustment to retained earnings as of the beginning of period of adoption. Upon adoption, we now calculate current expected credits losses for financial assets measured at amortized cost. We utilize factors such as historical experience, credit quality, age of accounts receivable, current economic conditions and reasonable forecasted financial information in order to determine expected credit losses for these assets. We are not subject to material receivable credit risk given a significant portion of our sales are generated from contracts with the U.S. Government, prime contractors to the U.S. Government and reputable Fortune 500 companies. The impact of this standard was immaterial to financial statements, related disclosures and internal controls. Date adopted: Q1 2021

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.

Under ASC 606, revenue recognized over time using an input method that uses costs incurred to date to measure progress toward completion ("cost-to-cost") was 63% and 63% and for the three and six months ended April 3, 2021. 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 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 3, 2021 we recognized additional revenue of $10,653 and $12,535, respectively for adjustments made to performance obligations satisfied (or partially satisfied) in previous periods. For the three and six months ended March 28, 2020 we recognized lower revenues of $4,941 and higher revenues of $9,678, 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 3, 2021.

As of April 3, 2021, we had contract reserves of $68,491. 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.

Revenue recognized at the point in time control was transferred to the customer was 37% and 37%, respectively for the three and six months ended April 3, 2021. 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 - the entity has a present right to payment; the customer has legal title; the customer has physical possession; the customer has the 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.

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 3, 2021	October 3, 2020
Unbilled receivables	$ 507,774	$ 493,734
Contract advances	256,080	203,338
Net contract assets	$ 251,694	$ 290,396

The increase in contract assets reflects the net impact of billing less than the amount of revenue recognized during the period. The increase in contract liabilities reflects the net impact of additional contract advances recorded in excess of revenue recognized during the period. For the three and six months ended April 3, 2021, we recognized $40,144 and $98,099 of revenue, respectively, that was included in the contract liability balance at the beginning of the period.

Remaining Performance Obligations

As of April 3, 2021, the aggregate amount of the transaction price allocated to the performance obligations that are unsatisfied (or partially unsatisfied) was approximately $4,600,000. We expect to recognize approximately 41% of that amount as sales over the next twelve months and the balance thereafter.

Disaggregation of Revenue

See Note 19, Segments, for disclosures related to disaggregation of revenue.

Note 3 - Acquisitions and Divestitures

On December 18, 2020, we acquired Genesys Aerosystems Group, Inc. (Genesys), headquartered in Mineral Wells, Texas for a purchase price of $77,600, net of acquired cash. Genesys designs and manufactures a full suite of electronic flight instrument systems and autopilot solutions. This operation is included in our Aircraft Controls segment. The purchase price allocation is subject to adjustments as we obtain additional information for our estimates during the measurement period.

In the first quarter of 2021, we sold a non-core business in our Aircraft Controls segment for $2,081 in net consideration and recorded a loss in other income of $683.

On November 28, 2019, we acquired Gesellschaft für Antriebstechnik mbH and GAT Inc. (GAT), headquartered in Geisenheim, Germany for a purchase price of $54,265, net of acquired cash. GAT designs and manufactures high-end fluid rotating unions and slip rings. This operation is included in our Industrial Systems segment.

In the first quarter of 2020, we sold a non-core business of our Industrial Systems segment for $1,775 in net consideration and recorded a gain in other income of $169.

Note 4 - Receivables

Receivables consist of:

	April 3, 2021	October 3, 2020
Accounts receivable	$ 408,606	$ 363,089
Unbilled receivables	507,774	493,734
Other	12,038	5,025
Less allowance for credit losses	(6,326)	(6,313)
Receivables, net	$ 922,092	$ 855,535

We securitize certain trade receivables in transactions that are accounted for as secured borrowings (Securitization Program). We maintain a subordinated interest in a portion of the pool of trade receivables that are securitized. The retained interest, which is included in Receivables in the Consolidated Condensed Balance Sheets, is recorded at fair value, which approximates the total amount of the designated pool of accounts receivable. Refer to Note 9, Indebtedness, for additional disclosures related to the Securitization Program.

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 3, 2021	October 3, 2020
Raw materials and purchased parts	$ 241,392	$ 235,906
Work in progress	328,423	327,990
Finished goods	66,765	59,147
Inventories, net	$ 636,580	$ 623,043

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 3, 2021 and October 3, 2020.

Note 6 - Property, Plant and Equipment

Property, plant and equipment consists of:

	April 3, 2021	October 3, 2020
Land	$ 38,366	$ 37,463
Buildings and improvements	502,308	476,659
Machinery and equipment	798,704	782,194
Computer equipment and software	168,025	158,683
Property, plant and equipment, at cost	1,507,403	1,454,999
Less accumulated depreciation and amortization	(878,853)	(854,501)
Property, plant and equipment, net	$ 628,550	$ 600,498

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 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 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 3, 2021	March 28, 2020	April 3, 2021	March 28, 2020
Operating lease cost	$ 8,208	$ 5,956	$ 15,092	$ 12,116
Finance lease cost:				
Amortization of right-of-use assets	$ 557	$ 336	$ 1,051	$ 412
Interest on lease liabilities	166	80	327	128
Total finance lease cost	$ 723	$ 416	$ 1,378	$ 540

Supplemental cash flow information related to leases was as follows:

	Six Months Ended	
	April 3, 2021	March 28, 2020
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flow for operating leases	$ 14,194	$ 11,731
Operating cash flow for finance leases	327	128
Financing cash flow for finance leases	1,042	412
Assets obtained in exchange for lease obligations:		
Operating leases	5,893	8,848
Finance leases	3,540	4,242

Supplemental balance sheet information related to leases was as follows:

	April 3, 2021	October 3, 2020
Operating Leases		
Operating lease right-of-use assets	$ 65,410	$ 68,393
Accrued liabilities and other	$ 15,185	$ 15,034
Other long-term liabilities	58,704	60,837
Total operating lease liabilities	$ 73,889	$ 75,871
Finance Leases		
Property, plant, and equipment, at cost	$ 19,280	$ 13,930
Accumulated depreciation	(2,547)	(1,497)
Property, plant, and equipment, net	$ 16,733	$ 12,433
Accrued liabilities and other	$ 1,971	$ 2,199
Other long-term liabilities	15,972	11,392
Total finance lease liabilities	$ 17,943	$ 13,591
Weighted average remaining lease term in years		
Operating leases	7.5	7.4
Finance leases	16.1	12.3
Weighted average discount rate		
Operating leases	4.7 %	4.7 %
Finance leases	5.0 %	4.8 %

Maturities of lease liabilities were as follows:

	April 3, 2021	
	Operating Leases	Finance Leases
2021	$ 9,457	$ 1,427
2022	16,740	2,668
2023	13,263	2,560
2024	9,722	2,501
2025	8,247	2,256
Thereafter	37,576	17,036
Total lease payments	95,004	28,448
Less: imputed interest	(21,115)	(10,505)
Total	$ 73,889	$ 17,943

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 3, 2020	$ 179,521	$ 261,726	$ 380,609	$ 821,856
Acquisition	31,475	—	—	31,475
Divestiture	(312)	—	—	(312)
Foreign currency translation	3,572	57	3,591	7,220
Balance at April 3, 2021	$ 214,256	$ 261,783	$ 384,200	$ 860,239

Goodwill in our Space and Defense Controls segment is net of a $4,800 accumulated impairment loss at April 3, 2021. Goodwill in our Medical Devices reporting unit, included in our Industrial Systems segment, is net of a $38,200 accumulated impairment loss at April 3, 2021.

The components of intangible assets are as follows:

		April 3, 2021		October 3, 2020	
	Weighted-Average Life (years)	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Customer-related	11	$ 165,346	$ (107,325)	$ 140,048	$ (103,733)
Technology-related	9	84,824	(57,046)	77,060	(54,833)
Program-related	23	40,779	(19,087)	38,963	(17,340)
Marketing-related	8	28,779	(21,716)	25,581	(20,981)
Other	10	4,385	(4,119)	4,134	(3,853)
Intangible assets	12	$ 324,113	$ (209,293)	$ 285,786	$ (200,740)

Substantially 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 3, 2021	March 28, 2020	April 3, 2021	March 28, 2020
Acquired intangible asset amortization	$ 3,586	$ 3,330	$ 6,419	$ 6,553

Based on acquired intangible assets recorded at April 3, 2021, amortization is estimated to be approximately:

	2021	2022	2023	2024	2025
Estimated future amortization of acquired intangible assets	$ 13,500	$ 14,000	$ 13,100	$ 12,400	$ 11,200

Note 9 - 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 3, 2021	October 3, 2020
U.S. revolving credit facility	$ 396,310	$ 362,136
SECT revolving credit facility	7,000	6,000
Senior notes 4.25%	500,000	500,000
Securitization program	69,100	69,000
Other long-term debt	3,653	1,661
Senior debt	976,063	938,797
Less deferred debt issuance cost	(7,456)	(8,465)
Less current installments	(71,652)	(350)
Long-term debt	$ 896,955	$ 929,982

Our U.S. revolving credit facility, which matures on October 15, 2024 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. 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, 2022. 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.

On December 13, 2019, we completed the sale of $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, which commenced on June 15, 2020. 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. The aggregate net proceeds were used to repay indebtedness under our U.S. revolving credit facility, thereby increasing the unused portion of our U.S. revolving credit facility.

On December 13, 2019, we issued a notice of redemption to the holders of our 5.25% senior notes due on December 1, 2022, to redeem and retire all of the outstanding notes. The notes were redeemed on January 13, 2020 at 101.313% pursuant to an early redemption right. We redeemed the aggregate principal amount of $300,000 using proceeds drawn from our U.S. revolving credit facility. The associated loss on the redemption includes $3,939 of call premium paid to external bondholders.

The Securitization Program matures on October 29, 2021 and effectively increases our borrowing capacity by up to $80,000. Under the Securitization Program, we sell certain trade receivables and related rights to an affiliate, which in turn sells an undivided variable percentage ownership interest in the trade receivables to a financial institution, while maintaining a subordinated interest in a portion of the pool of trade receivables. Interest for the Securitization Program is based on 30-day LIBOR plus an applicable margin. A commitment fee is also charged based on a percentage of the unused amounts available and is not material. The agreement governing the Securitization Program contains restrictions and covenants which include limitations on the making of certain restricted payments, creation of certain liens, and certain corporate acts such as mergers, consolidations and sale of substantially all assets. The Securitization Program has a minimum borrowing requirement equal to the lesser of either 80% of our borrowing capacity or 100% of our borrowing base, which is a subset of the trade receivables sold under this agreement. As of April 3, 2021, our minimum borrowing requirement was $55,280.

Note 10 - Other Accrued Liabilities

Other accrued liabilities consists of:

	April 3, 2021	October 3, 2020
Contract reserves	$ 68,491	$ 72,412
Employee benefits	54,041	40,734
Warranty accrual	29,238	27,707
Accrued income taxes	11,841	11,785
Other	62,304	67,850
Other accrued liabilities	$ 225,915	$ 220,488

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 3, 2021	March 28, 2020	April 3, 2021	March 28, 2020
Warranty accrual at beginning of period	$ 29,338	$ 29,369	$ 27,707	$ 28,061
Additions from acquisitions	—	202	990	744
Warranties issued during current period	3,724	3,194	7,788	7,037
Adjustments to pre-existing warranties	(249)	(1,003)	(213)	(1,184)
Reductions for settling warranties	(3,363)	(3,199)	(7,146)	(6,371)
Foreign currency translation	(212)	(177)	112	99
Warranty accrual at end of period	$ 29,238	$ 28,386	$ 29,238	$ 28,386

Note 11 - 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 and the British pound, we had outstanding foreign currency forwards with notional amounts of $46,053 at April 3, 2021. These contracts mature at various times through February 24, 2023.

We use forward currency contracts to hedge our net investment in certain foreign subsidiaries. As of April 3, 2021, 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 3, 2021, we had no outstanding interest rate swaps.

These 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 (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 2021 or 2020.

Derivatives not designated as hedging instruments

We also have foreign currency exposure on balances, primarily intercompany, that are denominated in foreign currencies 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 had foreign currency contracts with notional amounts of $134,119 at April 3, 2021. 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 or 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 3, 2021	March 28, 2020	April 3, 2021	March 28, 2020
Net gain (loss)					
Foreign currency contracts	Other	$ (2,394)	$ (2,342)	$ 1,590	$ (771)

Summary of derivatives

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

	Balance Sheets location	April 3, 2021	October 3, 2020
Derivatives designated as hedging instruments:			
Foreign currency contracts	Other current assets	$ 1,150	$ 1,818
Foreign currency contracts	Other assets	36	169
	Total asset derivatives	$ 1,186	$ 1,987
Foreign currency contracts	Accrued liabilities and other	$ 144	$ 169
Foreign currency contracts	Other long-term liabilities	63	—
	Total liability derivatives	$ 207	$ 169
Derivatives not designated as hedging instruments:			
Foreign currency contracts	Other current assets	$ 118	$ 1,044
Foreign currency contracts	Accrued liabilities and other	$ 885	$ 245

Note 12 - 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.

	Balance Sheets location	April 3, 2021	October 3, 2020
Foreign currency contracts	Other current assets	$ 1,268	$ 2,862
Foreign currency contracts	Other assets	36	169
	Total assets	$ 1,304	$ 3,031
Foreign currency contracts	Accrued liabilities and other	$ 1,029	$ 414
Foreign currency contracts	Other long-term liabilities	63	—
	Total liabilities	$ 1,092	$ 414

Our only financial instrument for which the carrying value differs from its fair value is long-term debt. At April 3, 2021, the fair value of long-term debt was $979,570 compared to its carrying value of $976,063. 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 13 - Restructuring

Restructuring activity for severance and other costs is as follows:

	Aircraft Controls	Industrial Systems	Total
Balance at October 3, 2020	$ 1,247	$ 9,095	$ 10,342
Adjustments to provision	(457)	(622)	(1,079)
Cash payments - 2018 plan	—	(205)	(205)
Cash payments - 2020 plan	(57)	(2,039)	(2,096)
Foreign currency translation	—	71	71
Balance at April 3, 2021	$ 733	$ 6,300	$ 7,033

As of April 3, 2021, the restructuring accrual consists of $4,676 for the 2020 plan and $2,357 for the 2018 plan. Restructuring is expected to be paid within a year, except for portions classified as a long-term liabilities based on the nature of the reserve.

Note 14 - Employee Benefit Plans

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

	Three Months Ended		Six Months Ended	
	April 3, 2021	March 28, 2020	April 3, 2021	March 28, 2020
U.S. Plans				
Service cost	$ 5,622	$ 5,758	$ 11,244	$ 11,517
Interest cost	4,276	7,649	8,552	15,298
Expected return on plan assets	(7,636)	(11,021)	(15,272)	(22,042)
Amortization of prior service cost	—	34	—	67
Amortization of actuarial loss	3,431	6,329	6,861	12,658
Expense for U.S. defined benefit plans	$ 5,693	$ 8,749	$ 11,385	$ 17,498
Non-U.S. Plans				
Service cost	$ 1,219	$ 1,666	$ 2,887	$ 3,337
Interest cost	526	695	1,231	1,392
Expected return on plan assets	(990)	(1,135)	(2,133)	(2,274)
Amortization of prior service cost	16	—	14	—
Amortization of actuarial loss	1,403	1,212	2,790	2,428
Curtailment gain	(5,830)	—	(5,830)	—
Expense for non-U.S. defined benefit plans	$ (3,656)	$ 2,438	$ (1,041)	$ 4,883

Pension expense for our defined contribution plans consists of:

	Three Months Ended		Six Months Ended	
	April 3, 2021	March 28, 2020	April 3, 2021	March 28, 2020
U.S. defined contribution plans	$ 8,918	$ 7,206	$ 17,491	$ 12,604
Non-U.S. defined contribution plans	2,340	1,388	3,934	2,790
Total expense for defined contribution plans	$ 11,258	$ 8,594	$ 21,425	$ 15,394

Note 15 - Income Taxes

The effective tax rate for the three and six months ended April 3, 2021 were 21.6% and 23.1%, respectively. The effective tax rate for the three and six months ended April 3, 2021 is 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., partially offset by the benefit of a curtailment gain associated with the termination of a foreign defined benefit pension plan with no associated tax expense in the second quarter.

The effective tax rate for the three and six months ended March 28, 2020 was 19.2% and 22.3%, respectively. The effective tax rate for the three months ended March 28, 2020 is lower than expected due to the reduction in tax rate associated with taxes accrued on accumulated earnings in one of our foreign jurisdictions. Additionally, legal entity restructuring resulted in reduced withholding taxes previously accrued in another foreign jurisdiction. The effective tax rate for the six months ended March 28, 2020 is higher than expected due to tax on earnings generated outside the U.S.

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Note 16 - Accumulated Other Comprehensive Income (Loss)

The changes in AOCIL, net of tax, by component for the six months ended April 3, 2021 are as follows:

	Accumulated foreign currency translation (1)	Accumulated retirement liability	Accumulated gain (loss) on derivatives	Total
AOCIL at October 3, 2020	$ (102,994)	$ (183,653)	$ 1,194	$ (285,453)
Other comprehensive income before reclassifications	23,052	4,579	282	27,913
Amounts reclassified from AOCIL	(2,490)	1,339	(886)	(2,037)
Other comprehensive income (loss), net of tax	20,562	5,918	(604)	25,876
AOCIL at April 3, 2021	$ (82,432)	$ (177,735)	$ 590	$ (259,577)

(1) Net gains and losses on net investment hedges are recorded as cumulative translation adjustments in AOCIL 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 3, 2021	March 28, 2020	April 3, 2021	March 28, 2020
Retirement liability:					
Prior service cost (credit)		$ 16	$ (31)	$ 14	$ (63)
Actuarial losses		4,705	7,388	9,394	14,782
Curtailment gain		(5,830)	—	(5,830)	—
Reclassification from AOCIL into earnings (2)		(1,109)	7,357	3,578	14,719
Tax effect		(1,121)	(1,761)	(2,239)	(3,523)
Net reclassification from AOCIL into earnings		$ (2,230)	$ 5,596	$ 1,339	$ 11,196
Derivatives:					
Foreign currency contracts	Sales	$ (80)	$ 5	$ (52)	$ 7
Foreign currency contracts	Cost of sales	(548)	(274)	(1,105)	(234)
Interest rate swaps	Interest	—	—	—	(41)
Reclassification from AOCIL into earnings		(628)	(269)	(1,157)	(268)
Tax effect		145	63	271	63
Net reclassification from AOCIL into earnings		$ (483)	$ (206)	$ (886)	$ (205)

(2) The reclassifications 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 3, 2021	March 28, 2020	April 3, 2021	March 28, 2020
Foreign currency contracts	$ (283)	$ (1,162)	$ 348	$ 632
Interest rate swaps	—	(36)	—	(40)
Net gain (loss)	(283)	(1,198)	348	592
Tax effect	64	241	(66)	(148)
Net deferral in AOCIL of derivatives	$ (219)	$ (957)	$ 282	$ 444

Note 17 - Stock Employee Compensation Trust and Supplemental Retirement Plan Trust

The Stock Employee Compensation Trust (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 Supplemental Retirement Plan (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 18 - Earnings per Share and Dividends

Basic and diluted weighted-average shares outstanding are as follows:

	Three Months Ended		Six Months Ended	
	April 3, 2021	March 28, 2020	April 3, 2021	March 28, 2020
Basic weighted-average shares outstanding	32,146,247	33,434,420	32,110,365	33,972,635
Dilutive effect of equity-based awards	179,247	250,975	170,793	263,764
Diluted weighted-average shares outstanding	32,325,494	33,685,395	32,281,158	34,236,399
Anti-dilutive shares from equity-based awards	57,751	77,414	149,669	53,521

We declared and paid cash dividends of $0.25 per share on our Class A and Class B common stock in the first and second quarters of 2021 and 2020.

Note 19 - Segment Information

Disaggregation of net sales by segment for the three and six months ended April 3, 2021 and March 28, 2020 are as follows:

	Three Months Ended		Six Months Ended	
Market Type	April 3, 2021	March 28, 2020	April 3, 2021	March 28, 2020
Net sales:				
Military	$ 201,520	$ 175,784	$ 407,218	$ 349,478
Commercial	102,841	165,623	183,917	331,883
Aircraft Controls	304,361	341,407	591,135	681,361
Space	87,837	73,564	165,648	136,304
Defense	118,331	119,446	228,682	242,946
Space and Defense Controls	206,168	193,010	394,330	379,250
Energy	28,247	36,772	56,891	66,711
Industrial Automation	111,206	106,177	206,437	213,008
Simulation and Test	19,774	25,647	39,900	54,115
Medical	66,646	62,264	131,663	125,675
Industrial Systems	225,873	230,860	434,891	459,509
Net sales	$ 736,402	$ 765,277	$ 1,420,356	$ 1,520,120

	Three Months Ended		Six Months Ended	
Customer Type	April 3, 2021	March 28, 2020	April 3, 2021	March 28, 2020
Net sales:				
Commercial	$ 102,841	$ 165,623	$ 183,917	$ 331,883
U.S. Government (including OEM)	151,479	140,677	308,156	272,886
Other	50,041	35,107	99,062	76,592
Aircraft Controls	304,361	341,407	591,135	681,361
Commercial	37,019	34,184	68,153	68,336
U.S. Government (including OEM)	157,955	141,735	296,127	276,422
Other	11,194	17,091	30,050	34,492
Space and Defense Controls	206,168	193,010	394,330	379,250
Commercial	218,052	223,128	420,005	443,647
U.S. Government (including OEM)	4,428	5,022	10,749	11,443
Other	3,393	2,710	4,137	4,419
Industrial Systems	225,873	230,860	434,891	459,509
Commercial	357,912	422,935	672,075	843,866
U.S. Government (including OEM)	313,862	287,434	615,032	560,751
Other	64,628	54,908	133,249	115,503
Net sales	$ 736,402	$ 765,277	$ 1,420,356	$ 1,520,120

Operating profit is net sales less cost of sales and other operating expenses, excluding interest expense, equity-based compensation 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, number of employees or profit. Operating profit by segment for the three and six months ended April 3, 2021 and March 28, 2020 and a reconciliation of segment operating profit to earnings before income taxes are as follows:

	Three Months Ended		Six Months Ended	
	April 3, 2021	March 28, 2020	April 3, 2021	March 28, 2020
Operating profit:				
Aircraft Controls	$ 22,018	$ 34,701	$ 49,940	$ 73,293
Space and Defense Controls	26,652	24,652	49,698	49,934
Industrial Systems	23,813	24,775	43,711	51,574
Total operating profit	72,483	84,128	143,349	174,801
Deductions from operating profit:				
Interest expense	8,629	10,251	17,049	20,483
Equity-based compensation expense	2,127	890	4,629	3,271
Non-service pension (income) expense	(4,901)	3,598	(3,981)	7,199
Corporate and other expenses, net	4,500	7,858	13,153	15,413
Earnings before income taxes	$ 62,128	$ 61,531	$ 112,499	$ 128,435

Note 20 - Related Party Transactions

John Scannell, Moog's Chairman of the Board and Director and Chief Executive Officer, 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 3, 2021 totaled $3,521 and $6,950, respectively. Credit extension for the three and six months ended March 28, 2020 totaled $4,220 and $8,794, respectively. At April 3, 2021, we held outstanding leases with a total original cost of $26,454. Deposits on our behalf for future equipment leases totaled $1,469 for the three and six months ended April 3, 2021. 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 9, Indebtedness.

Note 21 - 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 may still be significant effort required to complete the ultimate deliverable. Future variability in internal cost as well as 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 $32,936 of standby letters of credit issued to third parties on our behalf at April 3, 2021.

Note 22 - Subsequent Event

On April 29, 2021, the Board of Directors declared a $0.25 per share quarterly dividend payable on issued and outstanding shares of our Class A and Class B common stock on June 1, 2021 to shareholders of record at the close of business on May 14, 2021.

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 3, 2020. All references to years in this Management's Discussion and Analysis of Financial Condition and Results of Operations are to fiscal years and 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, 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.
- Commercial space market - satellite positioning controls and thrust vector controls for space launch vehicles.

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 systems for enteral clinical nutrition and infusion therapy pumps, 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, Czech Republic, Italy, Costa Rica, China, Netherlands, Luxembourg, Japan, Canada, India and Lithuania.

Under ASC 606, 63% of revenue was recognized over time for the quarter ended April 3, 2021, 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 3, 2021, 37% 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 around the world, delivering capabilities for mission-critical solutions. These core operational principles are necessary as our products are applied in demanding applications, "When Performance Really Matters®." By capitalizing on these core foundational strengths, 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 control product 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 dominant 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 fundamental long-term strategies to achieve our goals center around talent, lean and innovation and include:

- a strong leadership team that has positioned the Company for growth,
- utilizing our global capabilities and strong engineering heritage to innovate,
- maintaining our technological excellence by solving our customers' most demanding technical problems in applications "When Performance Really Matters®,"
- continuing to invest in talent development to strengthen employee performance, and
- maximizing customer value by implementing lean enterprise principles.

These activities will help us achieve our financial objective of increasing shareholder value with sustainable competitive advantages across our segments. In doing so, we expect to maintain a balanced, diversified portfolio in terms of markets served, product applications, customer base and geographic presence.

We focus on improving shareholder value through strategic revenue growth, both organic and acquired, through improving operating efficiencies and manufacturing initiatives 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. Our activities have included strategic acquisitions, share buybacks and dividend payments. As we work through the current COVID-19 environment, we believe we are well positioned to invest in our business and therefore have returned to a balanced capital deployment strategy. We will organically invest in our operations and explore opportunities to make strategic acquisitions and return capital to shareholders.

Acquisitions and Divestitures

All of our acquisitions are accounted for under the purchase method and, accordingly, the operating results for the acquired companies are included in the Consolidated Condensed Statements of Earnings from the respective dates of acquisition. Under purchase accounting, we record assets and liabilities at fair value and such amounts are reflected in the respective captions on the Consolidated Condensed Balance Sheets. The purchase price described for each acquisition below is net of any cash acquired, includes debt issued or assumed and the fair value of contingent consideration.

On December 18, 2020, we acquired Genesys Aerosystems Group, Inc. (Genesys), headquartered in Mineral Wells, Texas for a purchase price of $78 million, net of acquired cash. Genesys designs and manufactures a full suite of electronic flight instrument systems and autopilot solutions. This operation is included in our Aircraft Controls segment. The purchase price allocation is subject to adjustments as we obtain additional information for our estimates during the measurement period.

In the first quarter of 2021, we sold a non-core business in our Aircraft Controls segment for $2 million in net consideration and recorded a minimal loss in other income.

On November 28, 2019, we acquired Gesellschaft für Antriebstechnik mbH and GAT Inc. (GAT), headquartered in Geisenheim, Germany for a purchase price of $54 million, net of acquired cash. GAT designs and manufactures high-end fluid rotating unions and slip rings. This operation is included in our Industrial Systems segment.

In the first quarter of 2020, we sold a non-core business in our Industrial Systems segment for $2 million in net consideration and recorded a minimal gain in other income.

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 of the Consolidated Condensed Financial Statements included in Item 1, Financial Statements of this report for further information regarding Financial Accounting Standards Board issued Accounting Standards Updates ("ASU").

COVID-19 IMPACTS ON OUR BUSINESS

The spread of the COVID-19 outbreak has disrupted businesses on a global scale. On March 11, 2020, the World Health Organization classified the outbreak as a pandemic. As we entered this crisis, the Company established two clear priorities: first and foremost the health and safety of our employees and their families, and second, continuing to meet the needs of our customers and secure the financial well-being of the Company. Substantially all of our operations and production activities have, to-date, remained operational. Many are considered essential and are exempt from closure directives. However, such directives could change at any time. We have implemented changes in our work practices maintaining a safe working environment for production employees at our facilities, while enabling other employees to productively work from home. We will continue to monitor the situation, assessing further possible implications on our operations, supply chain, liquidity, cash flow and customer orders, and will take action in an effort to mitigate any adverse consequences. We believe that our existing financial arrangements, along with our actions to mitigate the business pressures we are facing, will be sufficient to meet our operating needs. We have available borrowings under short and long-term arrangements that could provide relief should the situation become more stressed.

CONSOLIDATED RESULTS OF OPERATIONS

	Three Months Ended				Six Months Ended			
(dollars and shares in millions, except per share data)	April 3, 2021	March 28, 2020	$ Variance	% Variance	April 3, 2021	March 28, 2020	$ Variance	% Variance
Net sales	$ 736	$ 765	$ (29)	(4%)	$ 1,420	$ 1,520	$ (100)	(7%)
Gross margin	*27.1 %*	*27.2 %*			*27.4 %*	*27.6 %*		
Research and development expenses	$ 30	$ 27	$ 4	14%	$ 58	$ 55	$ 4	6%
Selling, general and administrative expenses as a percentage of sales	*14.3 %*	*14.0 %*			*14.4 %*	*13.5 %*		
Interest expense	$ 9	$ 10	$ (2)	(16%)	$ 17	$ 20	$ (3)	(17%)
Other	$ (6)	$ 2	$ (9)	(376%)	$ (3)	$ 10	$ (13)	(132%)
Effective tax rate	*21.6 %*	*19.2 %*			*23.1 %*	*22.3 %*		
Net earnings	$ 49	$ 50	$ (1)	(2%)	$ 87	$ 100	$ (13)	(13%)
Diluted earnings per share	$ 1.51	$ 1.48	$ 0.03	2%	$ 2.68	$ 2.91	$ (0.23)	(8%)
Twelve-month backlog					$ 1,900	$ 1,800	$ 100	5%

Net sales decreased in the second quarter and in the first half of 2021 compared to the second quarter and the first half of 2020 as the impacts of the global COVID-19 pandemic adversely affected our commercial aircraft programs and our legacy industrial products. These declines were partially offset by higher demands for our military aircraft programs and our space programs.

Gross margin decreased slightly in the second quarter and the first half of 2021 compared to the same periods of 2020. As a result of the macro-economic conditions from the COVID-19 pandemic, facilities across all of our segments were under-utilized due to lower sales volumes, which negatively impacted gross margin.

Research and development expenses increased slightly across our segments in the second quarter and in the first half of 2021 compared to the same periods of 2020. The incorporation of the Genesys acquisition and higher activity across development programs within Aircraft Controls increased expenses $2 million. Expenses also increased $1 million in both Space and Defense Controls and in Industrial Systems.

Selling, general and administrative expenses as a percentage of sales increased in the second quarter and in the first half of 2021 compared to the same periods of 2020, as we could not decrease our cost structure at the same rate as our sales decline. However, the implementation of cost containment actions in response to the COVID-19 pandemic helped to reduce expenses, primarily in Space and Defense Controls and in Industrial Systems.

Interest expense in both the second quarter and first half of 2021 benefited from lower interest rates on outstanding debt.

Other expense in the second quarter of 2021 included a $6 million pension curtailment gain associated with the termination of a foreign pension plan. Other expense in the first half of 2020 includes $7 million of non-service pension expense as well as a $4 million call premium as we redeemed our $300 million aggregate principal 5.25% senior notes.

The effective tax rate in the second quarter of 2021 included the benefit from the $6 million pension curtailment gain associated with the termination of a foreign pension plan with no associated tax expense. The effective tax rate in the second quarter of 2020 included benefits associated with changes in enacted tax rates and assumptions for withholding taxes on accumulated offshore earnings.

The change in twelve-month backlog at April 3, 2021 compared with March 28, 2020 was driven by increases in our military aircraft and our defense markets. Backlog increased in Aircraft Controls due to additional military development programs and due to the production ramp and associated orders for the F-35 program. Backlog also increased in Space and Defense Controls driven by higher orders for our new turret program. These increases were partially offset by lower orders in our space markets, primarily due to the high levels of 2020 orders for launch vehicles not continuing in 2021.

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 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 19 of the Notes to Consolidated Condensed Financial Statements included in this report.

Aircraft Controls

	Three Months Ended				Six Months Ended			
(dollars in millions)	April 3, 2021	March 28, 2020	$ Variance	% Variance	April 3, 2021	March 28, 2020	$ Variance	% Variance
Net sales - military aircraft	$ 202	$ 176	$ 26	15%	$ 407	$ 349	$ 58	17%
Net sales - commercial aircraft	103	166	(63)	(38%)	184	332	(148)	(45%)
	$ 304	$ 341	$ (37)	(11%)	$ 591	$ 681	$ (90)	(13%)
Operating profit	$ 22	$ 35	$ (13)	(37%)	$ 50	$ 73	$ (23)	(32%)
Operating margin	*7.2 %*	*10.2 %*			*8.4 %*	*10.8 %*		

Aircraft Controls' net sales decreased in the second quarter and in the first half of 2021 compared to the same periods of 2020. The impacts of the global COVID-19 pandemic adversely affected our commercial OEM and aftermarket programs, but were partially offset by higher demand for our military OEM programs.

Across our commercial aircraft programs, the COVID-19 pandemic greatly reduced airline traffic and orders for new aircraft while, concurrently, our airframe customers continued to reduce their production forecasts and burn down their inventory levels. These factors started in the second half of our fiscal 2020. In the second quarter of 2021 compared to the second quarter of 2020, our sales declined $50 million across our commercial OEM programs and $13 million across our commercial aftermarket programs. Partially offsetting these declines was a $38 million sales increase across our military OEM programs. Funded military development programs increased sales $16 million, newly acquired sales from our Genesys acquisition increased sales $8 million and higher activity on the growing active F-35 fleet increased OEM sales $8 million. However, military aftermarket sales declined $12 million due, in part, to the timing of F-35 spares orders.

The sales declines in the first half of 2021 compared to the first half of 2020 were largely due to the same factors as the second quarter. Commercial OEM sales declined $124 million and commercial aftermarket sales declined $24 million as the impacts of the COVID-19 pandemic affected all of our programs' sales. Somewhat offsetting the declines was a $69 million increase in military OEM programs including funded development programs, the F-35 program, foreign military programs and the newly acquired sales from our Genesys acquisition.

Operating margin decreased in the second quarter and in the first half of 2021 compared to the same periods of 2020 due mostly to the sales declines in our commercial aircraft market. In addition, higher operating costs and lower aftermarket sales further reduced operating margins, offsetting the incremental margin associated with higher levels of military sales.

Space and Defense Controls

	Three Months Ended				Six Months Ended			
(dollars in millions)	April 3, 2021	March 28, 2020	$ Variance	% Variance	April 3, 2021	March 28, 2020	$ Variance	% Variance
Net sales	$ 206	$ 193	$ 13	7%	$ 394	$ 379	$ 15	4%
Operating profit	$ 27	$ 25	$ 2	8%	$ 50	$ 50	$ —	—%
Operating margin	*12.9 %*	*12.8 %*			*12.6 %*	*13.2 %*		

Space and Defense Controls' net sales increased in the second quarter of 2021 compared to the second quarter of 2020 due to the continued growth in our space market. In the first half of 2021 compared to the first half of 2020, the increased space program sales were partially offset by sales declines in our defense market.

Across our space programs, we continue to benefit from increased government spending on military applications and civil missions. Sales in our space market increased $14 million in the second quarter of 2021 compared to the second quarter of 2020. Sales for integrated space vehicles and for development programs together increased $8 million. In addition, sales increased $3 million for launch vehicle programs, as we had higher activity for the NASA Space Launch System. Within our defense market, sales decreased $1 million. Delays in development programs for missile steering systems and lower bookings for security programs were mostly offset by higher defense component sales.

The sales changes in the first half of 2021 compared to the first half of 2020 were largely due to the same factors as the second quarter. Sales for our space programs increased $29 million due to increases in launch vehicle programs, integrated space vehicles programs and other development work. Partially offsetting the sales increases was a $14 million sales decline across our defense market. Sales declined $12 million in missile systems due in part to the factors from the second quarter, as well as delays across production programs. Additionally, sales declined $9 million in our security programs due to lower bookings and as COVID-19 pandemic restrictions delayed on-site installations. Higher sales across defense component programs and naval programs partially offset these defense sales declines.

Operating margin decreased in the first half of 2021 compared to the first half of 2020 due primarily to an unfavorable sales mix and production capacity issues. Partially offsetting the margin declines was the implementation of cost containment actions in response to the COVID-19 pandemic which reduced expenses.

Industrial Systems

	Three Months Ended				Six Months Ended			
(dollars in millions)	April 3, 2021	March 28, 2020	$ Variance	% Variance	April 3, 2021	March 28, 2020	$ Variance	% Variance
Net sales	$ 226	$ 231	$ (5)	(2%)	$ 435	$ 460	$ (25)	(5%)
Operating profit	$ 24	$ 25	$ (1)	(4%)	$ 44	$ 52	$ (8)	(15%)
Operating margin	*10.5%*	*10.7 %*			*10.1 %*	*11.2 %*		

The decline in Industrial Systems' net sales in the second quarter of 2021 compared to the second quarter of 2020 was driven by macroeconomic factors affecting our energy and simulation and test markets. In the first half of 2021 compared to the first half of 2020, net sales declined across all of our legacy industrial products. Stronger foreign currencies, primarily the Euro relative to the U.S. Dollar, increased sales $7 million and $12 million in the second quarter and in the first half of 2021, respectively, compared to the same periods of 2020.

The COVID-19 pandemic, and the associated macroeconomic slowdown and reduced capital investments by our customers, have created productivity and demand challenges. Additionally, with the decline of the global airline market, demand for flight simulation products has weakened. These factors started in the second half of our fiscal 2020. In the second quarter of 2021 compared to the second quarter of 2020, sales declined $9 million in our energy market due primarily to lower sales for components used in energy exploration and generation applications. Sales also declined $6 million in our simulation and test market due to lower levels of flight simulation business. Partially offsetting these declines was sales growth in our medical markets, driven by higher sales volumes for enteral products, and by sales growth in our industrial automation market across several products.

The sales declines in the first half of 2021 compared to the first half of 2020 were largely due to the same factors as the second quarter. Sales in our simulation and test market declined $14 million as the impacts of the COVID-19 pandemic affected the sales of our flight simulation products. Sales also declined $10 million in our energy market and $7 million in our industrial automation market. For the first half of 2021, sales in our medical market increased $6 million due to higher pump and set sales across our medical devices products.

Operating margin decreased in the first half of 2021 compared to the first half of 2020 due mostly to the sales declines in our simulation and test markets and in our industrial automation markets. In addition, factory inefficiencies due to the COVID-19 pandemic across our global footprint further depressed operating margin in the first half of 2021 compared to the first half of 2020. Partially offsetting the margin declines was the implementation of cost containment actions in response to the COVID-19 pandemic which reduced expenses.

CONSOLIDATED SEGMENT OUTLOOK

			2021 vs. 2020	
(dollars in millions)	Outlook	2020	Variance	Variance
Net sales:				
Aircraft Controls	$ 1,180	$ 1,206	$ (26)	(2%)
Space and Defense Controls	795	770	25	3%
Industrial Systems	865	909	(44)	(5%)
	$ 2,840	$ 2,885	$ (45)	(2%)
Operating profit:				
Aircraft Controls	$ 97	$ 35	$ 62	179%
Space and Defense Controls	98	102	(4)	(4%)
Industrial Systems	86	80	6	8%
	$ 281	$ 216	$ 64	30%
Operating margin:				
Aircraft Controls	8.2 %	2.9 %		
Space and Defense Controls	12.3 %	13.2 %		
Industrial Systems	10.0 %	8.8 %		
	9.9 %	7.5 %		
Net earnings	$ 162	$ 9		
Diluted earnings per share	$4.80 - $5.20	$ 0.28		

2021 Outlook – We expect that COVID-19 will be with us for all of fiscal 2021, and as such, our factories will continue operating with the current work practices and that the majority of our office staff will continue to productively work remotely. We believe our military aircraft, space and medical markets will remain strong; however, our medical market will soften as the initial surge of demand during the beginning of the COVID-19 pandemic is not expected to repeat. We do not expect any meaningful recovery in our industrial markets from the levels of the second half of fiscal 2020. Also, we are working to the production schedules of our major commercial aerospace OEM customers. We expect operating margin will increase due to the absence of last year's $71 million charges associated with the COVID-19 pandemic. Net earnings in 2021 will also benefit from the absence of last year's $121 million non-cash pension settlement charge, as well as lower non-operating expenses, but be somewhat offset by a higher effective tax rate. We expect diluted earnings per share will range between $4.80 and $5.20, with a midpoint of $5.00.

2021 Outlook for Aircraft Controls – We expect 2021 sales in Aircraft Controls will decline due to the effects of the COVID-19 pandemic on our commercial OEM and aftermarket programs. We also expect the high levels of military aftermarket sales in 2020 do not repeat in 2021. Partially offsetting these declines is an expected growth in military OEM sales, primarily related to higher amounts of funded development program sales and F-35 sales. We expect operating margin will increase in 2021 due to the absence of the 2020 COVID-19 pandemic related charges and as our operations align with the new, lower, levels of customer demand.

2021 Outlook for Space and Defense Controls – We expect 2021 sales in Space and Defense Controls will increase as growth in our space markets offsets a decline in our defense markets. Within our space market, we expect a continuation of the increased government spending on military applications and civil missions. However, within our defense market, we don't expect our missile systems programs and our security programs to recover from the impacts during the first half of 2021. We expect operating margin will decline due to the unfavorable sales mix as compared to the previous year.

2021 Outlook for Industrial Systems – We expect 2021 sales in Industrial Systems will decline due to the effects of the COVID-19 pandemic on our simulation and test business and, to a lesser degree, on our medical business. We also expect lower sales in our energy market will be offset by modestly higher industrial automation sales. We expect operating margin will improve due to the absence of last year's COVID-19 pandemic related charges, while declining slightly when compared to 2020's adjusted operating margin of 10.3%, due to lost margin related to the lower sales levels.

FINANCIAL CONDITION AND LIQUIDITY

	Six Months Ended		
(dollars in millions)	April 3, 2021	March 28, 2020	$ Variance
Net cash provided (used) by:			
Operating activities	$ 137	$ 81	$ 57
Investing activities	(134)	(111)	(22)
Financing activities	1	58	(57)

Our available borrowing capacity and our cash flow from operations have provided us with the financial resources needed to make organic investments, fund acquisitive growth and return capital to shareholders.

At April 3, 2021, our cash balances were $91 million, which were primarily held outside of the U.S. Cash flow from our U.S. operations, together with borrowings on our credit facility, fund on-going activities, debt service requirements and future growth investments.

Operating activities

Net cash provided by operating activities increased in the first half of 2021 compared to the first half of 2020 as cash from working capital offset $13 million of lower earnings. In the first half of 2021, cash from inventories improved $59 million, primarily in our Aircraft Controls and Space and Defense Controls segments. Also, accounts payable used $10 million less cash than a year ago, as we have lower amounts of vendor payments. Additionally, customer advances provided $5 million more cash than a year ago, driven by the timing of receipts on various defense programs.

Investing activities

Net cash used by investing activities in the first half of 2021 included $78 million for our acquisition of Genesys and $58 million for capital expenditures.

Net cash used by investing activities in the first half of 2020 included $54 million for our acquisition of GAT and $53 million for capital expenditures.

Financing activities

Net cash provided by financing activities in the first half of 2021 included $35 million of net proceeds on our credit facility. Additionally, financing activities in the first half of 2021 included $18 million to fund our stock repurchase program and $16 million of cash dividends.

Net cash provided by financing activities in the first half of 2020 included the net proceeds of issuing our $500 million aggregate principal 4.25% senior notes, which were used to repay a portion of our outstanding borrowings. Additionally, financing activities in the first half of 2020 included $179 million to fund our stock repurchase program and $17 million of cash dividends.

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 results of operations or financial condition.

Contractual Obligations and Commercial Commitments

Our contractual obligations and commercial commitments have not changed materially from the disclosures in our 2020 Annual Report on Form 10-K.

CAPITAL STRUCTURE AND RESOURCES

We maintain bank credit facilities to fund our short and long-term capital requirements, including acquisitions. From time to time, we also sell debt and equity securities to fund acquisitions or take advantage of favorable market conditions.

Our U.S. revolving credit facility, which matures on October 15, 2024 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 U.S. revolving credit facility had an outstanding balance of $396 million at April 3, 2021. The weighted-average interest rate on primarily all of the outstanding credit facility borrowings was 1.86% and is principally based on LIBOR plus an applicable margin, which was 1.75% at April 3, 2021. The credit facility is secured by substantially all of our U.S. assets.

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. We are in compliance with all covenants. 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.

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. In recent years, 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.

The SECT has a revolving credit facility with a borrowing capacity of $35 million, maturing on July 26, 2022. Interest was 2.23% as of April 3, 2021 and is based on LIBOR plus a margin of 2.13%. As of April 3, 2021, there was $7 million of outstanding borrowings.

On December 13, 2019, we completed the sale of $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, which commenced on June 15, 2020. 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. The aggregate net proceeds were used to repay indebtedness under our U.S. bank facility, thereby increasing the unused portion of our U.S. revolving credit facility.

On December 13, 2019, we issued a notice of redemption to the holders of our 5.25% senior notes due on December 1, 2022, to redeem and retire all of the outstanding notes. The notes were redeemed on January 13, 2020 at 101.313%, pursuant to an early redemption right. We redeemed the aggregate principal amount of $300 million using proceeds drawn from our U.S. revolving credit facility. The associated loss on the redemption includes $4 million of call premium paid to external bondholders.

We have a trade receivables securitization facility (the "Securitization Program") that matures on October 29, 2021. The Securitization Program provides up to $80 million of borrowing capacity and lowers our cost to borrow funds as compared to the U.S. revolving credit facility. Under the Securitization Program, we sell certain trade receivables and related rights to an affiliate, which in turn sells an undivided variable percentage ownership interest in the trade receivables to a financial institution, while maintaining a subordinated interest in a portion of the pool of trade receivables. We had an outstanding balance of $69 million at April 3, 2021. The Securitization Program has a minimum borrowing requirement, which was $55 million at April 3, 2021. Interest on the secured borrowings under the Securitization Program was 1.04% at April 3, 2021 and is based on 30-day LIBOR plus an applicable margin.

At April 3, 2021, we had $711 million of unused capacity, including $670 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 $427 million as of April 3, 2021.

Net debt to capitalization was 40% at April 3, 2021 and October 3, 2020, respectively.

We declared and paid cash dividends of $0.25 per share on our Class A and Class B common stock in the first and second quarters of 2021.

The Board of Directors authorized a share repurchase program. This program was amended from time to time to authorize additional repurchases that includes both Class A and Class B common stock, and allowed us to buy up to an aggregate 13 million common shares. Under this program, we purchased approximately 13 million shares for $899 million.

On November 20, 2020, the Board of Directors authorized a share repurchase program to replace the existing share repurchase program. This program authorizes repurchases that includes both Class A and Class B common stock, and allows us to buy up to an aggregate 3 million common shares. Under this program, we purchased approximately 96,000 shares for $7 million.

As we progress in the current COVID-19 environment, we believe we are well positioned to invest in our business and we have returned to a balanced capital deployment strategy. We will invest in our operations and explore opportunities to make strategic acquisitions and return capital to shareholders.

ECONOMIC CONDITIONS AND MARKET TRENDS

We operate within the aerospace and defense and industrial markets. Our businesses are facing varying levels of pressure from the COVID-19 pandemic.

Within our aerospace and defense markets, our defense and space businesses represented approximately half of our 2020 sales. We expect these businesses may face modest supply chain and production level risks, as they are more directly affected by program funding levels which, to-date, are stable. However, our commercial aircraft market, which represented less than 20% of our 2020 sales, will continue to face the greatest pressures due to the dramatic reductions in air travel.

Within our industrial markets, our industrial automation, simulation and test and energy niche markets, which represented less than 25% of our 2020 sales, will continue to face productivity and demand challenges from the macroeconomic slowdown and reduced capital investments. Our medical business, which represented approximately 10% of our 2020 sales, experienced a surge in demand for our medical applications essential in the fight against the pandemic. As this surge in demand wanes, we expect to return to normal growth rates in the future.

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, which to-date, have not been impacted by the COVID-19 pandemic. 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 predictability as to capacity needs and future revenues. We maintain positions on numerous high priority programs, including the Lockheed Martin F-35 Lightning II, FA-18E/F Super Hornet 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 are uncertain, subject to presidential and congressional debate and could be reduced to offset the various COVID-19 pandemic relief payments.

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 lead to large production backlogs for Boeing and Airbus. However, the impact of the COVID-19 pandemic has drastically reduced air traffic as travel restrictions and social distancing measures were implemented to help control the spread of the virus. The reduced air traffic has applied financial pressures on airlines, and in order to preserve cash and liquidity, have dramatically reduced flight hours and delayed the purchases of new aircraft. Given the uncertain length of this pandemic and associated restrictions to travel long distances, the commercial market may shift away from wide-body aircraft. Additionally, given the abruptly stalled global economies and social pauses, global oil production is now over-supplied, creating drastic reductions in the prices of oil. The lower prices for jet fuel mitigates the advantage of new, more fuel-efficient aircraft that created record backlogs for the OEMs. Furthermore, as companies and employees become accustomed to working remotely, business travel and the associated flight hours may not reach the pre-crisis levels. As such, we believe Boeing and Airbus will continue to directionally match their production rates with the reduced air traffic volume, which will lower their demand for our flight control systems. We believe the commercial OEM market's recovery will be heavily dependent on COVID-19 infections and vaccinations, changes to travel restrictions and social distancing measures and therefore will face pressures for a prolonged period of time.

The commercial aftermarket is driven by usage and age of the existing aircraft fleet for passenger and cargo aircraft, which drives the need for maintenance and repairs. Given the dramatic reductions in flight hours and the airlines' cash preservation measures due to the impacts of COVID-19, we believe the demand volume for our maintenance services and spare parts will remain at depressed levels over the short-term. Also, with fewer expected new aircraft deliveries, we would see lower future initial provisioning and spares sales. However, when domestic and international travel begin to recover, we expect a faster recovery in this market as compared to the commercial OEM market.

The space market is comprised of four customer markets: the civil market, the 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 department of defense market is driven by governmental-authorized levels of funding for satellite communications, as well as funding for hypersonic defense technologies. 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. Similar to the defense market, funding for these four markets have not been impacted by the COVID-19 pandemic to-date.

Industrial

Within industrial, we serve two end markets: industrial, consisting of industrial automation products, simulation and test products and energy generation and exploration products; and medical.

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 and technology upgrades. As governments around the world implement measures to help control the spread of the COVID-19 virus, the subsequent economic downturn has constrained capital investment and slowed investments in product innovation and upgrades. These unfavorable economic conditions have affected, and could for an extended period of time, affect our supply chain, productivity and customer demand as our customers are also impacted by international and domestic economic conditions.

Our simulation and test products operate in markets that are largely affected by these same factors and investment challenges stemming from the COVID-19 pandemic. Reduced air travel and the subsequent reduction in new commercial aircraft have reduced the need for flight simulator training, for which we supply motion control products. Similarly, the recent lower capital spend has reduced the need for our automotive and material testing applications.

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. However, the COVID-19 pandemic has led to reduced oil prices, which reduces the economic feasibility for these investments and explorations.

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. The outbreak of the COVID-19 virus created unprecedented demand for medical equipment and has shifted the way hospitals optimize their capacity. Our medical components products are critical motion control components for life saving medical equipment, including ventilators, oxygen concentrators and continuous positive airway pressure (CPAP) machines, among others. The COVID-19 pandemic increased the demand for ventilators, of which our products are a key component of that industry's supply chain. Additionally, our medical devices products including infusion and enteral feeding pumps, and their corresponding disposable sets, are used primarily in the home healthcare environment. Since the COVID-19 pandemic has altered the way hospitals provide care by asking non-critical patients to recuperate at home, our medical devices products have seen an increase in orders. However, we don't expect this surge in demand to continue as our customers refill and resize 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 2020 sales were denominated in foreign currencies. During the first six months of 2021, average foreign currency rates generally strengthened against the U.S. dollar compared to 2020. The translation of the results of our foreign subsidiaries into U.S. dollars increased sales by $16 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 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. These important factors, risks and uncertainties include:

COVID-19 Pandemic Risks

▪ We face various risks related to health pandemics such as the global COVID-19 pandemic, which may have material adverse consequences on our operations, financial position, cash flows, and those of our customers and suppliers.

Strategic Risks

▪ We operate in highly competitive markets with competitors who may have greater resources than we possess;
▪ Our new products and technology research and development efforts are substantial and may not be successful which could reduce our sales and earnings;
▪ Our inability to adequately enforce and protect our intellectual property or defend against assertions of infringement could prevent or restrict our ability to compete; 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 as a customer or a significant reduction in sales to The Boeing 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

▪ Our business operations may be adversely affected by information systems interruptions, intrusions or new software implementations;
▪ 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;
▪ 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; 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 could limit our operational and financial flexibility;
▪ The phase out of LIBOR may negatively impact our debt agreements and financial position, results of operations and liquidity;
▪ 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 political and currency risks and adverse changes in local legal and regulatory environments;

▪ 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; and

▪ Our operations are subject to environmental laws, and complying with those laws may cause us to incur significant costs.

General Risks

▪ The United Kingdom's decision to exit the European Union may result in short-term and long-term adverse impacts on our results of operations;

▪ Escalating tariffs, restrictions on imports or other trade barriers between the United States and various countries may impact our results of operations;

▪ 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.

These factors are not exhaustive. New factors, risks and uncertainties may emerge from time to time 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. We disclaim any obligation to update the forward-looking statements made in this report.

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 3, 2020 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 the end of the period covered by this report, 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 3, 2020 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 3, 2021.

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 3, 2021 - January 30, 2021	78,658	$ 73.96	71,732	2,928,268
January 31, 2021 - February 27, 2021	35,414	75.70	23,991	2,904,277
February 28, 2021 - April 3, 2021	7,085	83.66	—	2,904,277
Total	121,157	$ 75.03	95,723	2,904,277

(1) Reflects purchases by the Moog Inc. Stock Employee Compensation Trust Agreement ("SECT") of shares of Class B common stock from the Employee Stock Purchase Plan ("ESPP"), the Moog Inc. Retirement Savings Plan ("RSP") and from equity-based compensation award recipients under right of first refusal terms at average prices as follows: 6,926 shares at $81.66 in January; 11,034 shares at $78.18 in February and 5,673 shares at $83.94 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 February, we accepted delivery of 285 Class A shares at $79.62 and 104 Class B shares at $81.78; In March, we accepted delivery of 870 Class A shares at $82.77 and 542 Class B shares at $82.12.

(3) On November 20, 2020 the Board of Directors approved a new share repurchase program, replacing its existing program. The new program authorizes repurchases 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. In January we purchased 71,732 Class A shares at an average price of $73.22 and 23,991 Class A shares in February at an average price of $74.49.

Item 6. Exhibits.

(a) Exhibits

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

In accordance with Rule 406T of Regulation S-T, the XBRL related information in Exhibit 101 to this Quarterly Report on Form 10-Q shall not be deemed to be “filed” for purposes of Section 18 of the Exchange Act, or otherwise subject to the liability of that section and shall not be part of any registration or other document filed under the Securities Act or the Exchange Act, except as shall be expressly set forth by specific reference in such filing.

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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 30, 2021	By	/s/ John R. Scannell
			John R. Scannell Chairman of the Board and Director Chief Executive Officer (Principal Executive Officer)
Date:	April 30, 2021	By	/s/ Jennifer Walter
			Jennifer Walter Vice President and Chief Financial Officer (Principal Financial Officer)
Date:	April 30, 2021	By	/s/ Michael J. Swope
			Michael J. Swope Controller (Principal Accounting Officer)