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

FORM 10-Q

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

For the quarterly period ended September 30, 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: 1-14303

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware	**38-3161171**
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)
One Dauch Drive, Detroit, Michigan	**48211-1198**
(Address of Principal Executive Offices)	(Zip Code)

(313) 758-2000
(Registrant's Telephone Number, Including Area Code)

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

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

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

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

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

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

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

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, par value $0.01 per share	AXL	New York Stock Exchange

As of November 2, 2021, the latest practicable date, the number of shares of the registrant's Common Stock, par value $0.01 per share, outstanding was 114,060,741 shares.

Internet Website Access to Reports

The website for American Axle & Manufacturing Holdings, Inc. is *www.aam.com*. Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13 or 15(d) of the Exchange Act are available free of charge through our website as soon as reasonably practicable after they are electronically filed with, or furnished to, the Securities and Exchange Commission (SEC). The SEC also maintains a website at www.sec.gov that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
FORM 10-Q
FOR THE QUARTER ENDED SEPTEMBER 30, 2021
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FORWARD-LOOKING STATEMENTS

In this Quarterly Report on Form 10-Q (Quarterly Report), we make statements concerning our expectations, beliefs, plans, objectives, goals, strategies, and future events or performance. Such statements are "forward-looking" statements within the meaning of the Private Securities Litigation Reform Act of 1995 and relate to trends and events that may affect our future financial position and operating results. The terms such as "will," "may," "could," "would," "plan," "believe," "expect," "anticipate," "intend," "project," "target," and similar words or expressions, as well as statements in future tense, are intended to identify forward-looking statements.

Forward-looking statements should not be read as a guarantee of future performance or results, and will not necessarily be accurate indications of the times at, or by, which such performance or results will be achieved. Forward-looking statements are based on information available at the time those statements are made and/or management's good faith belief as of that time with respect to future events and are subject to risks and may differ materially from those expressed in or suggested by the forward-looking statements. Important factors that could cause such differences include, but are not limited to:

- significant disruptions in production, sales and/or supply as a result of public health crises, including pandemic or epidemic illness such as Novel Coronavirus (COVID-19), or otherwise;
- global economic conditions;
- reduced purchases of our products by General Motors Company (GM), Stellantis N.V. (Stellantis), Ford Motor Company (Ford) or other customers;
- our ability to respond to changes in technology, increased competition or pricing pressures;
- our ability to develop and produce new products that reflect market demand;
- lower-than-anticipated market acceptance of new or existing products;
- our ability to attract new customers and programs for new products;
- reduced demand for our customers' products (particularly light trucks and sport utility vehicles (SUVs) produced by GM, Stellantis and Ford);
- risks inherent in our global operations (including tariffs and the potential consequences thereof to us, our suppliers, and our customers and their suppliers, adverse changes in trade agreements, such as United States-Mexico-Canada Agreement (USMCA), immigration policies, political stability, taxes and other law changes, potential disruptions of production and supply, and currency rate fluctuations);
- supply shortages, such as the semiconductor shortage that the automotive industry is currently experiencing, labor shortages, including increased labor costs, or price increases in raw material and/or freight, utilities or other operating supplies for us or our customers as a result of pandemics, natural disasters or otherwise;
- a significant disruption in operations at one or more of our key manufacturing facilities;
- negative or unexpected tax consequences;
- risks related to a failure of our information technology systems and networks, and risks associated with current and emerging technology threats and damage from computer viruses, unauthorized access, cyber attacks and other similar disruptions;
- availability of financing for working capital, capital expenditures, research and development (R&D) or other general corporate purposes including acquisitions, as well as our ability to comply with financial covenants;
- our customers' and suppliers' availability of financing for working capital, capital expenditures, R&D or other general corporate purposes;
- an impairment of our goodwill, other intangible assets, or long-lived assets if our business or market conditions indicate that the carrying values of those assets exceed their fair values;
- liabilities arising from warranty claims, product recall or field actions, product liability and legal proceedings to which we are or may become a party, or the impact of product recall or field actions on our customers;
- our ability or our customers' and suppliers' ability to successfully launch new product programs on a timely basis;
- risks of environmental issues, including impacts of climate-related events, that could result in unforeseen issues or costs at our facilities, or risks of noncompliance with environmental laws and regulations, including reputational damage;
- our ability to maintain satisfactory labor relations and avoid work stoppages;
- our suppliers', our customers' and their suppliers' ability to maintain satisfactory labor relations and avoid work stoppages;
- our ability to achieve the level of cost reductions required to sustain global cost competitiveness;
- our ability to realize the expected revenues from our new and incremental business backlog;
- price volatility in, or reduced availability of, fuel;
- our ability to protect our intellectual property and successfully defend against assertions made against us;
- adverse changes in laws, government regulations or market conditions affecting our products or our customers' products;
- our ability or our customers' and suppliers' ability to comply with regulatory requirements and the potential costs of such compliance;
- changes in liabilities arising from pension and other postretirement benefit obligations;
- our ability to attract and retain key associates; and
- other unanticipated events and conditions that may hinder our ability to compete.

It is not possible to foresee or identify all such factors and we make no commitment to update any forward-looking statement or to disclose any facts, events or circumstances after the date hereof that may affect the accuracy of any forward-looking statement.

PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	**2020**	**2021**	**2020**
	(in millions, except per share data)			
Net sales	**$ 1,213.1**	$ 1,414.1	**$ 3,921.5**	$ 3,272.9
Cost of goods sold	**1,047.5**	1,164.3	**3,338.8**	2,926.7
Gross profit	**165.6**	249.8	**582.7**	346.2
Selling, general and administrative expenses	**90.5**	66.5	**266.7**	230.6
Amortization of intangible assets	**21.4**	21.6	**64.3**	65.0
Impairment charges (Note 4)	**—**	—	**—**	510.0
Restructuring and acquisition-related costs	**7.4**	9.7	**40.8**	38.6
Loss on sale of business	**—**	—	**2.7**	1.0
Operating income (loss)	**46.3**	152.0	**208.2**	(499.0)
Interest expense	**(49.7)**	(53.9)	**(150.7)**	(160.0)
Interest income	**2.7**	3.4	**8.2**	9.2
Other income (expense)				
Debt refinancing and redemption costs	**(31.6)**	(5.2)	**(34.0)**	(6.7)
Unrealized gain on equity securities	**19.4**	—	**19.4**	—
Other expense, net	**(3.1)**	(1.6)	**(1.3)**	(3.8)
Income (loss) before income taxes	**(16.0)**	94.7	**49.8**	(660.3)
Income tax benefit	**(13.6)**	(22.5)	**(2.4)**	(63.1)
Net income (loss)	**$ (2.4)**	$ 117.2	**$ 52.2**	$ (597.2)
Net income attributable to noncontrolling interests	**—**	—	**—**	(0.1)
Net income (loss) attributable to AAM	**$ (2.4)**	$ 117.2	**$ 52.2**	$ (597.3)
Basic earnings (loss) per share	**$ (0.02)**	$ 0.99	**$ 0.44**	$ (5.28)
Diluted earnings (loss) per share	**$ (0.02)**	$ 0.99	**$ 0.44**	$ (5.28)

See accompanying notes to condensed consolidated financial statements.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	**2020**	**2021**	**2020**
		(in millions)		
Net income (loss)	**$ (2.4)**	$ 117.2	**$ 52.2**	$ (597.2)
Other comprehensive income (loss)				
Defined benefit plans, net of tax [(a)]	**2.2**	1.7	**6.5**	5.0
Foreign currency translation adjustments	**(9.6)**	14.0	**(8.4)**	(30.0)
Changes in cash flow hedges, net of tax [(b)]	**(1.8)**	6.7	**3.0**	(19.3)
Other comprehensive income (loss)	**(9.2)**	22.4	**1.1**	(44.3)
Comprehensive income (loss)	**$ (11.6)**	$ 139.6	**$ 53.3**	$ (641.5)
Net income attributable to noncontrolling interests	**—**	—	**—**	(0.1)
Foreign currency translation adjustments attributable to noncontrolling interests	**—**	—	**—**	0.3
Comprehensive income (loss) attributable to AAM	**$ (11.6)**	$ 139.6	**$ 53.3**	$ (641.3)

(a) Amounts are net of tax of $(0.6) million and $(1.7) million for the three and nine months ended September 30, 2021, and $(0.4) million and $(1.2) million for the three and nine months ended September 30, 2020, respectively.

(b) Amounts are net of tax of $(0.7) million and $(2.7) million for the three and nine months ended September 30, 2021, and $(0.2) million and $1.6 million for the three and nine months ended September 30, 2020, respectively.

See accompanying notes to condensed consolidated financial statements.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS

	September 30, 2021	December 31, 2020
	(Unaudited)	
Assets	*(in millions)*	
Current assets		
Cash and cash equivalents	**$ 500.7**	$ 557.0
Accounts receivable, net	**739.6**	793.2
Inventories, net	**417.9**	323.2
Prepaid expenses and other	**163.8**	203.6
Total current assets	**1,822.0**	1,877.0
Property, plant and equipment, net	**1,992.3**	2,163.8
Deferred income taxes	**126.5**	107.8
Goodwill	**184.1**	185.7
Other intangible assets, net	**717.7**	780.7
GM postretirement cost sharing asset	**233.9**	237.0
Operating lease right-of-use assets	**121.2**	116.6
Other assets and deferred charges	**444.8**	447.7
Total assets	**$ 5,642.5**	$ 5,916.3
Liabilities and Stockholders' Equity		
Current liabilities		
Current portion of long-term debt	**$ 14.6**	$ 13.7
Accounts payable	**605.0**	578.9
Accrued compensation and benefits	**197.4**	170.9
Deferred revenue	**25.7**	23.4
Current portion of operating lease liabilities	**24.4**	22.6
Accrued expenses and other	**136.1**	169.8
Total current liabilities	**1,003.2**	979.3
Long-term debt, net	**3,104.1**	3,441.3
Deferred revenue	**88.2**	91.0
Deferred income taxes	**15.1**	13.2
Long-term portion of operating lease liabilities	**97.6**	94.4
Postretirement benefits and other long-term liabilities	**901.5**	923.9
Total liabilities	**5,209.7**	5,543.1
Stockholders' equity		
Common stock, par value $0.01 per share; 150.0 million shares authorized;		
122.5 million shares issued as of September 30, 2021 and 121.3 million shares issued as of December 31, 2020	**1.3**	1.2
Paid-in capital	**1,346.5**	1,333.3
Accumulated deficit	**(267.6)**	(319.8)
Treasury stock at cost, 8.4 million shares as of September 30, 2021 and 8.0 million shares as of December 31, 2020	**(216.3)**	(212.0)
Accumulated other comprehensive loss		
Defined benefit plans, net of tax	**(304.5)**	(311.0)
Foreign currency translation adjustments	**(109.5)**	(101.1)
Unrecognized loss on cash flow hedges, net of tax	**(17.1)**	(20.1)
Total AAM stockholders' equity	**432.8**	370.5
Noncontrolling interests in subsidiaries	**—**	2.7
Total stockholders' equity	**432.8**	373.2
Total liabilities and stockholders' equity	**$ 5,642.5**	$ 5,916.3

See accompanying notes to condensed consolidated financial statements.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

	Nine Months Ended September 30,	
	2021	**2020**
	(in millions)	
Operating activities		
Net income (loss)	**$ 52.2**	$ (597.2)
Adjustments to reconcile net income (loss) to net cash provided by operating activities		
Depreciation and amortization	**421.2**	393.7
Impairment charges	**—**	510.0
Deferred income taxes	**(17.1)**	(38.4)
Stock-based compensation	**13.2**	14.4
Pensions and other postretirement benefits, net of contributions	**(9.3)**	(6.5)
Loss on sale of business	**2.7**	1.0
Loss on disposal of property, plant and equipment, net	**2.1**	16.4
Unrealized gain on equity securities	**(19.4)**	—
Debt refinancing and redemption costs	**34.0**	6.7
Changes in operating assets and liabilities		
Accounts receivable	**46.7**	(88.0)
Inventories	**(94.1)**	56.9
Accounts payable and accrued expenses	**37.0**	5.6
Deferred revenue	**3.3**	(6.6)
Other assets and liabilities	**(36.5)**	(21.6)
Net cash provided by operating activities	**436.0**	246.4
Investing activities		
Purchases of property, plant and equipment	**(115.8)**	(146.3)
Proceeds from sale of property, plant and equipment	**1.8**	1.6
Purchase buyouts of leased equipment	**—**	(0.1)
Proceeds (payments) for sale of business, net of cash divested	**0.9**	(4.4)
Acquisition of business (Note 14)	**(4.9)**	—
Proceeds from insurance claim (Note 15)	**23.1**	—
Net cash used in investing activities	**(94.9)**	(149.2)
Financing activities		
Proceeds from Revolving Credit Facility	**—**	350.0
Payments of Revolving Credit Facility	**—**	(350.0)
Proceeds from issuance of long-term debt	**622.7**	408.9
Payments of long-term debt	**(999.9)**	(482.2)
Debt issuance costs	**(9.2)**	(11.0)
Purchase of treasury stock	**(4.3)**	(2.7)
Other financing activities	**(3.5)**	(0.6)
Net cash used in financing activities	**(394.2)**	(87.6)
Effect of exchange rate changes on cash	**(3.2)**	(4.3)
Net increase (decrease) in cash and cash equivalents	**(56.3)**	5.3
Cash and cash equivalents at beginning of period	**557.0**	532.0
Cash and cash equivalents at end of period	**$ 500.7**	$ 537.3
Supplemental cash flow information		
Interest paid	**$ 153.5**	$ 138.0
Income taxes paid (refunds received), net	**$ 17.8**	$ (5.2)
Non-cash investing activities: Deferred consideration for acquisition of business	**$ 10.0**	$ —

See accompanying notes to condensed consolidated financial statements.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(Unaudited)

	Common Stock					Accumulated	Noncontrolling
	Shares Outstanding	Par Value	Paid-in Capital	Retained Earnings (Accumulated Deficit)	Treasury Stock	Other Comprehensive Income (Loss)	Interest in Subsidiaries
				(in millions)			
Balance at January 1, 2020	112.6	$ 1.2	$ 1,313.9	$ 248.6	$ (209.3)	$ (376.8)	$ 2.8
Net income (loss)	—	—	—	(501.3)	—	—	0.1
Vesting of restricted stock units and performance shares	0.8	—	—	—	—	—	—
Stock-based compensation	—	—	4.6	—	—	—	—
Modified-retrospective application of ASU 2016-13	—	—	—	(7.1)	—	—	—
Purchase of treasury stock	(0.4)	—	—	—	(2.4)	—	—
Changes in cash flow hedges	—	—	—	—	—	(34.7)	—
Foreign currency translation adjustments	—	—	—	—	—	(48.5)	(0.3)
Defined benefit plans, net	—	—	—	—	—	1.6	—
Balance at March 31, 2020	113.0	$ 1.2	$ 1,318.5	$ (259.8)	$ (211.7)	$ (458.4)	$ 2.6
Net loss	—	—	—	(213.2)	—	—	—
Vesting of restricted stock units and performance shares	0.3	—	—	—	—	—	—
Stock-based compensation	—	—	4.7	—	—	—	—
Purchase of treasury stock	—	—	—	—	(0.3)	—	—
Changes in cash flow hedges	—	—	—	—	—	8.7	—
Foreign currency translation adjustments	—	—	—	—	—	4.8	—
Defined benefit plans, net	—	—	—	—	—	1.7	—
Balance at June 30, 2020	113.3	$ 1.2	$ 1,323.2	$ (473.0)	$ (212.0)	$ (443.2)	$ 2.6
Net income	—	—	—	117.2	—	—	—
Stock-based compensation	—	—	5.1	—	—	—	—
Changes in cash flow hedges	—	—	—	—	—	6.7	—
Foreign currency translation adjustments	—	—	—	—	—	14.0	—
Defined benefit plans, net	—	—	—	—	—	1.7	—
Balance at September 30, 2020	113.3	$ 1.2	$ 1,328.3	$ (355.8)	$ (212.0)	$ (420.8)	$ 2.6

	Common Stock					Accumulated	Noncontrolling
	Shares Outstanding	Par Value	Paid-in Capital	Retained Earnings (Accumulated Deficit)	Treasury Stock	Other Comprehensive Income (Loss)	Interest in Subsidiaries
				(in millions)			
Balance at January 1, 2021	**113.3**	**$ 1.2**	**$ 1,333.3**	**$ (319.8)**	**$ (212.0)**	**$ (432.2)**	**$ 2.7**
Net income	—	—	—	**38.6**	—	—	—
Vesting of restricted stock units and performance shares	**1.0**	**0.1**	—	—	—	—	—
Stock-based compensation	—	—	**5.3**	—	—	—	—
Purchase of treasury stock	**(0.4)**	—	—	—	**(4.0)**	—	—
Changes in cash flow hedges	—	—	—	—	—	**(0.3)**	—
Foreign currency translation adjustments	—	—	—	—	—	**(11.0)**	—
Defined benefit plans, net	—	—	—	—	—	**2.1**	—
Sale of business (Note 14)	—	—	—	—	—	—	**(2.7)**
Balance at March 31, 2021	**113.9**	**$ 1.3**	**$ 1,338.6**	**$ (281.2)**	**$ (216.0)**	**$ (441.4)**	**$ —**
Net income	—	—	—	**16.0**	—	—	—
Vesting of restricted stock units and performance shares	**0.2**	—	—	—	—	—	—
Stock-based compensation	—	—	**4.7**	—	—	—	—
Purchase of treasury stock	—	—	—	—	**(0.2)**	—	—
Changes in cash flow hedges	—	—	—	—	—	**5.1**	—
Foreign currency translation adjustments	—	—	—	—	—	**12.2**	—
Defined benefit plans, net	—	—	—	—	—	**2.2**	—
Balance at June 30, 2021	**114.1**	**$ 1.3**	**$ 1,343.3**	**$ (265.2)**	**$ (216.2)**	**$ (421.9)**	**$ —**
Net loss	—	—	—	**(2.4)**	—	—	—
Stock-based compensation	—	—	**3.2**	—	—	—	—
Purchase of treasury stock	—	—	—	—	**(0.1)**	—	—
Changes in cash flow hedges	—	—	—	—	—	**(1.8)**	—
Foreign currency translation adjustments	—	—	—	—	—	**(9.6)**	—
Defined benefit plans, net	—	—	—	—	—	**2.2**	—
Balance at September 30, 2021	**114.1**	**$ 1.3**	**$ 1,346.5**	**$ (267.6)**	**$ (216.3)**	**$ (431.1)**	**$ —**

See accompanying notes to condensed consolidated financial statements.

1. ORGANIZATION AND BASIS OF PRESENTATION

Organization We are a global Tier 1 supplier to the automotive industry. We design, engineer and manufacture driveline and metal forming technologies that are making the next generation of vehicles smarter, lighter, safer and more efficient. We employ approximately 20,000 associates, operating at nearly 80 facilities in 17 countries, to support our customers on global and regional platforms with a continued focus on delivering quality, operational excellence and technology leadership.

Basis of Presentation We have prepared the accompanying interim condensed consolidated financial statements in accordance with the instructions to Form 10-Q under the Securities Exchange Act of 1934. These condensed consolidated financial statements are unaudited but include all normal recurring adjustments, which we consider necessary for a fair presentation of the information set forth herein. Results of operations for the periods presented are not necessarily indicative of the results for the full fiscal year.

The balance sheet at December 31, 2020 presented herein has been derived from the audited consolidated financial statements at that date but does not include all of the information and footnotes required by accounting principles generally accepted in the United States of America (GAAP) for complete consolidated financial statements.

In order to prepare the accompanying interim condensed consolidated financial statements, we are required to make estimates and assumptions that affect the reported amounts and disclosures in our interim condensed consolidated financial statements. These estimates and assumptions are impacted by risks and uncertainties, including those associated with the Novel Coronavirus (COVID-19) pandemic and the semiconductor supply shortage that is impacting the automotive industry. While we have made estimates and assumptions based on the facts and circumstances available as of the date of this report, the full impact of COVID-19 and the semiconductor shortage cannot be predicted, and actual results could differ materially from those estimates and assumptions.

For further information, refer to the audited consolidated financial statements and notes included in our Annual Report on Form 10-K for the year ended December 31, 2020.

Commencement of Lease of European Headquarters and Engineering Center (EHEC)

In the first quarter of 2021, the lease of our new EHEC in Langen, Germany commenced. This lease has a term of 20 years and is classified as a finance lease. We recognized a right-of-use (ROU) asset and finance lease liability of approximately $49 million upon commencement of this lease. The ROU asset is presented in Property, plant and equipment, net and the finance lease liability is presented in Accrued expenses and other (current portion), and Postretirement benefits and other long-term liabilities (long-term portion) in our Condensed Consolidated Balance Sheet at September 30, 2021.

Leases Not Yet Commenced

As of September 30, 2021, we have entered into an additional lease that has not commenced of approximately $40 million, for a lease of a facility in the United States, which has a term of 15 years. This lease is expected to commence in the fourth quarter of 2021 and is expected to be classified as a finance lease.

Effect of New Accounting Standards and Other Regulatory Pronouncements

Accounting Standard Update 2020-04

On March 12, 2020, the Financial Accounting Standards Board (FASB) issued Accounting Standard Update (ASU) 2020-04 - *Reference Rate Reform (Topic 848),* and has subsequently issued ASU 2021-01 - *Reference Rate Reform (Topic 848)*. This guidance provides optional expedients and exceptions that are intended to ease the burden of updating contracts to contain a new reference rate due to the discontinuation of the London Inter-Bank Offered Rate (LIBOR). This guidance is available immediately and may be implemented in any period prior to the guidance expiration on December 31, 2022. We expect to utilize certain of the optional expedients and exceptions available under ASU 2020-04 and ASU 2021-01 and we do not expect the adoption of this guidance to have a material impact on our financial statements.

Accounting Standard Update 2019-12

On December 18, 2019, the FASB issued ASU 2019-12 - *Income Taxes (Topic 740)*. This guidance is intended to simplify the accounting and disclosure requirements for income taxes by removing various exceptions and requires that the effect of an enacted change in tax laws or rates on current tax expense be included in the annual effective tax rate computation in the interim period of the enactment. This guidance became effective and we adopted this guidance on January 1, 2021. The adoption of this guidance did not have a material impact on our consolidated financial statements.

Coronavirus Aid, Relief, and Economic Security Act

The Coronavirus Aid, Relief, and Economic Security Act (the CARES Act) was enacted on March 27, 2020 in the United States. The key provisions of the CARES Act, as they remain applicable to AAM, include the following:

- The ability to use net operating losses (NOLs) to offset income without the 80% taxable income limitation enacted as part of the Tax Cuts and Jobs Act (TCJA) of 2017, and to carry back NOLs to offset prior year income for five years. These are temporary provisions that apply to NOLs incurred in 2018, 2019 or 2020 tax years. We recognized a tax benefit of $5.2 million during the nine months ended September 30, 2021 and $14.4 million for the year ended December 31, 2020 related to our ability to carry back prior year losses, as well as projected current year losses, under the CARES Act to years with the previous 35% tax rate. We received an income tax refund of approximately $6.0 million during the first quarter of 2021 as a result of this provision of the CARES Act.
- The ability to defer the payment of the employer portion of social security taxes incurred between March 27, 2020 and December 31, 2020, with 50% of the deferred amount to be paid by December 31, 2021 and the remaining 50% to be paid by December 31, 2022. At September 30, 2021, we had deferred $15.2 million of social security taxes, 50% of which will be paid in the fourth quarter of 2021 and the remainder to be paid in the fourth quarter of 2022.
- The ability to claim an Employee Retention Credit (ERC), which is a refundable payroll tax credit, for 50% of qualified wages or benefits, subject to certain limitations, that are paid to an employee when they are not providing services due to COVID-19. The ERC applied to qualified wages paid or incurred during the period March 13, 2020 through December 31, 2020 and was available to eligible employers whose operations were fully or partially suspended due to COVID-19, or whose gross receipts declined by more than 50% when compared to the applicable period in the prior year. At September 30, 2021, we have a refundable ERC amount of $6.3 million included in Prepaid expenses and other in our Condensed Consolidated Balance Sheet.

2. RESTRUCTURING AND ACQUISITION-RELATED COSTS

In the first quarter of 2020, we initiated a new global restructuring program (the 2020 Program). The primary objectives of the 2020 Program are to achieve efficiencies within our corporate and business unit support teams to reduce cost in our business, and to structurally adjust our operations based on the impact of COVID-19. We expect to incur costs under the 2020 Program into 2022.

A summary of our restructuring activity for the first nine months of 2021 and 2020 is shown below:

	Severance Charges	Implementation Costs	Total
		(in millions)	
Accrual at December 31, 2019	$ 4.8	$ 7.4	$ 12.2
Charges	19.9	11.9	31.8
Cash utilization	(19.9)	(11.0)	(30.9)
Accrual at September 30, 2020	$ 4.8	$ 8.3	$ 13.1
Accrual at December 31, 2020	**$ 1.7**	**$ 9.8**	**$ 11.5**
Charges	**2.7**	**33.2**	**35.9**
Cash utilization	**(3.9)**	**(39.7)**	**(43.6)**
Accrual at September 30, 2021	**$ 0.5**	**$ 3.3**	**$ 3.8**

As part of our restructuring actions, we incurred total severance charges of approximately $2.7 million and $19.9 million during the nine months ended September 30, 2021 and 2020, respectively. We also incurred total implementation costs of approximately $33.2 million and $11.9 million during the nine months ended September 30, 2021 and 2020, respectively. Implementation costs consist primarily of professional fees and plant exit costs.

Substantially all of the restructuring costs incurred during the nine months ended September 30, 2021 were under the 2020 Program. Approximately $3.9 million and $3.1 million of our total restructuring costs for the nine months ended September 30, 2021 related to our Driveline and Metal Forming segments, respectively, while the remainder were corporate costs. Approximately $14.4 million and $13.1 million of our total restructuring costs for the nine months ended September 30, 2020 related to our Driveline and Metal Forming segments, respectively, while the remainder were corporate costs. We expect to incur approximately $45 million to $55 million of total restructuring charges in 2021, substantially all of which are expected to be under the 2020 Program.

During the nine months ended September 30, 2021 we completed our acquisition of a manufacturing facility in Emporium, Pennsylvania, and we continue to incur integration costs related to our acquisition of MPG. The following table represents a summary of charges incurred in the nine months ended September 30, 2021 and 2020 associated with acquisition and integration costs:

	Acquisition-Related Costs	Integration Expenses	Total
		(in millions)	
Charges for the nine months ended September 30, 2021	**$ 0.3**	**$ 4.6**	**$ 4.9**
Charges for the nine months ended September 30, 2020	—	6.8	6.8

Acquisition-related costs primarily consist of valuation fees incurred. Integration expenses primarily reflect costs incurred for information technology infrastructure and enterprise resource planning systems. Total restructuring charges and acquisition-related charges are presented on a separate line item titled Restructuring and acquisition-related costs in our Condensed Consolidated Statements of Operations, and totaled $7.4 million and $40.8 million for the three and nine months ended September 30, 2021, respectively, and $9.7 million and $38.6 million for the three and nine months ended September 30, 2020, respectively.

3. INVENTORIES

We state our inventories at the lower of cost or net realizable value. The cost of our inventories is determined using the first-in first-out method. When we determine that our gross inventories exceed usage requirements, or if inventories become obsolete or otherwise not saleable, we record a provision for such loss as a component of our inventory accounts.

Inventories consist of the following:

	September 30, 2021	December 31, 2020
	(in millions)	
Raw materials and work-in-progress	**$ 352.9**	$ 276.2
Finished goods	**87.5**	70.4
Gross inventories	**440.4**	346.6
Inventory valuation reserves	**(22.5)**	(23.4)
Inventories, net	**$ 417.9**	$ 323.2

4. GOODWILL AND OTHER INTANGIBLE ASSETS

Goodwill The following table provides a reconciliation of changes in goodwill for the nine months ended September 30, 2021:

	Consolidated
	(in millions)
Balance at December 31, 2020	**$ 185.7**
Foreign currency translation	**(1.6)**
Balance at September 30, 2021	**$ 184.1**

We conduct our annual goodwill impairment test in the fourth quarter of each year, as well as whenever adverse events or changes in circumstances indicate a possible impairment. In performing this test, we utilize a third-party valuation specialist to assist management in determining the fair value of our reporting units. Fair value of each reporting unit is estimated based on a combination of discounted cash flows and the use of pricing multiples derived from an analysis of comparable public companies multiplied against historical and/or anticipated financial metrics of each reporting unit. These calculations contain uncertainties as they require management to make assumptions including, but not limited to, market comparables, future cash flows of the reporting units, and appropriate discount and long-term growth rates. This fair value determination is categorized as Level 3 within the fair value hierarchy.

In the first quarter of 2020, the reduction in global automotive production volumes caused by the impact of COVID-19 represented an indicator to test our goodwill for impairment. This reduction in production volumes began in March of 2020 and resulted in lower forecasted sales volumes in the periods included in our long-range plan as revised in the first quarter of 2020.

As a result of this goodwill impairment test in the first quarter of 2020, we determined that the carrying values of both our Driveline and Metal Forming reporting units were greater than their respective fair values. As such, we recorded a goodwill impairment charge of $510.0 million in the first quarter of 2020, of which $210.8 million was associated with our Driveline reporting unit and $299.2 million was associated with our Metal Forming reporting unit. The Metal Forming impairment charge represented a full impairment of the goodwill associated with that reporting unit. As a result, all remaining goodwill is attributable to our Driveline reporting unit.

These impairment charges were primarily the result of a decline in the projected cash flows of these reporting units under our revised long-range plan completed in the first quarter of 2020. The revision to our long-range plan was driven by lower forecasted sales volumes in the internal and external data sources used to form our projections primarily due to the reduction in global automotive production volumes caused by the impact of COVID-19. The impairment charges were also the result of changes in certain market-related inputs to the analysis to reflect macro-economic changes caused by the impact of COVID-19, including increased discount rates and lower pricing multiples for comparable public companies. At September 30, 2021, accumulated goodwill impairment losses were $1,435.5 million.

The reduction in production volumes and changes to macro-economic factors caused by the impact of COVID-19 also represented an indicator to test our long-lived assets, including other intangible assets and property, plant and equipment, for impairment. We completed this test in the first quarter of 2020 and there was no impairment of these assets.

Other Intangible Assets The following table provides a reconciliation of the gross carrying amount and associated accumulated amortization for AAM's other intangible assets, which are all subject to amortization:

	September 30, 2021			December 31, 2020		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
			(in millions)			
Capitalized computer software	**$ 48.9**	**$ (38.2)**	**$ 10.7**	$ 47.6	$ (33.9)	$ 13.7
Customer platforms	**856.2**	**(285.4)**	**570.8**	856.2	(237.9)	618.3
Customer relationships	**53.0**	**(15.4)**	**37.6**	53.0	(12.8)	40.2
Technology and other	**156.3**	**(57.7)**	**98.6**	156.7	(48.2)	108.5
Total	**$ 1,114.4**	**$ (396.7)**	**$ 717.7**	$ 1,113.5	$ (332.8)	$ 780.7

Amortization expense for our intangible assets was $21.4 million and $64.3 million for the three and nine months ended September 30, 2021, respectively, and $21.6 million and $65.0 million for the three and nine months ended September 30, 2020, respectively. Estimated amortization expense for the years 2021 through 2025 is expected to be in the range of approximately $80 million to $85 million per year.

5. LONG-TERM DEBT

Long-term debt consists of the following:

	September 30, 2021	December 31, 2020
	(in millions)	
Revolving Credit Facility	**$ —**	$ —
Term Loan A Facility due 2024	**301.8**	323.0
Term Loan B Facility due 2024	**850.0**	1,088.8
6.875% Notes due 2028	**400.0**	400.0
6.50% Notes due 2027	**500.0**	500.0
6.25% Notes due 2026	**400.0**	400.0
6.25% Notes due 2025	**—**	700.0
5.00% Notes due 2029	**600.0**	—
Foreign credit facilities and other	**102.2**	88.8
Total debt	**3,154.0**	3,500.6
Less: Current portion of long-term debt	**14.6**	13.7
Long-term debt	**3,139.4**	3,486.9
Less: Debt issuance costs	**35.3**	45.6
Long-term debt, net	**$ 3,104.1**	$ 3,441.3

Senior Secured Credit Facilities In 2017, American Axle & Manufacturing Holdings, Inc. (Holdings) and American Axle & Manufacturing, Inc. (AAM, Inc.) entered into a credit agreement (the Credit Agreement). In connection with the Credit Agreement, Holdings, AAM, Inc. and certain of their restricted subsidiaries entered into a Collateral Agreement and Guarantee Agreement with the financial institutions party thereto. The Credit Agreement, as amended in July 2019 (First Amendment), includes a $340 million term loan A facility (the Term Loan A Facility due 2024), a $1.55 billion term loan B facility (the Term Loan B Facility due 2024) and a $925 million multi-currency revolving credit facility (the Revolving Credit Facility, and together with the Term Loan A Facility due 2024 and the Term Loan B Facility due 2024, the Senior Secured Credit Facilities). The Term Loan A Facility due 2024 and the Term Loan B Facility due 2024 have been paid down from the original amounts through both scheduled and voluntary payments. There are no current maturities under the Term Loan A due 2024 and there are no scheduled payments under the Term Loan B due 2024 until maturity.

In April 2020, Holdings, AAM, Inc., and certain subsidiaries of Holdings entered into the Second Amendment (Second Amendment) to the Credit Agreement. For the period from April 1, 2020 through March 31, 2022 (the Amendment Period), the Second Amendment, among other things, replaced the total net leverage ratio covenant with a new senior secured net leverage ratio covenant, reduced the minimum levels of the cash interest expense coverage ratio covenant, and modified certain covenants restricting the ability of Holdings, AAM and certain subsidiaries of Holdings to create, incur, assume or permit to exist certain additional indebtedness and liens and to make certain restricted payments, voluntary payments and distributions. The Second Amendment also increased the maximum levels of the total net leverage ratio covenant after the Amendment Period, modified the applicable margin with respect to interest rates under the Term Loan A Facility due 2024 and interest rates and commitment fees under the Revolving Credit Facility, and increased the minimum adjusted London Interbank Offered Rate for Eurodollar-based loans under the Term Loan A Facility due 2024 and Revolving Credit Facility. The applicable margin for the Term Loan B Facility remains unchanged. We paid debt issuance costs of $4.6 million in the nine months ended September 30, 2020 related to the Second Amendment.

In June 2021, Holdings, AAM, Inc., and certain subsidiaries of Holdings entered into an agreement (the Agreement) amending the Second Amendment to the Credit Agreement. For the Amendment Period, the Agreement modified a covenant in the Second Amendment restricting the ability of Holdings, AAM and certain subsidiaries of Holdings to make certain voluntary payments and distributions of, or in respect of, certain senior unsecured notes of AAM during the Amendment Period, which modification permits voluntary payments and redemptions of the 6.25% senior notes due 2025 issued by AAM.

In the first quarter of 2021, we made a voluntary prepayment of $100.0 million on our Term Loan B Facility due 2024 and $4.3 million on our Term Loan A Facility due 2024. As a result, we expensed approximately $1.1 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of these borrowings.

In the second quarter of 2021, we made voluntary prepayments totaling $138.8 million on our Term Loan B Facility due 2024 and $4.2 million on our Term Loan A Facility due 2024. As a result, we expensed approximately $1.3 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of these borrowings.

In the third quarter of 2021, we made a voluntary prepayment of $12.7 million on our Term Loan A Facility due 2024. As a result, we expensed approximately $0.1 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of this borrowing.

At September 30, 2021, we had $895.2 million available under the Revolving Credit Facility. This availability reflects a reduction of $29.8 million for standby letters of credit issued against the facility. The proceeds of the Revolving Credit Facility are used for general corporate purposes.

The Senior Secured Credit Facilities provide back-up liquidity for our foreign credit facilities. We intend to use the availability of long-term financing under the Senior Secured Credit Facilities to refinance any current maturities related to such debt agreements that are not otherwise refinanced on a long-term basis in their local markets, except where otherwise reclassified to Current portion of long-term debt on our Condensed Consolidated Balance Sheet.

5.00% Notes due 2029 In the third quarter of 2021, we issued $600 million in aggregate principal amount of 5.00% senior notes due 2029 (the 5.00% Notes). Proceeds from the 5.00% Notes were used to fund the redemption of the remaining $600 million of 6.25% senior notes due 2025 described below. We paid debt issuance costs of $9.2 million in the nine months ended September 30, 2021 related to the 5.00% Notes.

Redemption of 6.25% Notes due 2025 In July of 2021, we voluntarily redeemed a portion of our 6.25% Notes due 2025. This resulted in a principal payment of $100 million and $1.8 million in accrued interest. We also expensed approximately $1.4 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately $3.1 million for the payment of an early redemption premium.

In September of 2021, we voluntarily redeemed the remaining portion of our 6.25% Notes due 2025. This resulted in a principal payment of $600 million and $17.6 million in accrued interest. We also expensed approximately $8.2 million for the write-off of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately $18.8 million for the payment of an early redemption premium.

6.875% Notes due 2028 In the second quarter of 2020, we issued $400 million in aggregate principal amount of 6.875% senior notes due 2028 (the 6.875% Notes). Proceeds from the 6.875% Notes were used primarily to fund the redemption of the remaining $350 million of 6.625% senior notes due 2022 described below and for general corporate purposes. We paid debt issuance costs of $6.4 million in the nine months ended September 30, 2020 related to the 6.875% Notes.

Redemption of 6.625% Notes due 2022 In the first quarter of 2020, we voluntarily redeemed a portion of our 6.625% Notes due 2022. This resulted in a principal payment of $100.0 million and $2.0 million in accrued interest. We also expensed approximately $0.4 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately $1.1 million for an early redemption premium.

In the third quarter of 2020, we voluntarily redeemed the remaining portion of our 6.625% Notes due 2022. This resulted in a principal payment of $350 million and $5.7 million in accrued interest. We also expensed approximately $1.3 million for the write-off of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately $3.9 million for the payment of an early redemption premium.

Foreign credit facilities We utilize local currency credit facilities to finance the operations of certain foreign subsidiaries. At September 30, 2021, $102.2 million was outstanding under our foreign credit facilities, as compared to $88.8 million at December 31, 2020. At September 30, 2021, an additional $62.3 million was available under our foreign credit facilities.

Weighted-Average Interest Rate The weighted-average interest rate of our long-term debt outstanding was 5.6% at September 30, 2021 and 5.8% at December 31, 2020.

6. DERIVATIVES

Our business and financial results are affected by fluctuations in global financial markets, including interest rates and currency exchange rates. Our hedging policy has been developed to manage these risks to an acceptable level based on management's judgment of the appropriate trade-off between risk, opportunity and cost. We do not hold financial instruments for trading or speculative purposes.

Currency derivative contracts From time to time, we use foreign currency forward contracts to reduce the effects of fluctuations in exchange rates relating to certain foreign currencies. As of September 30, 2021 and December 31, 2020, we had currency forward contracts outstanding with a total notional amount of $167.3 million and $178.2 million, respectively, that hedge our exposure to changes in foreign currency exchange rates for certain payroll expenses into the second quarter of 2024 and the purchase of certain direct and indirect inventory and other working capital items into the second quarter of 2022.

Fixed-to-fixed cross-currency swap In 2019, we entered into a fixed-to-fixed cross-currency swap to reduce the variability of functional currency equivalent cash flows associated with changes in exchange rates on certain Euro-based intercompany loans. In the first quarter of 2020, we discontinued this fixed-to-fixed cross-currency swap, which was in an asset position of $9.8 million on the date that it was discontinued.

Also in the first quarter of 2020, we entered into a new fixed-to-fixed cross-currency swap to reduce the variability of functional currency equivalent cash flows associated with changes in exchange rates on certain Euro-based intercompany loans. The notional amount of the fixed-to-fixed cross-currency swap is €200.0 million, which was equivalent to $231.5 million and $244.2 million at September 30, 2021 and December 31, 2020, respectively. The fixed-to-fixed cross-currency swap hedges our exposure to changes in exchange rates on the intercompany loans into the second quarter of 2024.

Variable-to-fixed interest rate swap In 2019, we entered into a variable-to-fixed interest rate swap to reduce the variability of cash flows associated with interest payments on our variable rate debt. We have the following notional amounts hedged in relation to our variable-to-fixed interest rate swap: $750.0 million through May 2022, $600.0 million through May 2023 and $500.0 million through May 2024.

The following table summarizes the reclassification of pre-tax derivative gains and losses into net income (loss) from accumulated other comprehensive income (loss) for those derivative instruments designated as cash flow hedges under ASC 815 - *Derivatives and Hedging*:

	Location of Gain (Loss) Reclassified into Net Income	Gain (Loss) Reclassified During Three Months Ended September 30, 2021	Gain (Loss) Reclassified During Three Months Ended September 30, 2020	Gain (Loss) Reclassified During Nine Months Ended September 30, 2021	Gain (Loss) Reclassified During Nine Months Ended September 30, 2020	Total of Financial Statement Line Item 2021	Gain (Loss) Expected to be Reclassified During the Next 12 Months
				(in millions)			
Currency forward contracts	Cost of Goods Sold	**$ 1.1**	$ (1.3)	**$ 5.2**	$ (2.3)	**$ 3,338.8**	**$ 1.1**
Fixed-to-fixed cross-currency swap	Other Income (Expense), net	**6.0**	(9.3)	**14.0**	(9.3)	**(1.3)**	**1.7**
Variable-to-fixed interest rate swap	Interest Expense	**(3.5)**	(4.1)	**(11.4)**	(10.1)	**(150.7)**	**(12.5)**

See Note 12 - Reclassifications Out of Accumulated Other Comprehensive Income (Loss) (AOCI) for amounts recognized in other comprehensive income (loss) during the three and nine months ended September 30, 2021 and 2020.

The following table summarizes the amount and location of gains and losses recognized in the Condensed Consolidated Statements of Operations for those derivative instruments not designated as hedging instruments under ASC 815:

		Gain (Loss) Recognized During				Total of Financial
	Location of Gain (Loss)	Three Months Ended		Nine Months Ended		Statement Line
	Recognized in	September 30,		September 30,		Item
	Net Income	2021	2020	2021	2020	2021
				(in millions)		
Currency forward contracts	Cost of Goods Sold	**$ —**	$ 0.9	**$ —**	$ (6.7)	**$ 3,338.8**
Currency forward contracts	Other Income (Expense), net	**(0.5)**	—	**(0.1)**	(0.5)	**(1.3)**

7. FAIR VALUE

ASC 820 - *Fair Value Measurement* defines fair value 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." The definition is based on an exit price rather than an entry price, regardless of whether the entity plans to hold or sell the asset. This guidance also establishes a fair value hierarchy to prioritize inputs used in measuring fair value as follows:

- Level 1: Observable inputs such as quoted prices in active markets;
- Level 2: Inputs, other than quoted prices in active markets, that are observable either directly or indirectly; and
- Level 3: Unobservable inputs in which there is little or no market data, which require the reporting entity to develop its own assumptions.

Financial instruments The estimated carrying value of our financial assets and liabilities that are recognized at fair value on a recurring basis, using available market information and other observable data, are as follows:

	September 30, 2021	December 31, 2020	
	Fair Value	Fair Value	Input
	(in millions)		
Balance Sheet Classification			
Cash equivalents	**$ 238.3**	$ 206.7	Level 1
Prepaid expenses and other			
Cash flow hedges - currency forward contracts	**2.0**	5.8	Level 2
Cash flow hedges - variable-to-fixed interest rate swap	**3.4**	4.9	Level 2
Nondesignated - currency forward contracts	**—**	0.2	Level 2
Other assets and deferred charges			
Cash flow hedges - currency forward contracts	**1.2**	3.3	Level 2
Cash flow hedges - variable-to-fixed interest rate swap	**4.3**	8.6	Level 2
Investment in equity securities	**22.4**	—	Level 1
Accrued expenses and other			
Cash flow hedges - currency forward contracts	**0.9**	0.1	Level 2
Cash flow hedges - variable-to-fixed interest rate swap	**13.4**	17.8	Level 2
Postretirement benefits and other long-term liabilities			
Cash flow hedges - currency forward contracts	**0.9**	0.1	Level 2
Cash flow hedges - fixed-to-fixed cross-currency swap	**7.1**	20.6	Level 2
Cash flow hedges - variable-to-fixed interest rate swap	**18.8**	32.1	Level 2

The carrying values of our cash, accounts receivable, accounts payable and accrued liabilities approximate their fair values due to the short-term maturities of these instruments. The carrying values of our borrowings under the foreign credit facilities approximate their fair value due to the frequent resetting of the interest rates.

We have an investment in the equity securities of REE Automotive, an e-mobility company that completed a merger with a Special Purpose Acquisition Company in the third quarter of 2021 and became a publicly traded entity. These equity securities are measured at fair value each reporting period with changes in fair value reported through an unrealized gain or loss within Other income (expense), net in our Condensed Consolidated Statement of Operations. As of September 30, 2021, our investment in REE shares was valued at $22.4 million based on a closing price on that date of $4.54 per share. We are subject to a customary restriction on transferring our shares of REE Automotive until January 2022.

We estimated the fair value of the amounts outstanding on our debt using available market information and other observable data, to be as follows:

	September 30, 2021		December 31, 2020		
	Carrying Amount	Fair Value	Carrying Amount	Fair Value	Input
	(in millions)				
Revolving Credit Facility	**$ —**	**$ —**	$ —	$ —	Level 2
Term Loan A Facility due 2024	**301.8**	**298.7**	323.0	318.6	Level 2
Term Loan B Facility due 2024	**850.0**	**847.9**	1,088.8	1,071.1	Level 2
6.875% Notes due 2028	**400.0**	**424.0**	400.0	426.0	Level 2
6.50% Notes due 2027	**500.0**	**520.0**	500.0	523.8	Level 2
6.25% Notes due 2026	**400.0**	**412.0**	400.0	411.0	Level 2
6.25% Notes due 2025	**—**	**—**	700.0	724.3	Level 2
5.00% Notes due 2029	**600.0**	**583.5**	—	—	Level 2

8. EMPLOYEE BENEFIT PLANS

The components of net periodic benefit cost (credit) are as follows:

	Pension Benefits			
	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
	(in millions)			
Service cost	**$ 0.5**	$ 0.5	**$ 1.5**	$ 1.5
Interest cost	**4.4**	5.4	**13.0**	16.2
Expected asset return	**(9.7)**	(9.6)	**(29.1)**	(28.9)
Amortized loss	**2.7**	2.1	**8.1**	6.4
Net periodic benefit credit	**$ (2.1)**	$ (1.6)	**$ (6.5)**	$ (4.8)

	Other Postretirement Benefits			
	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
	(in millions)			
Service cost	**$ —**	$ 0.1	**$ 0.2**	$ 0.3
Interest cost	**2.1**	2.6	**6.3**	7.7
Amortized loss	**0.4**	0.3	**1.2**	0.8
Amortized prior service credit	**(0.3)**	(0.4)	**(1.1)**	(1.2)
Net periodic benefit cost	**$ 2.2**	$ 2.6	**$ 6.6**	$ 7.6

The noncurrent liabilities associated with our pension and other postretirement benefit plans are classified as Postretirement benefits and other long-term liabilities on our Condensed Consolidated Balance Sheets. As of September 30, 2021 and December 31, 2020, we have a noncurrent pension liability of $125.0 million and $141.2 million, respectively. As of September 30, 2021 and December 31, 2020, we have a noncurrent other postretirement benefits liability of $549.8 million and $556.7 million, respectively.

Due to the availability of our pre-funded pension balances (previous contributions in excess of prior required pension contributions), we expect our regulatory pension funding requirements in 2021 to be less than $1 million. We expect our cash payments for other postretirement benefit obligations in 2021, net of GM cost sharing, to be approximately $17 million.

9. PRODUCT WARRANTIES

We record a liability for estimated warranty obligations at the dates our products are sold. These estimates are established using sales volumes and internal and external warranty data where there is no payment history and historical information about the average cost of warranty claims for customers with prior claims. We estimate our costs based on the contractual arrangements with our customers, existing customer warranty terms and internal and external warranty data, which includes a determination of our warranty claims and actions taken to improve product quality and minimize warranty claims. We continuously evaluate these estimates and our customers' administration of their warranty programs. We monitor actual warranty claim data and adjust the liability, as necessary, on a quarterly basis.

The following table provides a reconciliation of changes in the product warranty liability:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	**2020**	**2021**	**2020**
	(in millions)			
Beginning balance	**$ 64.3**	$ 63.9	**$ 66.7**	$ 62.0
Accruals	**5.7**	4.4	**14.1**	9.2
Payments	**(11.7)**	(3.8)	**(14.3)**	(5.8)
Adjustment to prior period accruals	**(0.4)**	(0.1)	**(8.4)**	(0.6)
Foreign currency translation	**(0.3)**	0.2	**(0.5)**	(0.2)
Ending balance	**$ 57.6**	$ 64.6	**$ 57.6**	$ 64.6

10. INCOME TAXES

We adjust our effective tax rate each quarter based on our estimated annual effective tax rate. We also record the tax impact of certain discrete, unusual or infrequently occurring items, including changes in judgment about valuation allowances and the effects of changes in tax laws or rates on deferred tax balances, in the interim period in which they occur. In addition, jurisdictions with a projected loss for the year or a year-to-date loss where no tax benefit can be recognized are excluded from the estimated annual effective tax rate. The impact of such an exclusion could result in a higher or lower effective tax rate during a particular quarter, based upon the mix and timing of actual earnings versus annual projections.

Our income tax benefit and effective income tax rate for the three and nine months ended September 30, 2021 and 2020 are as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	**2020**	**2021**	**2020**
	(in millions)			
Income tax benefit	**$ (13.6)**	$ (22.5)	**$ (2.4)**	$ (63.1)
Effective income tax rate	**85.0 %**	(23.8)%	**(4.8)%**	9.6 %

During the three months ended September 30, 2021, we recognized a net income tax benefit of approximately $5.2 million related to our ability to carry back prior year losses to tax years with the higher 35% corporate income tax rate.

During the three months ended September 30, 2020, we released a partial valuation allowance that had been established in the second quarter of 2020 as a result of final regulations issued on July 28, 2020 by the Internal Revenue Service and the U.S. Department of Treasury. This resulted in a tax benefit of approximately $36 million for the three months ended September 30, 2020.

In the nine months ended September 30, 2020, we finalized an advance pricing agreement in a foreign jurisdiction, which resulted in a tax benefit of approximately $6.8 million and we recognized a tax benefit of approximately $7.0 million related to our ability to carry back projected current year losses under the CARES Act. In addition, we recognized a net tax benefit of approximately $7.5 million related to our ability to carry back losses from prior years under the CARES Act. This income tax benefit was the result of our ability to carry back losses to tax years with the higher 35% corporate income tax rate.

Our effective income tax rates for the three and nine months ended September 30, 2021 vary from our effective income tax rates for the three and nine months ended September 30, 2020 primarily as a result of the items discussed above. In addition, our effective income tax rate for the nine months ended September 30, 2021 varies from our effective income tax rate for the nine months ended September 30, 2020 as a result of the impact of the goodwill impairment charge recorded during the first quarter of 2020, which had no corresponding income tax benefit. For the three and nine months ended September 30, 2021 and 2020, our effective income tax rates vary from the U.S. federal statutory rate of 21% primarily due to the items discussed above, as well as favorable foreign tax rates, the impact of tax credits, and the effect of the goodwill impairment charge in the first nine months of 2020.

In accordance with the guidance in ASC 740 - *Income Taxes*, we review the likelihood that we will realize the benefit of deferred tax assets and estimate whether recoverability of our deferred tax assets is "more likely than not" based on the available evidence. Due to the uncertainty associated with the extent and ultimate impact of COVID-19 and the semiconductor shortage on global automotive production volumes, we may experience lower than projected earnings in certain jurisdictions in future periods, and as a result, it is reasonably possible that changes in valuation allowances could be recognized in future periods.

We operate in multiple jurisdictions throughout the world and the income tax returns of several subsidiaries in various tax jurisdictions are currently under examination. We are currently under a U.S. federal income tax examination for the years 2015 through 2018. Based on the status of ongoing tax audits, and the protocol of finalizing audits by the relevant tax authorities, it is not possible to estimate the impact of changes, if any, to previously recorded uncertain tax positions. Negative or unexpected outcomes of these examinations and audits and any related litigation could have a material adverse impact on our results of operations, financial condition and cash flows. We will continue to monitor the progress and conclusions of all ongoing audits and other communications with tax authorities, and will adjust our estimated liability as necessary. As of September 30, 2021 and December 31, 2020, we have recorded a liability for unrecognized income tax benefits and related interest and penalties of $22.3 million and $22.2 million, respectively.

11. EARNINGS (LOSS) PER SHARE (EPS)

We present EPS using the two-class method. This method allocates undistributed earnings between common shares and non-vested share based payment awards that entitle the holder to non-forfeitable dividend rights. Our participating securities include non-vested restricted stock units.

The following table sets forth the computation of our basic and diluted EPS available to shareholders of common stock (excluding participating securities):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	**2020**	**2021**	**2020**
	(in millions, except per share data)			
Numerator				
Net income (loss) attributable to AAM	**$ (2.4)**	$ 117.2	**$ 52.2**	$ (597.3)
Less: Net income attributable to participating securities	**—**	(5.1)	**(2.0)**	—
Net income (loss) attributable to common shareholders - Basic and Dilutive	**$ (2.4)**	$ 112.1	**$ 50.2**	$ (597.3)
Denominators				
Basic common shares outstanding -				
Weighted-average shares outstanding	**118.5**	118.4	**118.5**	117.7
Less: Participating securities	**(4.4)**	(5.1)	**(4.6)**	(4.7)
Weighted-average common shares outstanding	**114.1**	113.3	**113.9**	113.0
Effect of dilutive securities -				
Dilutive stock-based compensation	**—**	—	**0.2**	—
Diluted shares outstanding -				
Adjusted weighted-average shares after assumed conversions	**114.1**	113.3	**114.1**	113.0
Basic EPS	**$ (0.02)**	$ 0.99	**$ 0.44**	$ (5.28)
Diluted EPS	**$ (0.02)**	$ 0.99	**$ 0.44**	$ (5.28)

12. RECLASSIFICATIONS OUT OF ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS) (AOCI)

Reclassification adjustments and other activity impacting accumulated other comprehensive income (loss) during the three months ended September 30, 2021 and September 30, 2020 are as follows *(in millions)*:

	Defined Benefit Plans	Foreign Currency Translation Adjustments	Unrecognized Gain (Loss) on Cash Flow Hedges	Total
Balance at June 30, 2021	**$ (306.7)**	**$ (99.9)**	**$ (15.3)**	**$ (421.9)**
Other comprehensive income (loss) before reclassifications	**—**	**(9.6)**	**2.5**	**(7.1)**
Income tax effect of other comprehensive income (loss) before reclassifications	**—**	**—**	**(1.2)**	**(1.2)**
Amounts reclassified from accumulated other comprehensive loss	**2.8** (a)	**—**	**(3.6)** (b)	**(0.8)**
Income taxes reclassified into net income	**(0.6)**	**—**	**0.5**	**(0.1)**
Net change in accumulated other comprehensive loss	**2.2**	**(9.6)**	**(1.8)**	**(9.2)**
Balance at September 30, 2021	**$ (304.5)**	**$ (109.5)**	**$ (17.1)**	**$ (431.1)**

	Defined Benefit Plans	Foreign Currency Translation Adjustments	Unrecognized Gain (Loss) on Cash Flow Hedges	Total
Balance at June 30, 2020	$ (256.6)	$ (144.9)	$ (41.7)	$ (443.2)
Other comprehensive income (loss) before reclassifications	—	14.0	(7.8)	6.2
Income tax effect of other comprehensive income (loss) before reclassifications	—	—	2.6	2.6
Amounts reclassified from accumulated other comprehensive loss	2.1 (a)	—	14.7 (b)	16.8
Income taxes reclassified into net income	(0.4)	—	(2.8)	(3.2)
Net change in accumulated other comprehensive loss	1.7	14.0	6.7	22.4
Balance at September 30, 2020	$ (254.9)	$ (130.9)	$ (35.0)	$ (420.8)

(a) These amounts were reclassified from AOCI to Other income (expense), net for the three months ended September 30, 2021 and September 30, 2020.

(b) The amounts reclassified from AOCI included $(1.1) million in cost of goods sold (COGS), $3.5 million in interest expense and $(6.0) million in Other income (expense), net for the three months ended September 30, 2021 and $1.3 million in COGS, $4.1 million in interest expense and $9.3 million in Other income (expense), net for the three months ended September 30, 2020.

Reclassification adjustments and other activity impacting accumulated other comprehensive income (loss) during the nine months ended September 30, 2021 and September 30, 2020 are as follows *(in millions)*:

	Defined Benefit Plans	Foreign Currency Translation Adjustments	Unrecognized Gain (Loss) on Cash Flow Hedges	Total
Balance at December 31, 2020	**$ (311.0)**	**$ (101.1)**	**$ (20.1)**	**$ (432.2)**
Other comprehensive income (loss) before reclassifications	**—**	**(8.9)**	**13.5**	**4.6**
Income tax effect of other comprehensive income (loss) before reclassifications	**—**	**—**	**(3.3)**	**(3.3)**
Amounts reclassified from accumulated other comprehensive loss	**8.2** (a)	**0.5**	**(7.8)** (b)	**0.9**
Income taxes reclassified into net income	**(1.7)**	**—**	**0.6**	**(1.1)**
Net change in accumulated other comprehensive loss	**6.5**	**(8.4)**	**3.0**	**1.1**
Balance at September 30, 2021	**$ (304.5)**	**$ (109.5)**	**$ (17.1)**	**$ (431.1)**

	Defined Benefit Plans	Foreign Currency Translation Adjustments	Unrecognized Gain (Loss) on Cash Flow Hedges	Total
Balance at December 31, 2019	$ (259.9)	$ (101.2)	$ (15.7)	$ (376.8)
Other comprehensive income (loss) before reclassifications	—	(29.7)	(42.6)	(72.3)
Income tax effect of other comprehensive income (loss) before reclassifications	—	—	5.7	5.7
Amounts reclassified from accumulated other comprehensive loss	6.2 (a)	—	21.7 (b)	27.9
Income taxes reclassified into net income	(1.2)	—	(4.1)	(5.3)
Net change in accumulated other comprehensive loss	5.0	(29.7)	(19.3)	(44.0)
Balance at September 30, 2020	$ (254.9)	$ (130.9)	$ (35.0)	$ (420.8)

(a) These amounts were reclassified from AOCI to Other income (expense), net for the nine months ended September 30, 2021 and September 30, 2020.

(b) The amounts reclassified from AOCI included $(5.2) million in cost of goods sold (COGS), $11.4 million in interest expense and $(14.0) million in Other income (expense), net for the nine months ended September 30, 2021 and $2.3 million in COGS, $10.1 million in interest expense and $9.3 million in Other income (expense), net for the nine months ended September 30, 2020.

13. REVENUE FROM CONTRACTS WITH CUSTOMERS

Net sales recognized from contracts with customers, disaggregated by segment and geographical location, are presented in the following table for the three and nine months ended September 30, 2021 and 2020. Net sales are attributed to regions based on the location of production. Intersegment sales have been excluded from the table.

In the first quarter of 2021, we reorganized our segments and moved certain of our Driveline facilities to our Metal Forming segment. The amounts previously reported in the tables below for the three and nine months ended September 30, 2020 have been retrospectively recast to reflect this change.

	Three Months Ended September 30, 2021		
	Driveline	**Metal Forming**	**Total**
North America	**$ 647.4**	**$ 279.9**	**$ 927.3**
Asia	**107.8**	**11.8**	**119.6**
Europe	**84.9**	**49.6**	**134.5**
South America	**29.5**	**2.2**	**31.7**
Total	**$ 869.6**	**$ 343.5**	**$ 1,213.1**

	Three Months Ended September 30, 2020		
	Driveline	**Metal Forming**	**Total**
North America	$ 801.5	$ 321.4	$ 1,122.9
Asia	116.7	12.2	128.9
Europe	94.1	53.4	147.5
South America	12.3	2.5	14.8
Total	$ 1,024.6	$ 389.5	$ 1,414.1

	Nine Months Ended September 30, 2021		
	Driveline	**Metal Forming**	**Total**
North America	**$ 2,143.2**	**$ 876.6**	**$ 3,019.8**
Asia	**329.9**	**36.0**	**365.9**
Europe	**288.7**	**171.7**	**460.4**
South America	**67.7**	**7.7**	**75.4**
Total	**$ 2,829.5**	**$ 1,092.0**	**$ 3,921.5**

	Nine Months Ended September 30, 2020		
	Driveline	**Metal Forming**	**Total**
North America	$ 1,766.3	$ 753.6	$ 2,519.9
Asia	307.9	28.3	336.2
Europe	239.3	139.1	378.4
South America	32.7	5.7	38.4
Total	$ 2,346.2	$ 926.7	$ 3,272.9

Contract Assets and Liabilities

The following table summarizes our beginning and ending balances for accounts receivable and contract liabilities associated with our contracts with customers:

	Accounts Receivable, Net	Contract Liabilities (Current)	Contract Liabilities (Long-term)
December 31, 2020	$ 793.2	$ 23.4	$ 91.0
September 30, 2021	**739.6**	**25.7**	**88.2**
Increase/(decrease)	$ (53.6)	$ 2.3	$ (2.8)

Contract liabilities relate to deferred revenue associated with various settlements and commercial agreements for which we have a future performance obligation to the customer. We recognize this deferred revenue into revenue over the life of the associated program as we satisfy our performance obligations to the customer. We do not have contract assets as defined in ASC 606. During the nine months ended September 30, 2021, we amortized approximately $17.3 million of previously recorded contract liabilities into revenue as we satisfied performance obligations with our customers.

14. ACQUISITIONS AND DISPOSITIONS

Acquisition of Manufacturing Facility in Emporium, Pennsylvania

In May 2021, AAM completed our acquisition of a manufacturing facility in Emporium, Pennsylvania, under which we acquired $14.9 million of net assets that consisted of $5.9 million of inventory and $9.0 million of property, plant and equipment. The purchase price was $14.9 million, which consisted of $4.9 million of cash and $10.0 million of a deferred consideration liability that will be paid to seller at $2.5 million annually over the period 2022 through 2025. As the value of the net assets acquired was equal to the purchase price, no goodwill or gain on bargain purchase was recognized for this acquisition for the period ended September 30, 2021.

The operating results of this manufacturing facility for the period from our acquisition date through September 30, 2021 were insignificant to AAM's Condensed Consolidated Statement of Operations for this period. Further we have not disclosed pro forma revenue and earnings for the nine months ended September 30, 2021 and 2020 as the operating results of this manufacturing facility would be insignificant to AAM's consolidated results for these periods.

Sale of Interest in Consolidated Joint Venture

In the nine months ended September 30, 2021, we completed the sale of our ownership interest in a consolidated joint venture and received cash proceeds of approximately $2.6 million. As a result of the sale and deconsolidation of this joint venture, we recognized a loss of $2.7 million. Subsequent to the sale of this joint venture, we no longer present noncontrolling interest in our condensed consolidated financial statements as all consolidated entities are wholly-owned.

15. MANUFACTURING FACILITY FIRE AND INSURANCE RECOVERY

On September 22, 2020, a significant industrial fire occurred at our Malvern Manufacturing Facility in Ohio (Malvern Fire). All associates were evacuated safely and without injury and we were able to maintain continuity of supply to our customers without any significant disruptions.

Our insurance policies are expected to cover the repair, replacement or actual cash value of the assets that incurred loss or damage, less our applicable deductible of $1.0 million. In addition, our insurance policies are expected to provide coverage for interruption to our business, including lost or reduced profits and reimbursement for certain expenses and costs that are incurred relating to the fire. In the nine months ended September 30, 2021, we recorded $13.7 million of charges primarily related to transportation and freight, asset repairs and other costs incurred to resume or relocate operations and ensure continuity of supply to our customers. We also recorded an estimated insurance recovery of $24.8 million and received reimbursements and advances under our insurance policies of approximately $51.1 million, of which approximately $28.0 million is presented as an operating cash flow and approximately $23.1 million is presented as an investing cash flow in our Condensed Consolidated Statement of Cash Flows. This resulted in net pre-tax income in our Condensed Consolidated Statement of Operations of approximately $11.1 million in Cost of goods sold for the nine months ended September 30, 2021. At September 30, 2021, $16.9 million of insurance recovery receivable is included in Prepaid expenses and other in our Condensed Consolidated Balance Sheet.

Since the date of the Malvern Fire and the establishment of the insurance claim, we have incurred $50.3 million of total charges primarily related to site services and clean-up, transportation and freight, asset repairs and other costs incurred to resume or relocate operations and ensure continuity of supply to our customers. In addition, we have recorded a total of $27.0 million of costs primarily associated with the write-down of property, plant and equipment as a result of damage from the fire. We have recorded total estimated insurance recoveries of $79.1 million and have received total reimbursements and advances under our insurance policies of $62.2 million, of which $11.1 million was received in 2020 and $51.1 million was received in the first nine months of 2021.

In the fourth quarter of 2020, we determined that we will cease production at the Malvern Manufacturing Facility and relocate production capacity to other AAM manufacturing facilities during 2021. As such, we cannot estimate the total claim eligible costs that we will incur as a result of the Malvern Fire and the associated relocation of production capacity to other AAM manufacturing facilities. At September 30, 2021, we have estimated the amount of expected insurance proceeds recoverable in consideration of the policy provisions, estimated repair costs or actual cash value of damaged assets, and claim eligible expenses incurred from the date of the fire. We expect the claim settlement process to continue through 2021 and, based on the provisions of the policy, the process could continue into 2022. We will update our estimates as additional information becomes available, however, the actual impact on our results of operations, financial position or cash flows, or the timing of such impact, could differ from our estimates.

16. SEGMENT REPORTING

Our business is organized into Driveline and Metal Forming segments, with each representing a reportable segment under ASC 280 *Segment Reporting*. In the first quarter of 2021, we completed a reorganization of our segments, which included moving certain locations that were previously reported under our Driveline segment to our Metal Forming segment in order to better align our product and process technologies. The amounts in the tables below for the three and nine months ended September 30, 2020 have been retrospectively recast to reflect this reorganization.

The results of each segment are regularly reviewed by the chief operating decision maker to assess the performance of the segment and make decisions regarding the allocation of resources to the segments.

Our product offerings by segment are as follows:

- Driveline products consist primarily of front and rear axles, driveshafts, differential assemblies, clutch modules, balance shaft systems, disconnecting driveline technology, and electric and hybrid driveline products and systems for light trucks, sport utility vehicles (SUVs), crossover vehicles, passenger cars and commercial vehicles; and
- Metal Forming products consist primarily of axle and transmission shafts, ring and pinion gears, differential gears and assemblies, connecting rods and variable valve timing products for Original Equipment Manufacturers and Tier 1 automotive suppliers.

We use Segment Adjusted EBITDA as the measure of earnings to assess the performance of each segment and determine the resources to be allocated to the segments. We define EBITDA to be earnings before interest expense, income taxes, depreciation and amortization. Segment Adjusted EBITDA is defined as EBITDA for our reportable segments excluding the impact of restructuring and acquisition-related costs, debt refinancing and redemption costs, loss on the sale of a business, impairment charges, pension settlements, unrealized gains or losses on equity securities, and non-recurring items.

The following tables represent information by reportable segment for the three months ended September 30, 2021 and 2020 *(in millions)*:

	Three Months Ended September 30, 2021		
	Driveline	**Metal Forming**	**Total**
Sales	**$ 870.4**	**$ 422.7**	**$ 1,293.1**
Less: intersegment sales	**0.8**	**79.2**	**80.0**
Net external sales	**$ 869.6**	**$ 343.5**	**$ 1,213.1**
Segment Adjusted EBITDA	**$ 128.4**	**$ 54.8**	**$ 183.2**

	Three Months Ended September 30, 2020		
	Driveline	**Metal Forming**	**Total**
Sales	$ 1,025.0	$ 497.4	$ 1,522.4
Less: intersegment sales	0.4	107.9	108.3
Net external sales	$ 1,024.6	$ 389.5	$ 1,414.1
Segment Adjusted EBITDA	$ 199.5	$ 97.6	$ 297.1

The following tables represent information by reportable segment for the nine months ended September 30, 2021 and 2020 *(in millions)*:

	Nine Months Ended September 30, 2021		
	Driveline	**Metal Forming**	**Total**
Sales	**$ 2,831.9**	**$ 1,352.1**	**$ 4,184.0**
Less: intersegment sales	**2.4**	**260.1**	**262.5**
Net external sales	**$ 2,829.5**	**$ 1,092.0**	**$ 3,921.5**
Segment Adjusted EBITDA	**$ 450.2**	**$ 218.5**	**$ 668.7**

	Nine Months Ended September 30, 2020		
	Driveline	**Metal Forming**	**Total**
Sales	$ 2,346.7	$ 1,147.7	$ 3,494.4
Less: intersegment sales	0.5	221.0	221.5
Net external sales	$ 2,346.2	$ 926.7	$ 3,272.9
Segment Adjusted EBITDA	$ 309.0	$ 149.3	$ 458.3

The following table represents a reconciliation of Total Segment Adjusted EBITDA to consolidated income (loss) before income taxes for the three and nine months ended September 30, 2021 and 2020 *(in millions)*:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	**2020**	**2021**	**2020**
Total segment adjusted EBITDA	**$ 183.2**	$ 297.1	**$ 668.7**	$ 458.3
Interest expense	**(49.7)**	(53.9)	**(150.7)**	(160.0)
Depreciation and amortization	**(135.6)**	(125.0)	**(421.2)**	(393.7)
Restructuring and acquisition-related costs	**(7.4)**	(9.7)	**(40.8)**	(38.6)
Loss on sale of business	**—**	—	**(2.7)**	(1.0)
Unrealized gain on equity securities	**19.4**	—	**19.4**	—
Debt refinancing and redemption costs	**(31.6)**	(5.2)	**(34.0)**	(6.7)
Impairment charges	**—**	—	**—**	(510.0)
Non-recurring items:				
Malvern Fire charges, net of recoveries	**5.7**	(8.6)	**11.1**	(8.6)
Income (loss) before income taxes	**$ (16.0)**	$ 94.7	**$ 49.8**	$ (660.3)

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

This management's discussion and analysis (MD&A) should be read in conjunction with the unaudited condensed consolidated financial statements and notes appearing elsewhere in this Quarterly Report and our Annual Report on Form 10-K for the year ended December 31, 2020.

Unless the context otherwise requires, references to "we," "our," "us" or "AAM" shall mean collectively (i) American Axle & Manufacturing Holdings, Inc. (Holdings), a Delaware corporation, (ii) American Axle & Manufacturing, Inc. (AAM, Inc.), a Delaware corporation, and its direct and indirect subsidiaries, and, (iii) Metaldyne Performance Group, Inc. (MPG) and its direct and indirect subsidiaries. AAM Inc. and MPG are wholly-owned subsidiaries of Holdings.

COMPANY OVERVIEW

We are a global Tier 1 supplier to the automotive industry. We design, engineer and manufacture driveline and metal forming technologies that are making the next generation of vehicles smarter, lighter, safer and more efficient. We employ approximately 20,000 associates, operating at nearly 80 facilities in 17 countries, to support our customers on global and regional platforms with a focus on quality, operational excellence and technology leadership.

Major Customers

We are a primary supplier of driveline components to General Motors Company (GM) for its full-size rear-wheel drive (RWD) light trucks, sport utility vehicles (SUVs), and crossover vehicles manufactured in North America, supplying a significant portion of GM's rear axle and four-wheel drive and all-wheel drive (4WD/AWD) axle requirements for these vehicle platforms. We also supply GM with various products from our Metal Forming segment. Sales to GM were approximately 37% of our consolidated net sales in the first nine months of 2021, 40% in the first nine months of 2020, and 39% for the full year 2020.

We also supply driveline system products to Stellantis N.V. (Stellantis) for programs including the heavy-duty Ram full-size pickup trucks and its derivatives, the AWD Chrysler Pacifica and the AWD Jeep Cherokee. In addition, we sell various products to Stellantis from our Metal Forming segment. Sales to Stellantis were approximately 19% of our consolidated net sales in the first nine months of 2021, 18% in the first nine months of 2020, and 19% for the full year 2020.

We are also a supplier to Ford Motor Company (Ford) for driveline system products on certain vehicle programs including the Ford Bronco Sport, Ford Edge, Ford Escape and Lincoln Nautilus, and we sell various products to Ford from our Metal Forming segment. Sales to Ford were approximately 12% of our consolidated net sales in each of the first nine months of 2021, the first nine months of 2020 and the full year 2020.

No other customer represented 10% or more of consolidated net sales during these periods.

COVID-19 Update

In the first nine months of 2021, our operations continued to return to more normalized levels of production and we did not experience significant reductions in production volumes as a direct result of the impact of COVID-19, as were experienced in the first nine months of 2020. Continuing to sustain increased levels of production will depend on future developments, including the number of COVID-19 cases reported, the potential reimplementation of shelter-in-place orders, and customer production levels, which are outside of our control. We continue to monitor the impact of COVID-19 on our operations, as well as the operations of our customers and suppliers, as a resurgence in cases could have a sudden and significant impact on our operations, financial condition and financial results.

Semiconductor Shortage and Other Supply Chain Constraints

In the first nine months of 2021, the automotive industry experienced, and continues to experience, significant disruptions in the supply chain, including a shortage of semiconductor chips used by our customers, increased metal and commodity costs, higher labor costs and labor shortages. As a result, we have experienced increased volatility in our production schedules, including manufacturing downtime, higher inventory levels and increased labor costs, which have negatively impacted our results of operations and cash flows during this period. We continue to work with customers and suppliers in our effort to protect continuity of supply as we expect these challenges to continue into 2022. Due to the ongoing uncertainty associated with these supply chain constraints, the ultimate impact on our net sales, results of operations and cash flows is unknown.

RESULTS OF OPERATIONS — THREE MONTHS ENDED SEPTEMBER 30, 2021 AS COMPARED TO THREE MONTHS ENDED SEPTEMBER 30, 2020

Net Sales Net sales were $1,213.1 million in the third quarter of 2021, as compared to $1,414.1 million in the third quarter of 2020. The change in net sales in the third quarter of 2021, as compared to the third quarter of 2020, primarily reflects a reduction in production volumes on certain vehicle programs that we support as a result of the semiconductor shortage that is impacting the automotive industry, the impact of which we estimate to be approximately $245 million for the third quarter of 2021. This was partially offset by an increase of approximately $86 million associated with the effect of metal market pass-throughs to our customers and the impact of foreign exchange related to translation adjustments. In addition, we estimate that net sales in the third quarter of 2020 were adversely impacted by approximately $87 million as a result of the impact of COVID-19.

Cost of Goods Sold Cost of goods sold was $1,047.5 million in the third quarter of 2021, as compared to $1,164.3 million in the third quarter of 2020. The decrease in cost of goods sold principally reflects the reduction in production volumes on certain vehicle programs that we support resulting from the semiconductor shortage, which we estimate reduced costs of goods sold by approximately $162 million for the three months ended September 30, 2021. This decrease in cost of goods sold was partially offset by approximately $117 million related to metal market costs and the impact of foreign exchange. In addition, we estimate that cost of goods sold was reduced in the third quarter of 2020 by approximately $71 million as a result of the impact of COVID-19.

In the first quarter of 2021, one of our Major Customers announced its intention to cease production operations in Brazil in 2021 as part of their restructuring actions. This decision impacts certain of the programs that we support and, as a result, we have accelerated approximately $10 million of depreciation on certain property, plant and equipment in the third quarter of 2021.

For the three months ended September 30, 2021, material costs were approximately 59% of total cost of goods sold, as compared to approximately 58% for the three months ended September 30, 2020.

Gross Profit Gross profit was $165.6 million in the third quarter of 2021, as compared to $249.8 million in the third quarter of 2020. Gross margin was 13.7% in the third quarter of 2021, as compared to 17.7% in the third quarter of 2020. Gross profit and gross margin were impacted by the factors discussed in Net Sales and Cost of Goods Sold above.

Selling, General and Administrative Expenses (SG&A) SG&A (including research and development (R&D)) was $90.5 million or 7.5% of net sales in the third quarter of 2021, as compared to $66.5 million or 4.7% of net sales in the third quarter of 2020. R&D expense, net of customer engineering, design and development (ED&D) recoveries, was approximately $34.7 million in the third quarter of 2021, as compared to $18.0 million in the third quarter of 2020. The increase in SG&A in the third quarter of 2021, as compared to the third quarter of 2020, was primarily attributable to an increase in net R&D expense as the third quarter 2020 amount included a customer ED&D recovery of approximately $15 million. In addition, SG&A expense increased as a result of higher compensation-related expense, as temporary salary reductions were implemented in the second quarter of 2020 and continued into the third quarter of 2020 in response to COVID-19, and as a result of higher incentive compensation accruals in the third quarter of 2021 as compared to the third quarter of 2020.

Amortization of Intangible Assets Amortization expense related to intangible assets was $21.4 million for the three months ended September 30, 2021 and $21.6 million for the three months ended September 30, 2020.

Restructuring and Acquisition-Related Costs Restructuring and acquisition-related costs were $7.4 million in the third quarter of 2021 and $9.7 million in the third quarter of 2020. See Note 2 - Restructuring and Acquisition-Related Costs for additional detail.

Operating Income Operating income was $46.3 million in the third quarter of 2021, as compared to $152.0 million in the third quarter of 2020. Operating margin was 3.8% in the third quarter of 2021, as compared to 10.7% in the third quarter of 2020. The changes in operating income and operating margin were primarily due to factors discussed in Net Sales, Cost of Goods Sold and SG&A above.

Interest Expense and Interest Income Interest expense was $49.7 million in the third quarter of 2021, as compared to $53.9 million in the third quarter of 2020. Interest income was $2.7 million in the third quarter of 2021, as compared to $3.4 million in the third quarter of 2020. The weighted-average interest rate of our long-term debt outstanding was 5.9% in the third quarter of 2021 and 5.6% in the third quarter of 2020.

Debt Refinancing and Redemption Costs In the third quarter of 2021, we made a voluntary prepayment of $12.7 million on our Term Loan A Facility due 2024. As a result, we expensed approximately $0.1 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of this borrowing.

In July of 2021, we voluntarily redeemed a portion of our 6.25% Notes due 2025. This resulted in a principal payment of $100 million and $1.8 million in accrued interest. We also expensed approximately $1.4 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately $3.1 million for the payment of an early redemption premium.

In September of 2021, we voluntarily redeemed the remaining portion of our 6.25% Notes due 2025. This resulted in a principal payment of $600 million and $17.6 million in accrued interest. We also expensed approximately $8.2 million for the write-off of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately $18.8 million for the payment of an early redemption premium.

In the third quarter of 2020, we voluntarily redeemed the remaining portion of our 6.625% Notes due 2022. This resulted in a principal payment of $350 million and $5.7 million in accrued interest. We also expensed approximately $1.3 million for the write-off of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately $3.9 million for the payment of an early redemption premium.

Unrealized Gain on Equity Securities We have an investment in the equity securities of REE Automotive, an e-mobility company that completed a merger with a Special Purpose Acquisition Company in the third quarter of 2021 and became a publicly traded entity. These equity securities are measured at fair value each reporting period with changes in fair value reported through an unrealized gain or loss within Other income (expense), net in our Condensed Consolidated Statement of Operations. As of September 30, 2021, our investment in REE shares was valued at $22.4 million resulting in an unrealized gain of $19.4 million for the third quarter 2021.

Other Expense, Net Other expense, net includes the net effect of foreign exchange gains and losses, our proportionate share of earnings from equity in unconsolidated subsidiaries, and all components of net periodic pension and postretirement benefit costs other than service cost. Other expense, net was $3.1 million in the third quarter of 2021, as compared to $1.6 million in the third quarter of 2020.

Income Tax Benefit Income tax benefit was $13.6 million for the three months ended September 30, 2021, as compared to $22.5 million for the three months ended September 30, 2020. Our effective income tax rate was 85.0% in the third quarter of 2021, as compared to (23.8)% in the third quarter of 2020.

During the three months ended September 30, 2021, we recognized a net income tax benefit of approximately $5.2 million related to our ability to carry back prior year losses to tax years with the higher 35% corporate income tax rate.

During the three months ended September 30, 2020, we released a partial valuation allowance that had been established in the second quarter of 2020 as a result of final regulations issued on July 28, 2020 by the Internal Revenue Service and the U.S. Department of Treasury. This resulted in a tax benefit of approximately $36 million for the three months ended September 30, 2020.

Our effective income tax rate for the three months ended September 30, 2021 varies from our effective income tax rate for the three months ended September 30, 2020 primarily as a result of the items discussed above. For the three months ended September 30, 2021 and 2020, our effective income tax rates vary from the U.S. federal statutory rate of 21% primarily due to the items discussed above, as well as favorable foreign tax rates and the impact of tax credits.

Net Income (Loss) Attributable to AAM and Earnings (Loss) Per Share (EPS) Net income (loss) attributable to AAM was a loss of $2.4 million in the third quarter of 2021, as compared to income of $117.2 million in the third quarter of 2020. Diluted EPS was a loss of $0.02 cents per share in the third quarter of 2021, as compared to earnings of $0.99 in the third quarter of 2020. Net income (loss) attributable to AAM and EPS for the third quarters of 2021 and 2020 were primarily impacted by the factors discussed above.

RESULTS OF OPERATIONS — NINE MONTHS ENDED SEPTEMBER 30, 2021 AS COMPARED TO NINE MONTHS ENDED SEPTEMBER 30, 2020

Net Sales Net sales were $3,921.5 million in the first nine months of 2021 as compared to $3,272.9 million in the first nine months of 2020. The increase in net sales in the first nine months of 2021, as compared to the first nine months of 2020, primarily reflects increased production volumes as net sales in the first nine months of 2020 were adversely impacted by an estimated $1,203 million associated with the decline in global automotive production as a result of COVID-19. Net sales for the first nine months of 2021, as compared to the first nine months of 2020, also increased by approximately $212 million associated with the effect of metal market pass-throughs to our customers and the impact of foreign exchange related to translation adjustments. These increases were partially offset by a reduction in production volumes on certain vehicle programs that we support as a result of the semiconductor shortage that is impacting the automotive industry, the impact of which we estimate to be approximately $471 million for the nine months ended September 30, 2021.

Cost of Goods Sold Cost of goods sold was $3,338.8 million in the first nine months of 2021 as compared to $2,926.7 million in the first nine months of 2020. The change in cost of goods sold principally reflects the net increase in production volumes on the vehicle programs that we support as we estimate that cost of goods sold in the first nine months of 2020 was impacted by approximately $841 million associated with the decline in global automotive production volumes as a result of COVID-19. Cost of goods sold in the nine months ended September 30, 2021 also increased by approximately $260 million related to metal market costs and the impact of foreign exchange. These increases were partially offset by a reduction in production volumes resulting from the semiconductor shortage, which we estimate reduced costs of goods sold by approximately $322 million for the nine months ended September 30, 2021.

In the first quarter of 2021, one of our Major Customers announced its intention to cease production operations in Brazil in 2021 as part of their restructuring actions. This decision impacts certain of the programs that we support and, as a result, we have accelerated depreciation on certain property, plant and equipment beginning in the first quarter of 2021. The impact on cost of goods sold of this acceleration was approximately $32 million in the first nine months of 2021 and we do not expect any additional impact in the fourth quarter of 2021.

For the nine months ended September 30, 2021, material costs were approximately 60% of total costs of goods sold as compared to approximately 54% for the nine months ended September 30, 2020. Material costs as a percentage of cost of goods sold was impacted in the first nine months of 2020 as a result of lower product shipments caused by COVID-19, which drove lower material costs and caused fixed costs to be a greater component of cost of goods sold.

Gross Profit Gross profit was $582.7 million in the first nine months of 2021 as compared to $346.2 million in the first nine months of 2020. Gross margin was 14.9% in the first nine months of 2021 as compared to 10.6% in the first nine months of 2020. Gross profit and gross margin were impacted by the factors discussed in Net Sales and Cost of Goods Sold above. While we were able to significantly reduce our variable costs during the nine months ended September 30, 2020, the sharp decline in sales that began during the first quarter and extended into the second quarter as a result of the impact of COVID-19, as well as the magnitude of the decline in sales, resulted in a reduction of both gross profit and gross margin.

SG&A SG&A (including R&D) was $266.7 million or 6.8% of net sales in the first nine months of 2021 as compared to $230.6 million or 7.0% of net sales in the first nine months of 2020. R&D expense, net of ED&D recoveries, was approximately $96.5 million in the first nine months of 2021 as compared to $86.3 million in the first nine months of 2020. The increase in SG&A in the first nine months of 2021, as compared to the first nine months of 2020, was primarily attributable to an increase in net R&D expense as expense for the first nine months of 2020 included a customer ED&D recovery of approximately $15 million. In addition, SG&A expense increased as a result of higher compensation-related expense, as temporary salary reductions were implemented in the first nine months of 2020 in response to COVID-19, and as a result of higher incentive compensation accruals in the first nine months of 2021.

Amortization of Intangible Assets Amortization expense related to intangible assets for the nine months ended September 30, 2021 was $64.3 million as compared to $65.0 million for the nine months ended September 30, 2020.

Impairment Charges In the first nine months of 2020, the reduction in global automotive production volumes caused by the impact of COVID-19 represented an indicator to test our goodwill for impairment. As a result of this goodwill impairment test, we determined that the carrying values of our Driveline and Metal Forming reporting units were greater than their respective fair values. As such, we recorded a total goodwill impairment charge of $510.0 million in the first nine months of 2020. See Note 4 - Goodwill and Other Intangible Assets for further detail.

Restructuring and Acquisition-Related Costs Restructuring and acquisition-related costs were $40.8 million for the nine months ended September 30, 2021, as compared to $38.6 million for the nine months ended September 30, 2020. We expect to incur approximately $45 million to $55 million of total restructuring charges in 2021. In addition, we expect to incur up to $10 million of integration charges in 2021 as we finalize the integration of ERP systems at legacy MPG locations. See Note 2 - Restructuring and Acquisition-Related Costs for additional detail regarding our restructuring, acquisition and integration activity.

Loss on Sale of Business In the first nine months of 2021, we completed the sale of our ownership interest in a consolidated joint venture. As a result of the sale and deconsolidation of this joint venture, we recognized a loss of $2.7 million. In the first nine months of 2020, we finalized certain customary post-closing calculations associated with the sale of the U.S. operations of our casting business that was completed in the fourth quarter of 2019, resulting in an additional loss on sale of $1.0 million.

Operating Income (Loss) Operating income (loss) was income of $208.2 million in the first nine months of 2021 as compared to a loss of $499.0 million in the first nine months of 2020. Operating margin was 5.3% in the first nine months of 2021 as compared to (15.2)% in the first nine months of 2020. The changes in operating income (loss) and operating margin were due primarily to the factors discussed in Net Sales, Cost of Goods Sold, Gross Profit, SG&A, and Impairment Charges above.

Interest Expense and Interest Income Interest expense was $150.7 million in the first nine months of 2021 as compared to $160.0 million in the first nine months of 2020. Interest income was $8.2 million in the first nine months of 2021 as compared to $9.2 million in the first nine months of 2020. The weighted-average interest rate of our long-term debt outstanding was 5.9% for the nine months ended September 30, 2021 and 5.6% for the nine months ended September 30, 2020. We expect our interest expense for the full year 2021 to be approximately $195 million to $205 million.

Debt Refinancing and Redemption Costs In the first quarter of 2021, we made a voluntary prepayment of $100.0 million on our Term Loan B Facility due 2024 and $4.3 million on our Term Loan A Facility due 2024. As a result, we expensed approximately $1.1 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of these borrowings.

In the second quarter of 2021, we made a voluntary prepayment of $138.8 million on our Term Loan B Facility due 2024 and $4.2 million on our Term Loan A Facility due 2024. As a result, we expensed approximately $1.3 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of these borrowings.

In the third quarter of 2021, we made a voluntary prepayment of $12.7 million on our Term Loan A Facility due 2024. As a result, we expensed approximately $0.1 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of this borrowing.

In July of 2021, we voluntarily redeemed a portion of our 6.25% Notes due 2025. This resulted in a principal payment of $100 million and $1.8 million in accrued interest. We also expensed approximately $1.4 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately $3.1 million for the payment of an early redemption premium.

In September of 2021, we voluntarily redeemed the remaining portion of our 6.25% Notes due 2025. This resulted in a principal payment of $600 million and $17.6 million in accrued interest. We also expensed approximately $8.2 million for the write-off of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately $18.8 million for the payment of an early redemption premium.

In the first quarter of 2020, we voluntarily redeemed a portion of our 6.625% Notes due 2022. This resulted in a principal payment of $100.0 million and $2.0 million in accrued interest. We also expensed approximately $0.4 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately $1.1 million for an early redemption premium.

In the third quarter of 2020, we voluntarily redeemed the remaining portion of our 6.625% Notes due 2022. This resulted in a principal payment of $350 million and $5.7 million in accrued interest. We also expensed approximately $1.3 million for the write-off of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately $3.9 million for the payment of an early redemption premium.

Unrealized Gain on Equity Securities We have an investment in the equity securities of REE Automotive, an e-mobility company that completed a merger with a Special Purpose Acquisition Company in the third quarter of 2021 and became a publicly traded entity. These equity securities are measured at fair value each reporting period with changes in fair value reported through an unrealized holding gain or loss within Other income (expense), net in our Condensed Consolidated Statement of Operations. As of September 30, 2021, our investment in REE shares was valued at $22.4 million resulting in an unrealized gain of $19.4 million for the nine months ended September 30, 2021.

Other Expense, Net Other expense, net includes the net effect of foreign exchange gains and losses, our proportionate share of earnings from equity in unconsolidated subsidiaries, and all components of net periodic pension and postretirement benefit costs other than service cost. Other expense, net was $1.3 million in the first nine months of 2021 as compared to $3.8 million in the first nine months of 2020.

Income Tax Benefit Income tax benefit was $2.4 million for the nine months ended September 30, 2021 as compared to $63.1 million for the nine months ended September 30, 2020. Our effective income tax rate was (4.8)% in the first nine months of 2021 as compared to 9.6% in the first nine months of 2020.

During the nine months ended September 30, 2021, we recognized a net income tax benefit of approximately $5.2 million related to our ability to carry back prior year losses to tax years with the higher 35% corporate income tax rate.

In the nine months ended September 30, 2020, we finalized an advance pricing agreement in a foreign jurisdiction, which resulted in a tax benefit of approximately $6.8 million, we recognized a tax benefit of approximately $7.0 million related to our ability to carry back projected current year losses under the CARES Act, and we recognized a net tax benefit of approximately $7.5 million related to our ability to carry back losses from prior years under the CARES Act. This income tax benefit was the result of our ability to carry back losses to tax years with the higher 35% corporate income tax rate.

Our effective income tax rate for the nine months ended September 30, 2021 varies from our effective income tax rate for the nine months ended September 30, 2020 primarily as a result of the items discussed above. In addition, our effective income tax rate for the nine months ended September 30, 2021 varies from our effective income tax rate for the nine months ended September 30, 2020 as a result of the impact of the goodwill impairment charge recorded during the first quarter of 2020, which had no corresponding income tax benefit. For the nine months ended September 30, 2021 and 2020, our effective income tax rates vary from the U.S. federal statutory rate of 21% primarily due to the items discussed above, as well as favorable foreign tax rates, the impact of tax credits, and the effect of the goodwill impairment charge in the first nine months of 2020.

Due to the uncertainty associated with the extent and ultimate impact of COVID-19 and the semiconductor shortage on global automotive production volumes, we may experience lower than projected earnings in certain jurisdictions in future periods, and as a result, it is reasonably possible that changes in valuation allowances could be recognized in future periods.

Net Income (Loss) Attributable to AAM and Earnings (Loss) Per Share (EPS) Net income (loss) attributable to AAM was income of $52.2 million in the first nine months of 2021 as compared to a loss of $597.3 million in the first nine months of 2020. Diluted EPS was $0.44 per share in the first nine months of 2021 as compared to a loss of $5.28 per share in the first nine months of 2020. Net income (loss) attributable to AAM and EPS for the first nine months of 2021 and 2020 were primarily impacted by the factors discussed above.

SEGMENT REPORTING

Our business is organized into Driveline and Metal Forming segments, with each representing a reportable segment under ASC 280 *Segment Reporting*. In the first quarter of 2021, we completed a reorganization of our segments, which included moving certain locations that were previously reported under our Driveline segment to our Metal Forming segment in order to better align our product and process technologies. The amounts in the tables below for the three and nine months ended September 30, 2020 have been retrospectively recast to reflect this reorganization.

The results of each segment are regularly reviewed by the chief operating decision maker to assess the performance of the segment and make decisions regarding the allocation of resources to the segments.

Our product offerings by segment are as follows:

- Driveline products consist primarily of front and rear axles, driveshafts, differential assemblies, clutch modules, balance shaft systems, disconnecting driveline technology, and electric and hybrid driveline products and systems for light trucks, SUVs, crossover vehicles, passenger cars and commercial vehicles; and
- Metal Forming products consist primarily of axle and transmission shafts, ring and pinion gears, differential gears and assemblies, connecting rods and variable valve timing products for Original Equipment Manufacturers and Tier 1 automotive suppliers.

The following table represents sales by reportable segment for the three and nine months ended September 30, 2021 and 2020 *(in millions)*:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	**2020**	**2021**	**2020**
Driveline	**$ 870.4**	$ 1,025.0	**$ 2,831.9**	$ 2,346.7
Metal Forming	**422.7**	497.4	**1,352.1**	1,147.7
Eliminations	**(80.0)**	(108.3)	**(262.5)**	(221.5)
Net Sales	**$ 1,213.1**	$ 1,414.1	**$ 3,921.5**	$ 3,272.9

The change in Driveline sales for the three months ended September 30, 2021, as compared to the three months ended September 30, 2020, primarily reflects a reduction in production volumes on certain vehicle programs that we support as a result of the semiconductor shortage that is impacting the automotive industry, the impact of which we estimate to be approximately $200 million for the third quarter of 2021. This was partially offset by an increase of approximately $55 million associated with the effect of metal market pass-throughs to our customers and the impact of foreign exchange related to translation adjustments. Driveline sales were also adversely impacted during the three months ended September 30, 2020 by an estimated $69 million as a result of the impact of COVID-19.

The increase in Driveline sales for the nine months ended September 30, 2021, as compared to the nine months ended September 30, 2020, primarily reflects increased production volumes as sales in the first nine months of 2020 were adversely impacted by an estimated $924 million associated with the decline in global automotive production as a result of COVID-19. This estimated reduction includes approximately $865 million related to external customers. Driveline sales for the first nine months of 2021, as compared to the first nine months of 2020, also increased by approximately $124 million associated with the effect of metal market pass-throughs to our customers and the impact of foreign exchange related to translation adjustments. These increases were partially offset by a reduction in production volumes as a result of the semiconductor shortage, the impact of which we estimate to be approximately $390 million for the nine months ended September 30, 2021.

The change in Metal Forming sales for the three months ended September 30, 2021, as compared to the three months ended September 30, 2020, primarily reflects a reduction in production volumes on certain vehicle programs that we support as a result of the semiconductor shortage that is impacting the automotive industry, the impact of which we estimate to be approximately $45 million for the third quarter of 2021. This was partially offset by an increase of approximately $31 million associated with the effect of metal market pass-throughs to our customers and the impact of foreign exchange related to translation adjustments. Metal Forming sales were also adversely impacted during the three months ended September 30, 2020 by an estimated $18 million as a result of the impact of COVID-19.

The increase in Metal Forming sales for the nine months ended September 30, 2021, as compared to the nine months ended September 30, 2020, primarily reflects increased production volumes as sales in the first nine months of 2020 were adversely impacted by an estimated $447 million associated with the decline in global automotive production as a result of COVID-19. This estimated reduction includes approximately $338 million related to external customers. Metal Forming sales for the first nine months of 2021, as compared to the first nine months of 2020, also increased by approximately $88 million associated with the effect of metal market pass-throughs to our customers and the impact of foreign exchange related to translation adjustments. These increases were partially offset by a reduction in production volumes as a result of the semiconductor shortage, the impact of which we estimate to be approximately $81 million for the nine months ended September 30, 2021.

We use Segment Adjusted EBITDA as the measure of earnings to assess the performance of each segment and determine the resources to be allocated to the segments. We define EBITDA to be earnings before interest expense, income taxes, depreciation and amortization. Segment Adjusted EBITDA is defined as EBITDA for our reportable segments excluding the impact of restructuring and acquisition-related costs, debt refinancing and redemption costs, loss on the sale of a business, impairment charges, pension settlements, unrealized gains or losses on equity securities, and non-recurring items.

The amounts for Segment Adjusted EBITDA for the three and nine months ended September 30, 2021 and 2020 are as follows *(in millions)*:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	**2020**	**2021**	**2020**
Driveline	**$ 128.4**	$ 199.5	**$ 450.2**	$ 309.0
Metal Forming	**54.8**	97.6	**218.5**	149.3
Total segment adjusted EBITDA	**$ 183.2**	$ 297.1	**$ 668.7**	$ 458.3

For the three months ended September 30, 2021, as compared to the three months ended September 30, 2020, the change in Segment Adjusted EBITDA for the Driveline segment was primarily attributable to the net reduction in production volumes as a result of the semiconductor shortage. For the nine months ended September 30, 2021, as compared to the nine months ended September 30, 2020, the increase in Segment Adjusted EBITDA for the Driveline segment was primarily attributable to the net increase in production volumes on the vehicle programs that we support, as well as improved operating performance and our continued emphasis on cost management, partially offset by increased metal and commodity costs. Driveline Segment Adjusted EBITDA for the three and nine months ended September 30, 2020 also includes the favorable impact of a $15 million ED&D recovery from a customer.

For the three months ended September 30, 2021, as compared to the three months ended September 30, 2020, the change in Segment Adjusted EBITDA for the Metal Forming segment was primarily attributable to the net reduction in production volumes as a result of the semiconductor shortage. For the nine months ended September 30, 2021, as compared to the nine months ended September 30, 2020, the increase in Segment Adjusted EBITDA for the Metal Forming segment was primarily attributable to the net increase in production volumes on the vehicle programs that we support, as well as improved operating performance and our continued emphasis on cost management, partially offset by increased metal and commodity costs.

Reconciliation of Non-GAAP and GAAP Information

In addition to results reported in accordance with accounting principles generally accepted in the United States of America (GAAP) in this MD&A, we have provided certain non-GAAP financial measures such as EBITDA and Total Segment Adjusted EBITDA. Such information is reconciled to its closest GAAP measure in accordance with Securities and Exchange Commission rules below.

We define EBITDA to be earnings before interest expense, income taxes, depreciation and amortization. Total Segment Adjusted EBITDA is defined as EBITDA for our reportable segments excluding the impact of restructuring and acquisition-related costs, debt refinancing and redemption costs, loss on the sale of a business, impairment charges, pension settlements, unrealized gains or losses on equity securities, and non-recurring items. We believe that EBITDA and Total Segment Adjusted EBITDA are meaningful measures of performance as they are commonly utilized by management and investors to analyze operating performance and entity valuation. Our management, the investment community and the banking institutions routinely use EBITDA and Total Segment Adjusted EBITDA, together with other measures, to measure our operating performance relative to other Tier 1 automotive suppliers and to assess the relative mix of Adjusted EBITDA by segment. We also believe that Total Segment Adjusted EBITDA is a meaningful measure as it is used for operational planning and decision-making purposes. EBITDA and Total Segment Adjusted EBITDA are also key metrics used in our calculation of incentive compensation. These non-GAAP financial measures are not and should not be considered a substitute for any GAAP measure. Additionally, non-GAAP financial measures as presented by AAM may not be comparable to similarly titled measures reported by other companies.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	**2020**	**2021**	**2020**
Net income (loss)	**$ (2.4)**	$ 117.2	**$ 52.2**	$ (597.2)
Interest expense	**49.7**	53.9	**150.7**	160.0
Income tax benefit	**(13.6)**	(22.5)	**(2.4)**	(63.1)
Depreciation and amortization	**135.6**	125.0	**421.2**	393.7
EBITDA	**$ 169.3**	$ 273.6	**$ 621.7**	$ (106.6)
Restructuring and acquisition-related costs	**7.4**	9.7	**40.8**	38.6
Debt refinancing and redemption costs	**31.6**	5.2	**34.0**	6.7
Impairment charges	**—**	—	**—**	510.0
Loss on sale of business	**—**	—	**2.7**	1.0
Unrealized gain on equity securities	**(19.4)**	—	**(19.4)**	—
Non-recurring items:				
Malvern Fire charges, net of recoveries	**(5.7)**	8.6	**(11.1)**	8.6
Total segment adjusted EBITDA	**$ 183.2**	$ 297.1	**$ 668.7**	$ 458.3

LIQUIDITY AND CAPITAL RESOURCES

Our primary liquidity needs are to fund debt service obligations, capital expenditures and working capital requirements, in addition to advancing our strategic initiatives. We believe that operating cash flow, available cash and cash equivalent balances and available borrowing capacity under our Senior Secured Credit Facilities and foreign credit facilities will be sufficient to meet these needs.

At September 30, 2021, we had nearly $1.5 billion of liquidity consisting of approximately $501 million of cash and cash equivalents, approximately $895 million of available borrowings under our Revolving Credit Facility and approximately $62 million of available borrowings under foreign credit facilities. We have no significant debt maturities before 2024.

Operating Activities In the first nine months of 2021, net cash provided by operating activities was $436.0 million as compared to $246.4 million in the first nine months of 2020. The following factors impacted cash from operating activities in the first nine months of 2021, as compared to the first nine months of 2020:

Impact of COVID-19 We experienced lower earnings and cash flows from operating activities as a result of the significant reduction in production volumes during the nine months ended September 30, 2020 due to the impact of COVID-19.

Accounts receivable For the nine months ended September 30, 2021, we experienced an increase in cash flow from operating activities of approximately $135 million related to the change in our accounts receivable balance from December 31, 2020 to September 30, 2021, as compared to the change in our accounts receivable balance from December 31, 2019 to September 30, 2020. This change was primarily attributable to the reduction in sales in the third quarter of 2021 as compared to the third quarter of 2020 due primarily to the semiconductor shortage that is impacting the automotive industry.

Inventories For the nine months ended September 30, 2021, we experienced a decrease in cash flow from operating activities of approximately $151 million related to the change in our inventories balance from December 31, 2020 to September 30, 2021, as compared to the change in our inventories balance from December 31, 2019 to September 30, 2020. This change was primarily attributable the reduction in sales in the third quarter of 2021 as compared to the third quarter of 2020 due primarily to the semiconductor shortage that is impacting the automotive industry. Cash flows from inventories were also impacted in the nine months ended September 30, 2021 by increased metal and commodity costs and by other supply chain disruptions, including volatility in production schedules and unexpected downtime at certain of our manufacturing facilities.

Income taxes Income taxes paid, net was $17.8 million in the first nine months of 2021, as compared to a net refund of $5.2 million in the first nine months of 2020. During the first nine months of 2021, we received an income tax refund of approximately $6 million related to the utilization of net operating losses under the provisions of the CARES Act. During the first nine months of 2020, we received an income tax refund of approximately $31 million related to the utilization of net operating losses under the provisions of the CARES Act and we finalized an advance pricing agreement in a foreign jurisdiction, which resulted in a cash payment to the tax authorities of $18.5 million.

Interest paid Interest paid was $153.5 million for the nine months ended September 30, 2021, as compared to $138.0 million for the nine months ended September 30, 2020. The increase in interest paid was primarily the result of the timing of semi-annual interest payments on our 6.875% Notes due 2028 that were issued in June 2020.

Malvern Fire In the first nine months of 2021, we received $51.1 million of cash as reimbursements and advances under our insurance policies, of which $28.0 million was associated with operating expenses incurred as a result of the Malvern Fire and has been presented as an operating cash inflow in our Condensed Consolidated Statement of Cash Flows for the period. At September 30, 2021, we have an insurance recovery receivable of $16.9 million, which is included in Prepaid expenses and other in our Condensed Consolidated Balance Sheet. See Note 15 - Manufacturing Facility Fire and Insurance Recovery for additional detail.

Restructuring and acquisition-related costs For the full year 2021, we expect restructuring and acquisition-related payments in cash flows from operating activities to be between $55 million and $65 million, and we expect the timing of cash payments to approximate the timing of charges incurred.

Pension and other postretirement benefits Due to the availability of our pre-funded pension balances (previous contributions in excess of prior required pension contributions), we expect our regulatory pension funding requirements in 2021 to be less than $1 million. We expect our cash payments for other postretirement benefit obligations in 2021, net of GM cost sharing, to be approximately $17 million.

Investing Activities In the first nine months of 2021, net cash used in investing activities was $94.9 million as compared to $149.2 million for the nine months ended September 30, 2020. Capital expenditures were $115.8 million in the first nine months of 2021 as compared to $146.3 million in the first nine months of 2020. We expect our capital spending in 2021 to be less than 4% of sales.

In the first nine months of 2021, in addition to the $28.0 million of cash reimbursements and advances received under our insurance policies associated with operating expenses incurred as a result of the Malvern Fire, we received $23.1 million of cash associated with property, plant and equipment that was damaged or destroyed as a result of the Malvern Fire. This cash received has been classified as an investing cash flow based on the nature of the associated loss incurred.

Also in the first nine months of 2021, we paid $4.9 million of cash for the acquisition of the Emporium, Pennsylvania Manufacturing Facility. See Note 14 - Acquisitions and Dispositions for further detail.

Financing Activities In the first nine months of 2021, net cash used in financing activities was $394.2 million, as compared to $87.6 million in the first nine months of 2020. The following factors impacted cash from financing activities in the first nine months of 2021, as compared to the first nine months of 2020:

Senior Secured Credit Facilities Our Senior Secured Credit Facilities, which are comprised of our Revolving Credit Facility, our Term Loan A Facility due 2024, and our Term Loan B Facility due 2024, provide back-up liquidity for our foreign credit facilities. We intend to use the availability of long-term financing under the Senior Secured Credit Facilities to refinance any current maturities related to such debt agreements that are not otherwise refinanced on a long-term basis in their local markets, except where otherwise reclassified to Current portion of long-term debt on our Condensed Consolidated Balance Sheet.

In June 2021, Holdings, AAM, Inc., and certain subsidiaries of Holdings entered into an agreement (the Agreement) amending the Second Amendment to the Credit Agreement. For the period from April 1, 2020 through March 31, 2022 (the Amendment Period), the Agreement modified a covenant in the Second Amendment restricting the ability of Holdings, AAM and certain subsidiaries of Holdings to make certain voluntary payments and distributions of, or in respect of, certain senior unsecured notes of AAM during the Amendment Period, which modification permits voluntary payments and redemptions of the 6.25% senior notes due 2025 issued by AAM.

In the first nine months of 2021, we made voluntary prepayments totaling $238.8 million on our Term Loan B Facility due 2024 and $21.2 million on our Term Loan A Facility due 2024. As a result, we expensed approximately $2.5 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of these borrowings.

At September 30, 2021, we had $895.2 million available under the Revolving Credit Facility. This availability reflects a reduction of $29.8 million for standby letters of credit issued against the facility. The borrowings under the Revolving Credit Facility are used for general corporate purposes. See Note 5 - Long-Term Debt for additional information regarding our Senior Secured Credit Facilities.

5.00% Notes due 2029 In the third quarter of 2021, we issued $600 million in aggregate principal amount of 5.00% senior notes due 2029 (the 5.00% Notes). Proceeds from the 5.00% Notes were used to fund the redemption of the remaining $600 million of 6.25% senior notes due 2025 described below. We paid debt issuance costs of $9.2 million in the nine months ended September 30, 2021 related to the 5.00% Notes.

Redemption of 6.25% Notes due 2025 In July of 2021, we voluntarily redeemed a portion of our 6.25% Notes due 2025. This resulted in a principal payment of $100 million and $1.8 million in accrued interest. We also expensed approximately $1.4 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately $3.1 million for the payment of an early redemption premium.

In September of 2021, we voluntarily redeemed the remaining portion of our 6.25% Notes due 2025. This resulted in a principal payment of $600 million and $17.6 million in accrued interest. We also expensed approximately $8.2 million for the write-off of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately $18.8 million for the payment of an early redemption premium.

Redemption of 6.625% Notes due 2022 In the first quarter of 2020, we voluntarily redeemed a portion of our 6.625% Notes due 2022. This resulted in a principal payment of $100.0 million and $2.0 million in accrued interest. We expensed approximately $0.4 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately $1.1 million for the payment of an early redemption premium.

In the third quarter of 2020, we voluntarily redeemed the remaining portion of our 6.625% Notes due 2022. This resulted in a principal payment of $350 million and $5.7 million in accrued interest. We also expensed approximately $1.3 million for the write-off of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately $3.9 million for the payment of an early redemption premium.

6.875% Notes due 2028 In the second quarter of 2020, we issued $400 million in aggregate principal amount of 6.875% senior notes due 2028 (the 6.875% Notes). Proceeds from the 6.875% Notes were used primarily to fund the redemption of the remaining $350 million of 6.625% senior notes due 2022 and for general corporate purposes. We paid debt issuance costs of $6.4 million in the nine months ended September 30, 2020 related to the 6.875% Notes.

Foreign credit facilities We utilize local currency credit facilities to finance the operations of certain foreign subsidiaries. At September 30, 2021, $102.2 million was outstanding under our foreign credit facilities, as compared to $88.8 million at December 31, 2020. At September 30, 2021, an additional $62.3 million was available under our foreign credit facilities.

Treasury stock Treasury stock increased by $4.3 million in the first nine months of 2021 to $216.3 million as compared to $212.0 million at year-end 2020, due to the withholding and repurchase of shares of AAM stock to satisfy employee tax withholding obligations due upon the vesting of performance shares and restricted stock units.

Subsidiary Guarantees of Registered Debt Securities Our 6.875% Notes, 6.50% Notes, 6.25% Notes, and 5.00% Notes (collectively, the Notes) are senior unsecured obligations of AAM, Inc. (Issuer); all of which are fully and unconditionally guaranteed, on a joint and several basis, by Holdings and substantially all domestic subsidiaries of AAM, Inc. and MPG Inc (Subsidiary Guarantors). Holdings has no significant assets other than its 100% ownership in AAM, Inc. and MPG Inc., and no direct subsidiaries other than AAM, Inc. and MPG Inc.

Each guarantee by Holdings and/or any of the Subsidiary Guarantors is:

- a senior obligation of the relevant Subsidiary Guarantors;
- the unsecured and unsubordinated obligation of the relevant Subsidiary Guarantors; and
- of equal rank with all other existing and future unsubordinated and unsecured indebtedness of the relevant Subsidiary Guarantors.

Each guarantee by a Subsidiary Guarantor provides by its terms that it will be automatically, fully and unconditionally released and discharged upon:

- Any sale, exchange or transfer (by merger or otherwise) of the capital stock of such Subsidiary Guarantor, or the sale or disposition of all the assets of such Subsidiary Guarantor, which sale, exchange, transfer or disposition is made in compliance with the applicable provisions of the indentures;
- the exercise by the issuer of its legal defeasance option or covenant defeasance option or the discharge of the issuer’s obligations under the indentures in accordance with the terms of the indentures; or
- the election of the issuer to affect such a release following the date that such guaranteed Notes have an investment grade rating from both Standard & Poor's Ratings Group, Inc, and Moody's Investors Service, Inc.

The following represents summarized financial information of AAM Holdings, AAM Inc. and the Subsidiary Guarantors (collectively, the Combined Entities). The information has been prepared on a combined basis and excludes any investments of AAM Holdings, AAM Inc., or the Subsidiary Guarantors in non-guarantor subsidiaries. Intercompany transactions and amounts between Combined Entities have been eliminated.

Statement of Operations Information	(in millions)	
	Nine Months Ended September 30, 2021	Year Ended December 31, 2020
Net sales	**$ 3,011.3**	$ 3,649.8
Gross profit	**324.6**	301.2
Loss from operations	**(11.7)**	(458.3)
Net loss	**(93.6)**	(521.3)

Balance Sheet Information	(in millions)	
	September 30, 2021	December 31, 2020
Current assets	**$ 950.3**	$ 1,155.1
Noncurrent assets	**2,620.2**	2,765.2
Current liabilities	**1,139.4**	1,075.9
Noncurrent liabilities	**3,844.2**	4,233.6
Redeemable preferred stock	**—**	—
Noncontrolling interest	**—**	—

At September 30, 2021 and December 31, 2020, amounts owed by the Combined Entities to non-guarantor entities totaled approximately $810 million and $660 million, respectively, and amounts owed to the Combined Entities from non-guarantor entities totaled approximately $725 million and $750 million, respectively.

CYCLICALITY AND SEASONALITY

Our operations are cyclical because they are directly related to worldwide automotive production, which is itself cyclical and dependent on general economic conditions and other factors. Typically, our business is also moderately seasonal as our major OEM customers historically have an extended shutdown of operations (normally 1-2 weeks) in conjunction with their model year changeover and an approximate one-week shutdown in December. Our major OEM customers also occasionally have longer shutdowns of operations (up to six weeks) for program changeovers. Accordingly, our quarterly results may reflect these trends.

LITIGATION AND ENVIRONMENTAL MATTERS

We are involved in, or potentially subject to, various legal proceedings or claims incidental to our business. These include, but are not limited to, matters arising out of product warranties, contractual matters, and environmental obligations. Although the outcome of these matters cannot be predicted with certainty, at this time we do not believe that any of these matters, individually or in the aggregate, will have a material adverse effect on our financial condition, results of operations or cash flows.

We file U.S. federal, state and local income tax returns, as well as foreign income tax returns in jurisdictions throughout the world. We are also subject to examinations of these tax returns by the relevant tax authorities. Based on the status of these audits and the protocol of finalizing audits by the relevant tax authorities, it is not possible to estimate the impact of changes, if any, to previously recorded uncertain tax positions. Negative or unexpected outcomes of these examinations and audits and any related litigation could have a material adverse impact on our results of operations, financial condition and cash flows.

We are subject to various federal, state, local and foreign environmental and occupational safety and health laws, regulations and ordinances, including those regulating air emissions, water discharge, waste management and environmental cleanup. We will continue to closely monitor our environmental conditions to ensure that we are in compliance with all laws, regulations and ordinances. We have made, and anticipate continuing to make, capital and other expenditures (including recurring administrative costs) to comply with environmental requirements at our current and former facilities. Such expenditures were not significant in the third quarter of 2021.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

MARKET RISK

Our business and financial results are affected by fluctuations in global financial markets, including currency exchange rates and interest rates. Our hedging policy has been developed to manage these risks to an acceptable level based on management's judgment of the appropriate trade-off between risk, opportunity and cost. We do not hold financial instruments for trading or speculative purposes.

Currency Exchange Risk From time to time, we use foreign currency forward contracts to reduce the effects of fluctuations in exchange rates relating to certain foreign currencies. At September 30, 2021 and December 31, 2020, we had currency forward contracts with a notional amount of $167.3 million and $178.2 million outstanding, respectively. The potential decrease in fair value of foreign exchange contracts, assuming a 10% adverse change in the foreign currency exchange rates, would be approximately $15.2 million at September 30, 2021 and was approximately $16.2 million at December 31, 2020.

In 2019, we entered into a fixed-to-fixed cross-currency swap to reduce the variability of functional currency equivalent cash flows associated with changes in exchange rates on certain Euro-based intercompany loans. In the first quarter of 2020, we discontinued this cross-currency swap, which was in an asset position of $9.8 million on the date that it was discontinued. Also in the first quarter of 2020, we entered into a new fixed-to-fixed cross-currency swap to reduce the variability of functional currency equivalent cash flows associated with changes in exchange rates on certain Euro-based intercompany loans. The notional amount of the fixed-to-fixed cross-currency swap is €200.0 million, which was equivalent to $231.5 million and $244.2 million at September 30, 2021 and December 31, 2020, respectively. The potential decrease in fair value of the fixed-to-fixed cross-currency swap, assuming a 10% adverse change in the foreign currency exchange rates, would be approximately $23.2 million at September 30, 2021 and was approximately $24.4 million at December 31, 2020.

Future business operations and opportunities, including the expansion of our business outside North America, may further increase the risk that cash flows resulting from these global operations may be adversely affected by changes in currency exchange rates. If and when appropriate, we intend to manage these risks by creating natural hedges in the structure of our global operations, utilizing local currency funding of these expansions and various types of foreign exchange contracts.

Interest Rate Risk We are exposed to variable interest rates on certain credit facilities. From time to time, we have used interest rate hedging to reduce the effects of fluctuations in market interest rates. In 2019, we entered into a variable-to-fixed interest rate swap to reduce the variability of cash flows associated with interest payments on our variable rate debt. At September 30, 2021, we have the following notional amounts hedged in relation to our variable-to-fixed interest rate swap: $750.0 million through May 2022, $600.0 million through May 2023 and $500.0 million through May 2024.

The pre-tax earnings and cash flow impact of a one-percentage-point increase in interest rates (approximately 18% of our weighted-average interest rate at September 30, 2021) on our long-term debt outstanding, would be approximately $5.0 million at September 30, 2021 and was approximately $6.0 million at December 31, 2020, on an annualized basis.

Item 4. Controls and Procedures

Disclosure Controls and Procedures

Under the direction of our Chief Executive Officer and Chief Financial Officer, we evaluated our disclosure controls and procedures and internal control over financial reporting and concluded that our disclosure controls and procedures (as defined in Rules 13a-15(e) or 15d-15(e) under the Securities Exchange Act of 1934 (the "Exchange Act")) were effective as of September 30, 2021.

Changes in Internal Control over Financial Reporting

On January 1, 2019, we began the implementation of our global enterprise resource planning (ERP) systems at certain of the locations that were acquired as part of the MPG acquisition. As part of these implementations, we have modified the design and documentation of our internal control processes and procedures, where appropriate. We will continue to implement these ERP systems at certain locations throughout 2021.

Due to the ongoing impact of COVID-19, a significant number of our associates have continued to work remotely in some capacity during the three months ended September 30, 2021. This has not had a material effect on our internal control over financial reporting as we have maintained our existing controls and procedures over financial reporting during this period.

Except as described above with regard to implementation of ERP systems at certain legacy MPG locations, there were no changes in our internal control over financial reporting during the quarter ended September 30, 2021 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

There were no material changes from the risk factors previously disclosed in our December 31, 2020 Form 10-K.

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

The following table provides information about our equity security purchases during the quarter ended September 30, 2021:

ISSUER PURCHASES OF EQUITY SECURITIES

Period	Total Number of Shares (or Units) Purchased	Average Price Paid per Share (or Unit)	Total Number of Shares (or Units) Purchased as Part of Publicly Announced Plans or Programs	Maximum Number (or Approximate Dollar Value) of Shares (or Units) that May Yet Be Purchased Under the Plans or Programs
				(in millions)
July 1 - July 31, 2021	—	$ —	—	$ —
August 1 - August 31, 2021	2,880	9.72	—	—
September 1 - September 30, 2021	2,667	8.19	—	—
Total	5,547	$ 8.98	—	$ —

Item 6. Exhibits

Number	Description of Exhibit
*22	Subsidiary Guarantors and Issuers of Guaranteed Securities
*31.1	Certification of David C. Dauch, Chairman of the Board & Chief Executive Officer Pursuant to Rule 13a-14(a) of the Securities Exchange Act
*31.2	Certification of Christopher J. May, Vice President & Chief Financial Officer Pursuant to Rule 13a-14(a) of the Securities Exchange Act
*32	Certifications of David C. Dauch, Chairman of the Board & Chief Executive Officer and Christopher J. May, Vice President & Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
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.LAB	XBRL Taxonomy Extension Label Linkbase Document
**101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document
**101.DEF	XBRL Taxonomy Extension Definition Linkbase Document

* Filed herewith

** Submitted electronically with this Report.

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.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
(Registrant)

/s/ James G. Zaliwski
James G. Zaliwski
Chief Accounting Officer
November 5, 2021

EXHIBIT 22 - SUBSIDIARY GUARANTORS AND ISSUERS OF GUARANTEED SECURITIES
AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.

Our 6.875% Notes, 6.50% Notes, 6.25% Notes (due 2026), 6.25% Notes (due 2025) and 5.00% Notes are senior unsecured obligations of American Axle & Manufacturing, Inc., all of which are fully and unconditionally guaranteed, on a joint and several basis, by American Axle & Manufacturing Holdings, Inc. and substantially all domestic subsidiaries of American Axle & Manufacturing, Inc. and Metaldyne Performance Group, Inc. The table below defines these entities.

Entity	Organized Under Laws of
Parent Entity	
American Axle & Manufacturing Holdings, Inc.	Delaware
Issuing Entity	
American Axle & Manufacturing, Inc.	Delaware
Guarantor Entities	
AAM International Holdings, Inc.	Delaware
Auburn Hills Manufacturing, Inc.	Delaware
Oxford Forge, Inc.	Delaware
MSP Industries Corporation	Michigan
Colfor Manufacturing, Inc.	Delaware
Accugear, Inc.	Delaware
Rochester Manufacturing, LLC	Indiana
Metaldyne Performance Group, Inc.	Delaware
MPG Holdco I Inc.	Delaware
Metaldyne BSM, LLC	Delaware
Metaldyne M&A Bluffton, LLC	Delaware
Metaldyne Powertrain Components, Inc.	Delaware
Metaldyne Sintered Ridgway, LLC	Delaware
Metaldyne SinterForged Products, LLC	Delaware
Punchcraft Machining and Tooling, LLC	Delaware
HHI FormTech, LLC	Delaware
Jernberg Industries, LLC	Delaware
Impact Forge Group, LLC	Delaware
ASP HHI Holdings, Inc.	Delaware
ASP HHI Acquisition Co., Inc.	Delaware
ASP MD Holdings, Inc.	Delaware
MD Investors Corporation	Delaware
Metaldyne, LLC	Delaware
Gear Design and Manufacturing, LLC	Delaware
AAM Powder Metal Components, Inc.	Ohio
ASP Grede Intermediate Holdings LLC	Delaware
HHI Holdings, LLC	Delaware
AAM Casting Corp.	Delaware

EXHIBIT 31.1 - CERTIFICATION PURSUANT TO RULE 13a-14(a)
OF THE SECURITIES EXCHANGE ACT

I, David C. Dauch, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of American Axle & Manufacturing Holdings, Inc.;

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

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

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

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

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

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

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

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

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

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

Date: November 5, 2021

/s/ David C. Dauch
David C. Dauch
Chairman of the Board & Chief Executive Officer
(Principal Executive Officer)

EXHIBIT 31.2 - CERTIFICATION PURSUANT TO RULE 13a-14(a)
OF THE SECURITIES EXCHANGE ACT

I, Christopher J. May, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of American Axle & Manufacturing Holdings, Inc.;

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

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

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

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

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

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

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

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

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

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

Date: November 5, 2021

/s/ Christopher J. May
Christopher J. May
Vice President & Chief Financial Officer
(Principal Financial Officer)

EXHIBIT 32 - CERTIFICATIONS PURSUANT TO
18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of American Axle & Manufacturing Holdings, Inc. (Issuer) on Form 10-Q for the period ending September 30, 2021 as filed with the Securities and Exchange Commission on the date hereof (Report), I, David C. Dauch, Chairman of the Board & Chief Executive Officer of the Issuer, and I, Christopher J. May, Vice President & Chief Financial Officer of the Issuer, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Issuer.

/s/ David C. Dauch
David C. Dauch
Chairman of the Board &
Chief Executive Officer
November 5, 2021

/s/ Christopher J. May
Christopher J. May
Vice President &
Chief Financial Officer
November 5, 2021