

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D. C. 20549**

FORM 10-K

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

For the fiscal year ended **June 30, 2019**

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 No. 1-4982

PARKER-HANNIFIN CORPORATION

(Exact name of registrant as specified in its charter)

Ohio (State or other jurisdiction of Incorporation or Organization)	34-0451060 (I.R.S. Employer Identification No.)
6035 Parkland Boulevard, Cleveland, Ohio (Address of Principal Executive Offices)	44124-4141 (Zip Code)

Registrant's telephone number, including area code (216) 896-3000

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

Title of Each Class	Trading Symbol	Name of Each Exchange on which Registered
Common Shares, \$.50 par value	PH	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: **None**

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes No

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

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 and posted on its corporate website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the Registrant was required to submit and post such files). Yes No

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

Large Accelerated Filer	<input checked="" type="checkbox"/>	Accelerated Filer	<input type="checkbox"/>
Non-Accelerated Filer (Do not check if a smaller reporting company)	<input type="checkbox"/>	Smaller Reporting Company	<input type="checkbox"/>
Emerging Growth Company	<input type="checkbox"/>		

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

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

The aggregate market value of the outstanding common stock held by non-affiliates of the Registrant as of December 31, 2018: \$19,209,620,506.

The number of Common Shares outstanding on July 31, 2019 was 128,441,799.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Definitive Proxy Statement for the Company's 2019 Annual Meeting of Shareholders, to be held on October 23, 2019, are incorporated by reference into Part III of this Annual Report on Form 10-K.

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PARKER-HANNIFIN CORPORATION

FORM 10-K

Fiscal Year Ended June 30, 2019

PART I

ITEM 1. Business. Parker-Hannifin Corporation is a leading worldwide diversified manufacturer of motion and control technologies and systems, providing precision engineered solutions for a wide variety of mobile, industrial and aerospace markets. The Company was incorporated in Ohio in 1938. Our principal executive offices are located at 6035 Parkland Boulevard, Cleveland, Ohio 44124-4141, telephone (216) 896-3000. As used in this Annual Report on Form 10-K, unless the context otherwise requires, the terms "Company", "Parker", "we" or "us" refer to Parker-Hannifin Corporation and its subsidiaries, and the term "year" and references to specific years refer to the applicable fiscal year.

Our investor relations website address is www.phstock.com. We make available free of charge on or through our website our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and any amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as soon as reasonably practicable after filing or furnishing those reports electronically with the Securities and Exchange Commission. The information contained on or accessible through our website is not part of this Annual Report on Form 10-K.

The Board of Directors has adopted a written charter for each of its committees. These charters, as well as our Global Code of Business Conduct, Corporate Governance Guidelines and Independence Standards for Directors, are posted and available on our investor relations website under the Corporate Governance page. Shareholders may request copies of these corporate governance documents, free of charge, by writing to Parker-Hannifin Corporation, 6035 Parkland Boulevard, Cleveland, Ohio 44124-4141, Attention: Secretary, or by calling (216) 896-3000.

Our manufacturing, service, sales, distribution and administrative facilities are located in 37 states within the United States and in 49 other countries. We sell our products as original and replacement equipment through sales and distribution centers worldwide. We market our products through direct-sales employees, independent distributors and sales representatives. We supply products to approximately 459,000 customers in virtually every significant manufacturing, transportation and processing industry.

We have two reporting segments: Diversified Industrial and Aerospace Systems. During 2019, our technologies and systems were used in the products of these two reporting segments. For 2019, the Company's net sales were \$14.3 billion. Diversified Industrial Segment products accounted for 82% and Aerospace Systems Segment products accounted for 18% of those net sales.

Markets

Our technologies and systems are used throughout various industries and in various applications. The approximately 459,000 customers who purchase Parker products are found in almost every significant manufacturing, transportation and processing industry. No single customer accounted for more than 3% of our total net sales for the year ended June 30, 2019.

Diversified Industrial Segment. Our Diversified Industrial Segment sells products to both original equipment manufacturers ("OEMs") and distributors who serve the replacement markets in manufacturing, packaging, processing, transportation, mobile construction, refrigeration and air conditioning, agricultural and military machinery and equipment industries. The major markets served by our Diversified Industrial Segment are listed below by group:

- | | | |
|------------------------------------|--|--|
| Engineered Materials Group: | <ul style="list-style-type: none">• Aerospace• Agriculture• Chemical processing• Construction• Information technology• Life sciences• Microelectronics | <ul style="list-style-type: none">• Military• Oil & gas• Power generation• Renewable energy• Telecommunications• Transportation• Truck & bus |
| Filtration Group: | <ul style="list-style-type: none">• Agriculture• Aerospace & defense• Construction• Food & beverage• Heating, ventilation & air conditioning (HVAC)• Industrial machinery• Life sciences | <ul style="list-style-type: none">• Marine• Mining• Oil & gas• Power generation• Renewable energy• Transportation• Water purification |
| Fluid Connectors Group: | <ul style="list-style-type: none">• Aerial lift• Agriculture• Bulk chemical handling• Construction• Food & beverage• Fuel & gas delivery• Industrial machinery | <ul style="list-style-type: none">• Life sciences• Marine• Mining• Mobile• Oil & gas• Renewable energy• Transportation |
| Instrumentation Group: | <ul style="list-style-type: none">• Air conditioning• Alternative fuels• Analytical• Chemical• Diesel engine• Food & beverage• Industrial machinery | <ul style="list-style-type: none">• Life sciences• Microelectronics• Oil & gas• Refining• Refrigeration• Transportation |

Motion Systems Group:

Mobile:

- Agriculture
- Construction
- Marine
- Material handling
- Military
- Transportation
- Truck & bus
- Turf

Industrial:

- Distribution
- General machinery
- Machine tool
- Mining
- Oil & gas
- Power generation
- Semiconductor

Aerospace Systems Segment. Our Aerospace Systems Segment sells products primarily in the commercial and military aerospace markets to both OEMs and to end users for spares, maintenance, repair and overhaul. The major markets for products of the Aerospace Systems Segment are listed below:

- Aftermarket services
- Commercial transports
- Engines
- General & business aviation
- Helicopters
- Military aircraft
- Missiles
- Power generation
- Regional transports
- Unmanned aerial vehicles

Principal Products and Methods of Distribution

We offer hundreds of thousands of individual products, and no single product contributed more than 1% to our total net sales for the year ended June 30, 2019. Listed below are some of our principal products.

Diversified Industrial Segment. Our Diversified Industrial Segment products consist of a broad range of motion-control and fluid systems and components, which are described below by group:

Engineered Materials Group: static and dynamic sealing devices, including:

- Dynamic seals
- Elastomeric o-rings
- Electromagnetic interference shielding
- Extrusion & fabricated seals
- High-temperature metal seals
- Homogeneous & inserted elastomeric shapes
- Medical products fabrication & assembly
- Metal & plastic composite bonded seals
- Precision-cut seals
- Thermal management

Filtration Group: filters, systems and diagnostics solutions to monitor and remove contaminants from fuel, air, oil, water and other liquids and gases, including:

- Aerospace filters & systems
- Air pollution control & dust collection systems & filters
- Compressed air & gas treatment solutions
- Engine fuel, oil, air & closed crankcase ventilation filtration systems
- Filtration & purification systems
- Fluid condition monitoring systems
- Gas turbine air inlet filters
- Heating, ventilation & air conditioning filters
- Hydraulic & lubrication filters & systems
- Industrial & analytical gas generators
- Instrumentation filters
- Membrane, fiber, & sintered metal filters
- Natural gas filters
- Process liquid, air & gas filters
- Sterile air filters
- Water purification filters & systems

Fluid Connectors Group: connectors which control, transmit and contain fluid, including:

- Check valves
- Diagnostic and IoT sensors
- Hose couplings
- Hose crimpers
- Industrial hose
- Low pressure fittings & adapters
- Polytetrafluoroethylene (PTFE) hose & tubing
- Quick couplings
- Rubber & thermoplastic hose
- Tube fittings & adapters
- Tubing & plastic fittings

Instrumentation Group: high quality flow control solutions that are critical to a wide range of applications involving extreme corrosion resistance, temperatures, pressures and precise flow, including:

- Accumulators
- Analytical instruments & sample conditioning systems
- Compressed natural gas dispensers
- Cryogenic valves
- Electronic valves
- Emissions
- Filter driers
- Fluid system & control fittings, meters, valves, regulators, & manifold valves
- Fluoropolymer chemical delivery fittings, valves & pumps
- High pressure fittings, valves, pumps & systems
- High-purity gas delivery fittings, valves & regulators
- Miniature valves & pumps
- Natural gas on-board fuel systems
- Pressure regulating valves
- Refrigeration & air conditioning electronic controls & monitoring
- Solenoid valves

Motion Systems Group: hydraulic, pneumatic, and electromechanical components and systems for builders and users of mobile and industrial machinery and equipment, including:

Hydraulic Actuation:

- Cylinders
- Rotary actuators
- Helical actuators
- Accumulators
- Electrohydraulic actuators
- Coolers

Hydraulic Pumps & Motors:

- Piston pumps & motors
- Vane pumps & motors
- Gerotor pumps & motors
- Power take-offs
- Fan drives
- Electrohydraulic pumps
- Drive controlled pumps
- Screw pumps
- Integrated hydrostatic transmissions

Hydraulic and Electro Hydraulic Systems:

- Hydraulic valves
- Cartridge valves
- Industrial valves
- Mobile valves

Pneumatics:

- Pneumatic valves
- Air preparation (FRL) & dryers
- Pneumatic cylinders
- Grippers
- IO link controllers

Electronics:

- Electric actuators & positioners
- Electronic displays & human machine interfaces (HMI)
- Controllers & HMI
- Sensors
- IoT
- Electric motors & gearheads
- Drives (AC/DC Servo)
- Joysticks
- Clusters
- Software

Diversified Industrial Segment products include standard products, as well as custom products which are engineered and produced to OEM specifications for application to particular end products. Standard and custom products are also used in the replacement of original products. We market our Diversified Industrial Segment products primarily through field sales employees and approximately 15,500 independent distributor locations throughout the world.

Aerospace Systems Segment. Our Aerospace Systems Segment products are used in commercial and military airframe and engine programs and include:

- Control actuation systems & components
- Engine systems & components
- Fluid conveyance systems & components
- Fluid metering, delivery & atomization devices
- Fuel systems & components
- Fuel tank inerting systems
- Hydraulic systems & components
- Lubrication components
- Pneumatic control components
- Power conditioning & management systems
- Thermal management
- Wheels & brakes

We market our Aerospace Systems Segment products through our regional sales organizations, which sell directly to OEMs and end users throughout the world.

Competition

Parker operates in highly competitive markets and industries. We offer our products over numerous, varied markets through our divisions operating in 50 countries. Our global scope means that we have hundreds of competitors across our various markets and product offerings. Our competitors include U.S. and non-U.S. companies. These competitors and the degree of competition vary widely by product lines, end markets, geographic scope and/or geographic locations. Although each of our segments has numerous competitors, given our market and product breadth, no single competitor competes with the Company with respect to all the products we manufacture and sell.

In the Diversified Industrial Segment, Parker competes on the basis of product quality and innovation, customer service, manufacturing and distribution capability, and price competitiveness. We believe that we are one of the market leaders in most of the major markets for our most significant Diversified Industrial Segment products. We have comprehensive motion and control packages for the broadest systems capabilities. While our primary global competitors include Bosch Rexroth AG, Danaher Corporation, Danfoss A/S, Donaldson Company, Inc., Eaton Corporation plc, Emerson Climate Technologies, Inc., Emerson/ASCO, Festo AG & Co., Freudenberg-NOK, Gates Corporation, IMI/Norgren, SMC Corporation, Swagelok Company, and Trelleborg AB, none of these businesses compete with every group or product in our Diversified Industrial Segment.

In the Aerospace Systems Segment, we have developed alliances with key customers based on our advanced technological and engineering capabilities, superior performance in quality, delivery, and service, and price competitiveness. This has enabled us to obtain significant original equipment business on new aircraft programs for our systems and components as well as the follow-on repair and replacement business for these programs. Further, the Aerospace Systems Segment utilizes low-cost manufacturing techniques and best cost region strategies to achieve a lower cost producer status. Although we believe that we are one of the market leaders in most of the major markets for our most significant Aerospace Systems Segment products, primary global competitors for these products include Eaton Corporation plc, Honeywell International, Inc., Moog Inc., Triumph Group, Inc., UTC Collins Aerospace, Woodward, Inc. and Safran S.A.

We believe that our platform utilizing eight core technologies, which consist of electromechanical, filtration, fluid handling, hydraulics, pneumatics, process control, refrigeration, and sealing and shielding, is a positive factor in our ability to compete effectively with both large and small competitors. For both of our segments, we believe that the following factors also contribute to our ability to compete effectively:

- decentralized business model;
- technology breadth and interconnectivity;
- engineered products with intellectual property;
- long product life cycles;
- balanced OEM vs. aftermarket;
- low capital investment requirements; and
- great generators and deployers of cash over the cycle.

Patents, Trademarks, Licenses

We own a number of patents, trademarks, copyrights and licenses related to our products. We also have exclusive and non-exclusive rights to use patents, trademarks and copyrights owned by others. In addition, patent and trademark applications are pending, although there can be no assurance that further patents and trademarks will be issued. We do not depend on any single patent, trademark, copyright or license or group of patents, trademarks, copyrights or licenses to any material extent.

Backlog and Seasonal Nature of Business

Backlog consists of written firm orders from a customer to deliver products and, in the case of blanket purchase orders, only includes the portion of the order for which a schedule or release date has been agreed to with the customer. The dollar value of backlog is equal to the amount that is expected to be billed to the customer and reported as a sale. Our backlog by business segment for the past two years is included in Part II, Item 7 of this Annual Report on Form 10-K and is incorporated herein by reference. Our backlog was \$4.2 billion at June 30, 2019 and \$4.1 billion at June 30, 2018. Approximately 90 percent of our backlog at June 30, 2019 is scheduled for delivery in the succeeding twelve months. Because of the breadth and global scope of our business, our overall business is generally not seasonal in nature.

Environmental Regulation

Certain of our operations require the use and handling of hazardous materials and, as a result, the Company is subject to United States federal, state, and local laws and regulations as well as non-U.S. laws and regulations designed to protect the environment and regulate the discharge of materials into the environment. These laws impose penalties, fines and other sanctions for non-compliance and liability for response costs, property damage and personal injury resulting from past and current spills, disposals or other releases of, or exposures to, hazardous materials. Among other environmental laws, we are subject to the United States federal "Superfund" law, under which we have been designated as a "potentially responsible party" and may be liable for cleanup costs associated with various waste sites, some of which are on the United States Environmental Protection Agency's Superfund priority list.

As of June 30, 2019, Parker was involved in environmental remediation at various U.S. and non-U.S. manufacturing facilities presently or formerly operated by us and as a "potentially responsible party," along with other companies, at off-site waste disposal facilities and regional sites.

We believe that our policies, practices and procedures are properly designed to prevent unreasonable risk of environmental damage and the consequent financial liability to the Company. Compliance with environmental laws and regulations requires continuing management efforts and expenditures by the Company. Compliance with environmental laws and regulations has not had in the past, and, we believe, will not have in the future, a material adverse effect on our capital expenditures, earnings, or competitive position.

Our reserve for environmental matters is discussed in Note 16 to the Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K and is incorporated herein by reference.

Energy Matters and Sources and Availability of Raw Materials

Our primary energy source for both of our business segments is electric power. While we cannot predict future costs of electric power, the primary source for production of the required electric power is expected to be coal and natural gas from coal and natural gas reserves available to electric utilities. We are subject to governmental regulations in regard to energy supplies in the United States and elsewhere. To date, we have not experienced any significant disruptions of our operations due to energy curtailments.

We primarily use steel, brass, copper, aluminum, nickel, rubber and thermoplastic materials and chemicals as the principal raw materials in our products. We expect these materials to be available from numerous sources in quantities sufficient to meet our requirements.

Employees

We employ approximately 55,610 persons as of June 30, 2019, of whom approximately 28,500 were employed by foreign subsidiaries.

Acquisitions

The Company made no material acquisitions in 2019. During 2019, we entered into a definitive agreement under which we expect to acquire LORD Corporation ("Lord"). The proposed Lord acquisition and prior-year acquisitions are discussed in Note 3 to the Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K and are incorporated herein by reference. On July 29, 2019, the Company announced that it had entered into a definitive agreement to acquire EMFCO Holdings Incorporated, parent company of Exotic Metals Forming Company LLC ("Exotic"). The proposed Exotic acquisition is discussed in Note 1 to the Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K and is incorporated herein by reference.

ITEM 1A. Risk Factors.

The following "risk factors" identify what we believe to be the risks that could materially adversely affect our financial and/or operational performance. These risk factors should be considered and evaluated together with information incorporated by reference or otherwise included elsewhere in this Annual Report on Form 10-K. Additional risks not currently known to the Company or that the Company currently believes are immaterial also may impair the Company's business, financial condition, results of operations and cash flows.

Risks arising from uncertainty in worldwide and regional economic conditions may harm our business and make it difficult to project long-term performance.

Our business is sensitive to global macro-economic conditions. Future macroeconomic downturns may have an adverse effect on our business, results of operations and financial condition, as well as our distributors, customers and suppliers, and on activity in many of the industries and markets we serve. Among the economic factors which may have such an effect are manufacturing and other end-market activity, currency exchange rates, air travel trends, difficulties entering new markets, tariffs and governmental trade and monetary policies, and general economic conditions such as inflation, deflation, interest rates and credit availability. These factors may, among other things, negatively impact our level of purchases, capital expenditures, and creditworthiness, as well as our distributors, customers and suppliers, and, therefore, the Company's revenues, operating profits, margins, and order rates.

We cannot predict changes in worldwide or regional economic conditions and government policies, as such conditions are highly volatile and beyond our control. If these conditions deteriorate or remain at depressed levels for extended periods, however, our business, results of operations and financial condition could be materially adversely affected.

As a global business, we are exposed to economic, political and other risks in different countries in which we operate, which could materially reduce our sales, profitability or cash flows, or materially increase our liabilities.

Our net sales derived from customers outside the United States were approximately 39% in 2019, 41% in 2018 and 40% in 2017. In addition, many of our manufacturing operations and suppliers are located outside the United States. The Company expects net sales from non-U.S. markets to continue to represent a significant portion of its total net sales. Our non-U.S. operations are subject to risks in addition to those facing our domestic operations, including:

- fluctuations in currency exchange rates and/or changes in monetary policy;
- limitations on ownership and on repatriation of earnings;
- transportation delays and interruptions;
- political, social and economic instability and disruptions;
- government embargoes or trade restrictions;
- the imposition of duties and tariffs and other trade barriers;
- import and export controls;
- labor unrest and current and changing regulatory environments;
- the potential for nationalization of enterprises;
- difficulties in staffing and managing multi-national operations;
- limitations on our ability to enforce legal rights and remedies;
- potentially adverse tax consequences; and
- difficulties in implementing restructuring actions on a timely basis.

If we are unable to successfully manage the risks associated with expanding our global business or adequately manage operational fluctuations internationally, the risks could have a material adverse effect on our business, results of operations or financial condition.

We are subject to risks relating to acquisitions and joint ventures, and risks relating to the integration of acquired companies, including risks related to the integration of CLARCOR Inc. ("Clarcor") and the proposed acquisitions of Lord and Exotic.

We expect to continue our strategy of identifying and acquiring businesses with complementary products and services, and entering into joint ventures, which we believe will enhance our operations and profitability. However, there can be no assurance that we will be able to continue to find suitable businesses to purchase or joint venture opportunities, or that we will be able to acquire such businesses or enter into such joint ventures on acceptable terms. Furthermore, there are no assurances that we will be able to avoid acquiring or assuming unexpected liabilities. If we are unable to avoid these risks, our results of operations and financial condition could be materially adversely affected.

For example, although we expect to realize certain benefits as a result of our proposed acquisitions of Lord and Exotic, there is the possibility that we may not complete these proposed acquisitions or that following our acquisitions of Lord and Exotic we may be unable to successfully integrate those businesses in order to realize the anticipated benefits of the acquisitions or to do so within the intended timeframe. Uncertainties associated with our proposed acquisitions of Lord and Exotic may also cause a loss of management personnel and other key employees, which could adversely affect our future business, operations and financial results.

The risks and uncertainties of our proposed acquisitions of Lord and Exotic include, among others:

- the occurrence of any event, change or other circumstances that could delay the closing of the proposed transactions;
- the possibility of non-consummation of the proposed transactions and termination of the acquisition agreements;
- the failure to satisfy any of the conditions to the proposed transactions set forth in the acquisition agreements; the possibility that a governmental entity may prohibit the consummation of the proposed transactions or may delay or refuse to grant a necessary regulatory approval in connection with the proposed transactions or that in order for the parties to obtain any such regulatory approvals, conditions are imposed that adversely affect the anticipated benefits from the proposed transactions or cause the parties to abandon the proposed transactions;
- adverse effects on our common stock or other securities because of the failure to complete the proposed transactions;
- business disruptions due to transaction-related uncertainty or other factors making it more difficult to maintain relationships with employees, business partners or governmental entities;
- the possibility that the expected synergies and value creation from the proposed transactions will not be realized or will not be realized within the expected time period;
- the parties being unable to successfully implement integration strategies;
- and
- and significant transaction costs related to the proposed transactions.

In addition, we may not be able to integrate successfully any businesses that we purchase into our existing business and it is possible that any acquired businesses or joint ventures may not be profitable. For example, we have devoted significant management attention and resources to integrating the business and operations of Clarcor. We may encounter or have encountered the following difficulties during the integration process of Clarcor:

- the consequences of a change in tax treatment, including the cost of integration and compliance and the possibility that the full benefits anticipated to result from the Clarcor acquisition may not be realized;
- delays in the integration of management teams, strategies, operations, products, and services;
- differences in business backgrounds, corporate cultures, and management philosophies that may delay successful integration;
- the ability to retain key employees;
- the ability to create and enforce uniform standards, controls, procedures, policies, and information systems;
- challenges of integrating complex systems, technologies, networks, and other assets of Clarcor in a manner that minimizes any adverse impact or disruptions to customers, suppliers, employees, and other constituencies; and
- unknown liabilities and unforeseen increased expenses or delays associated with the integration beyond current estimates.

The successful integration of new businesses and the success of joint ventures also depend on our ability to manage these new businesses and cut excess costs. If we are unable to avoid these risks, our results of operations and financial condition could be materially adversely affected.

Our results may be adversely affected if expanded operations from the acquisition of Clarcor or the proposed acquisitions of Lord and Exotic are not effectively managed.

Our acquisition of Clarcor greatly expanded the size and complexity of our business. The proposed acquisitions of Lord and Exotic would further expand the size and complexity of our business. Our future success depends, in part, on the ability to manage this expanded business, which may pose or has posed substantial challenges for management, including challenges related to the management and monitoring of the expanded global operations and new manufacturing processes and products, and the associated costs and complexity. There can be no assurance of successful management of these matters or that we will realize the expected benefits of the acquisition of Clarcor or the proposed acquisitions of Lord and Exotic.

The Company may be subject to risks relating to organizational changes.

We regularly execute organizational changes such as acquisitions, divestitures and realignments to support our growth and cost management strategies. We also engage in initiatives aimed to increase productivity, efficiencies and cash flow and to reduce costs. The Company commits significant resources to identify, develop and retain key employees to ensure uninterrupted leadership and direction. If we are unable to successfully manage these and other organizational changes, the ability to complete such activities and realize anticipated synergies or cost savings as well as our results of operations and financial condition could be materially adversely affected. We cannot offer assurances that any of these initiatives will be beneficial to the extent anticipated, or that the estimated efficiency improvements, incremental cost savings or cash flow improvements will be realized as anticipated or at all.

Increased cybersecurity threats and more sophisticated and targeted computer crime could pose a risk to our information technology systems.

We rely extensively on information technology systems to manage and operate our business, some of which are managed by third parties. The security and functionality of these information technology systems, and the processing of data by these systems, are critical to our business operations. If these systems, or any part of the systems, are damaged, intruded upon, attacked, shutdown or cease to function properly (whether by planned upgrades, force majeure, telecommunications failures, hardware or software break-ins or viruses, or other cybersecurity incidents) and we suffer any resulting interruption in our ability to manage and operate our business or if our products are effected, our results of operations and financial condition could be materially adversely affected. In addition to existing risks, any adoption or deployment of new technologies via acquisitions or internal initiatives may increase our exposure to risks, breaches, or failures, which could materially adversely affect our results of operations or financial condition. Furthermore, the Company may have access to sensitive, confidential, or personal data or information that may be subject to privacy and security laws, regulations, or other contractually-imposed controls. Despite our use of reasonable and appropriate controls, material security breaches, theft, misplaced, lost or corrupted data, programming, or employee errors and/or malfeasance could lead to the compromise or improper use of such sensitive, confidential, or personal data or information, resulting in possible negative consequences, such as fines, penalties, loss of reputation, competitiveness or customers, or other negative consequences resulting in adverse impacts to our results of operations or financial condition.

Changes in the demand for and supply of our products may adversely affect our financial results, financial condition and cash flow.

Demand for and supply of our products may be adversely affected by numerous factors, some of which we cannot predict or control. Such factors include:

- changes in business relationships with and purchases by or from major customers, suppliers or distributors, including delays or cancellations in shipments, disputes regarding contract terms or significant changes in financial condition, and changes in contract cost and revenue estimates for new development programs;
- changes in product mix;
- changes in the market acceptance of our products;
- increased competition in the markets we serve;
- declines in the general level of industrial production;
- weakness in the end-markets we serve;
- fluctuations in the availability or the prices of raw materials; and
- fluctuations in currency exchange rates.

If any of these factors occur, the demand for and supply of our products could suffer, which could materially adversely affect the Company's results of operations.

The development of new products and technologies requires substantial investment and is required to remain competitive in the markets we serve. If we are unable to successfully introduce new commercial products, our profitability could be adversely affected.

The markets we serve are characterized by rapidly changing technologies and frequent introductions of new products and services. Our ability to develop new products based on technological innovation can affect our competitive position and often requires the investment of significant resources. If we cannot develop, or have difficulties or delays developing new and enhanced products and services, or if we fail to gain market or regulatory acceptance of new products and technologies, our revenues may be materially reduced and our competitive position could be materially adversely affected. In addition, we may invest in research and development of products and services, or in acquisitions or other investments, that do not lead to significant revenue, which could adversely affect our profitability.

Price and supply fluctuations of the raw materials used in our production processes and by our suppliers of component parts could negatively impact our financial results.

Our supply of raw materials could be interrupted for a variety of reasons, including availability and pricing. Furthermore, recently implemented changes to United States and other countries' tariff and import/export regulations may have a negative impact on the availability and pricing of raw materials. Prices for raw materials necessary for production have fluctuated significantly in the past and significant increases could adversely affect our results of operations and profit margins. Our efforts to manage these fluctuations by, among other things, passing along price increases to our customers, may be subject to a time delay between the increased raw material prices and our ability to increase the price of our products, or we may be unable to increase the prices of our products due to pricing pressure, contract terms or other factors. Any such inability to manage fluctuations could adversely impact our results of operations and cash flows.

Our suppliers of component parts may significantly and quickly increase their prices in response to increases in costs of raw materials that they use to manufacture the component parts. As a result, we may not be able to increase our prices commensurately with our increased costs. Consequently, our results of operations or financial condition could be materially adversely affected.

Changes in the competitive environment in which we operate may eliminate any competitive advantages that we currently have, which could adversely impact our business.

Our operations are subject to competition from a wide variety of global, regional and local competitors, which could adversely affect our results of operations by creating downward pricing pressure and/or a decline in our margins or market shares. To compete successfully, we must excel in terms of product quality and innovation, technological and engineering capability, manufacturing and distribution capability, delivery, price competitiveness, and customer experience.

Litigation and legal and regulatory proceedings against the Company could decrease our liquidity, impair our financial condition and adversely affect our results of operations.

From time to time, we are subject to litigation or other commercial disputes and other legal and regulatory proceedings relating to our business. Due to the inherent uncertainties of any litigation, commercial disputes or other legal or regulatory proceedings, we cannot accurately predict their ultimate outcome, including the outcome of any related appeals. An unfavorable outcome could materially adversely impact our business, financial condition and results of operations. Furthermore, as required by U.S. generally accepted accounting principles, we establish reserves based on our assessment of contingencies, including contingencies related to legal claims asserted against us. Subsequent developments in legal proceedings may affect our assessment and estimates of the loss contingency recorded as a reserve and require us to make payments in excess of our reserves, which could have an adverse effect on our results of operations.

We are subject to national and international laws and regulations, such as the anti-corruption laws of the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act, relating to our business and our employees. Despite our policies, procedures and compliance programs, our internal controls and compliance systems may not be able to protect the Company from prohibited acts willfully committed by our employees, agents or business partners that would violate such applicable laws and regulations. Any such improper acts could damage the Company's reputation, subject us to civil or criminal judgments, fines or penalties, and could otherwise disrupt the Company's business, and as a result, could materially adversely impact our business, financial condition and results of operations.

Further, our operations are subject to certain antitrust and competition laws in the jurisdictions in which we conduct our business, in particular the United States and Europe. These laws prohibit, among other things, anticompetitive agreements and practices. If any of our commercial agreements or practices are found to violate or infringe such laws, we may be subject to civil and other penalties. We may also be subject to third-party claims for damages. Further, agreements that infringe antitrust and competition laws may be void and unenforceable, in whole or in part, or require modification in order to be lawful and enforceable. Accordingly, any violation of these laws could harm our reputation and could have a material adverse effect on our earnings, cash flows and financial condition.

Additional liabilities relating to changes in tax rates or exposure to additional income tax liabilities could adversely impact our financial condition and cash flow.

Parker is subject to income taxes in the U.S. and various non-U.S. jurisdictions. Our domestic and international tax liabilities are dependent upon the location of earnings among these different jurisdictions. Our future results of operation could be adversely affected by changes in effective tax rate as a result of changes in tax laws and judicial or regulatory interpretation thereof, the mix of earnings in countries with differing statutory tax rates, changes in overall profitability, changes in generally accepted accounting principles, changes in the valuation of deferred tax assets or changes in tax laws or regulations. In addition, the amount of income taxes paid by the Company is subject to ongoing audits by U.S. federal, state and local tax authorities and by non-U.S. tax authorities. If these audits result in assessments different from amounts reserved, future financial results may include unfavorable adjustments to the Company's tax liabilities, which could have a material adverse effect on the Company's results of operations.

Due to the nature of our business and products, we may be liable for damages based on product liability claims.

Our businesses expose us to potential product liability risks that are inherent in the design, manufacture and sale of our products and the products of third-party vendors that we use or resell. Significant product liability claims could have a material adverse effect on the Company's financial condition, liquidity and results of operations. Although we currently maintain what we believe to be suitable and adequate product liability insurance, there can be no assurance that we will be able to maintain our insurance on acceptable terms or that our insurance will provide adequate protection against all potential significant liabilities.

Failure to protect our intellectual property and know-how could reduce or eliminate any competitive advantage and reduce our sales and profitability, and the cost of protecting our intellectual property may be significant.

Protecting our intellectual property is critical to our innovation efforts. We own a number of patents, trade secrets, copyrights, trademarks, trade names and other forms of intellectual property related to our products and services throughout the world and the operation of our business. We also have exclusive and non-exclusive rights to intellectual property owned by others. Our intellectual property may be challenged or infringed upon by third parties or we may be unable to maintain, renew or enter into new license agreements with third-party owners of intellectual property on reasonable terms. In addition, the global nature of our business increases the risk that our intellectual property may be subject to infringement or other unauthorized use or disclosure by others. In some cases, our ability to protect our intellectual property rights by legal recourse or otherwise may be limited, particularly in countries where laws or enforcement practices are inadequate or undeveloped. Unauthorized use or disclosure of our intellectual property rights or our inability to preserve existing intellectual property rights could adversely impact our competitive position and results of operations.

Our indebtedness and restrictive covenants under our credit facilities could limit our operational and financial flexibility.

We have incurred significant indebtedness, and may incur additional debt for acquisitions, operations, research and development and capital expenditures. Our ability to make interest and scheduled principal payments and meet restrictive covenants could be adversely impacted by changes in the availability, terms and cost of capital, changes in interest rates or changes in our credit ratings or our outlook. These changes could increase our cost of financing and limit our debt capacity, thereby limiting our ability to pursue acquisition opportunities, react to market conditions and meet operational and capital needs, which may place us at a competitive disadvantage.

We carry goodwill on our balance sheet, which is subject to impairment testing and could subject us to significant non-cash charges to earnings in the future if impairment occurs.

We have goodwill recorded on our balance sheet. Goodwill is not amortized, but is tested for impairment annually in the second quarter or more often if events or changes in circumstances indicate a potential impairment may exist. Factors that could indicate that our goodwill is impaired include a decline in our stock price and market capitalization, lower than projected operating results and cash flows, and slower growth rates in our industry. Declines in our stock price, lower operating results and any decline in industry conditions in the future could increase the risk of impairment. Impairment testing incorporates our estimates of future operating results and cash flows, estimates of allocations of certain assets and cash flows among reporting units, estimates of future growth rates, and our judgment regarding the applicable discount rates used on estimated operating results and cash flows. If we determine at a future time that further impairment exists, it may result in a significant non-cash charge to earnings and lower stockholders' equity.

We may be required to make material expenditures in order to comply with environmental laws and climate change regulations, or incur additional liabilities under these laws and regulations.

Our operations necessitate the use and handling of hazardous materials and, as a result, subject us to various U.S. federal, state and local laws and regulations, as well as non-U.S. laws, designed to protect the environment and to regulate the discharge of materials into the environment. These laws impose penalties, fines and other sanctions for non-compliance and liability for response costs, property damages and personal injury resulting from past and current spills, disposals or other releases of, or the exposure to, hazardous materials. Among other laws, we are subject to the U.S. federal "Superfund" law, under which we have been designated as a "potentially responsible party" and may be liable for clean-up costs associated with various waste sites, some of which are on the United States Environmental Protection Agency's Superfund priority list. We could incur substantial costs as a result of non-compliance with or liability for clean-up or other costs or damages under environmental laws, including the "Superfund" law.

In addition, increased worldwide focus on climate change issues has led to legislative and regulatory efforts to limit greenhouse gas emissions, including regulation of such emissions through a "cap-and-trade" system globally. Increased regulation of greenhouse gas emissions and other climate change concerns could subject us to additional costs and restrictions, including increased energy and raw material costs. Until definitive regulations are adopted, we are not able to predict how such regulations would affect our business, operations or financial results.

We may be subject to other more stringent environmental laws in the future. If more stringent environmental laws are enacted in the future, these laws could have a material adverse effect on our business, results of operations and financial condition.

Increasing costs of certain employee and retiree benefits could adversely affect our liability for such benefits.

The funding requirements and the amount of expenses recorded for our defined benefit pension plans are dependent on changes in market interest rates and the value of plan assets, which are dependent on actual plan asset returns. Significant changes in market interest rates and decreases in the fair value of plan assets and investment losses on plan assets would increase funding requirements and expenses and may adversely impact our results of operations.

The Company absorbs a portion of healthcare costs for its employees. If healthcare costs rise significantly and we continue to absorb the majority of these costs, these increasing costs may adversely impact our future results of operations.

As a provider of products to the U.S. government, we are subject to additional risks related to future government spending as well as unusual performance conditions and enhanced compliance risks.

In addition to the risks identified herein, doing business with the U.S. government subjects us to unusual risks, including dependence on the level of government spending and compliance with and changes in governmental acquisition regulations. Agreements relating to the sale of products to government entities may be subject to termination, reduction or modification, either at the convenience of the government or for our failure to perform, or other unsatisfactory performance under the applicable contract. We are subject to government investigations of our business practices and compliance with government acquisition regulations. If the Company were charged with wrongdoing as a result of any such investigation, it could be suspended from bidding on or receiving awards of new government contracts, and we could be subject to fines or penalties associated with contract non-compliance or resulting from such investigations, which could have a material adverse effect on our results of operations.

ITEM 1B. Unresolved Staff Comments. None.

ITEM 1C. Information about our Executive Officers.

Our executive officers as of August 15, 2019, were as follows:

Name	Position	Officer Since(1)	Age as of 8/15/2019
Thomas L. Williams	Chairman of the Board, Chief Executive Officer and Director	2005	60
Lee C. Banks	President, Chief Operating Officer and Director	2001	56
Catherine A. Suever	Executive Vice President – Finance & Administration and Chief Financial Officer	2010	60
Mark J. Hart	Executive Vice President – Human Resources & External Affairs	2016	54
William R. "Skip" Bowman	Vice President and President - Instrumentation Group	2016	61
Thomas C. Gentile	Vice President – Global Supply Chain	2017	47
Todd M. Leombruno	Vice President and Controller	2017	49
Joseph R. Leonti	Vice President, General Counsel and Secretary	2014	47
Robert W. Malone	Vice President and President – Filtration Group	2014	55
M. Craig Maxwell	Vice President – Chief Technology and Innovation Officer	2003	61
Dinu J. Parel	Vice President and Chief Information Officer	2018	39
Jennifer A. Parmentier	Vice President and President – Motion Systems Group	2015	52
Andrew D. Ross	Vice President and President – Fluid Connectors Group	2012	52
Roger S. Sherrard	Vice President and President – Aerospace Group	2003	53
Andrew M. Weeks	Vice President and President – Engineered Materials Group	2015	56

(1) Executive officers are elected by the Board of Directors to serve for a term of one year or until their respective successors are elected, except in the case of death, resignation or removal. Messrs. Leonti, Maxwell, and Sherrard have served in the executive capacities indicated above during each of the past five years.

Mr. Williams has been a Director since January 2015; Chief Executive Officer since February 2015; and Chairman of the Board since January 2016. He was an Executive Vice President from August 2008 to February 2015 and an Operating Officer from November 2006 to February 2015. He is also a Director of Goodyear Tire & Rubber Company.

Mr. Banks has been a Director since January 2015 and President and Chief Operating Officer since February 2015. He was an Executive Vice President from August 2008 to February 2015 and an Operating Officer from November 2006 to February 2015. He is also a Director of Nordson Corporation.

Ms. Suever has been Executive Vice President - Finance & Administration and Chief Financial Officer since April 2017. She was Vice President and Controller from December 2010 to April 2017. She is also a director of Hexcel Corporation.

Mr. Hart has been Executive Vice President - Human Resources & External Affairs since January 2016. He was Vice President - Total Rewards from August 2013 to January 2016.

Mr. Bowman has been Vice President and President - Instrumentation Group since September 2016. He was Vice President, Operations - Filtration Group from March 2015 to August 2016; and Vice President, Operations - Fluid Connectors Group from November 2007 to February 2015.

Mr. Gentile has been Vice President - Global Supply Chain since July 2017. He was General Manager of the Company's domnick hunter Process Filtration Division from December 2013 to July 2017.

Mr. Leombruno has been Vice President and Controller since July 2017. He was Vice President and Controller - Engineered Materials Group from January 2015 to June 2017; and Director of Investor Relations from June 2012 to December 2014.

Mr. Leonti has been Vice President, General Counsel and Secretary since July 2014. He was Assistant Secretary from April 2011 to July 2014; and Associate General Counsel from January 2008 to July 2014.

Mr. Malone has been Vice President and President of the Filtration Group since December 2014. He was Vice President - Operations of the Filtration Group from January 2013 to December 2014.

Mr. Parel has been Vice President and Chief Information Officer since October 2018. He was Vice President and Chief Information Officer at Dover Corporation from May 2016 through October 2018. Prior to Dover, he held several IT leadership roles at Baker Hughes from March 2010 to May 2016, including IT Integration Leader and Senior Director, IT North America.

Ms. Parmentier has been Vice President and President of the Motion Systems Group since February 2019. She was Vice President and President of the Engineered Materials Group from September 2015 to February 2019. She was General Manager of the Hose Products Division from May 2014 to September 2015; and General Manager of the Sporlan Division from May 2012 to May 2014.

Mr. Ross has been Vice President since July 2012 and President of the Fluid Connectors Group since September 2015. He was President of the Engineered Materials Group from July 2012 to September 2015.

Mr. Weeks has been Vice President and President of the Engineered Materials Group since February 2019. He was Vice President and President of the Motion Systems Group from September 2015 to February 2019. He was Vice President - Operations of the Aerospace Group from April 2013 to September 2015.

ITEM 2. Properties. Our corporate headquarters is located in Cleveland, Ohio, and, at June 30, 2019, the Company maintained approximately 290 manufacturing plants. We also maintain various sales and administrative offices and distribution centers throughout the world. None of these plants, administrative offices or distribution centers are individually material to our operations. The facilities are situated in 37 states within the United States and in 49 other countries. We own the majority of our manufacturing plants, and our leased properties primarily consist of sales and administrative offices and distribution centers.

We believe that our properties have been adequately maintained, are in good condition generally and are suitable and adequate for our business as presently conducted. The extent to which we utilize our properties varies by property and from time to time. We believe that our restructuring efforts have brought capacity levels closer to present and anticipated needs. Most of our manufacturing facilities remain capable of handling volume increases.

ITEM 3. Legal Proceedings. None.

ITEM 4. Mine Safety Disclosures. Not applicable.

PART II

ITEM 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

- (a) *Market for the Registrant’s Common Equity.* The Company’s common stock is listed for trading on the New York Stock Exchange ("NYSE") under the symbol "PH". As of July 31, 2019, the number of shareholders of record of the Company was 3,464.
- (b) *Use of Proceeds.* Not Applicable.
- (c) *Purchases of Equity Securities by the Issuer and Affiliated Purchasers.*

ISSUER PURCHASES OF EQUITY SECURITIES

Period	(a) Total Number of Shares Purchased	(b) Average Price Paid Per Share	(c) Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (1)	(d) Maximum Number (or Approximate Dollar Value) of Shares that May Yet Be Purchased Under the Plans or Programs
April 1, 2019 through April 30, 2019	91,600	\$ 182.97	91,600	11,046,103
May 1, 2019 through May 31, 2019	103,000	\$ 168.89	103,000	10,943,103
June 1, 2019 through June 30, 2019	96,283	\$ 164.50	96,283	10,846,820
Total	290,883		290,883	

- (1) On October 22, 2014, the Company publicly announced that the Board of Directors increased the overall maximum number of shares authorized for repurchase under this program so that, beginning on such date, the aggregate number of shares authorized for repurchase was 35 million shares. There is no limitation on the amount of shares that can be repurchased in a year. There is no expiration date for this program.

ITEM 6. Selected Financial Data.

(Amounts in thousands, except per share information)	2019	2018	2017	2016	2015
Net sales	\$ 14,320,324	\$ 14,302,392	\$ 12,029,312	\$ 11,360,753	\$ 12,711,744
Net income attributable to common shareholders	1,512,364	1,060,801	983,412	806,840	1,012,140
Basic earnings per share	11.63	7.98	7.37	5.96	7.08
Diluted earnings per share	11.48	7.83	7.25	5.89	6.97
Cash dividends per share	3.16	2.74	2.58	2.52	2.37
Total assets	17,576,690	15,320,087	15,489,904	12,034,142	12,254,279
Long-term debt	6,520,831	4,318,559	4,861,895	2,652,457	2,698,957

ITEM 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Forward-Looking Statements

Forward-looking statements contained in this and other written and oral reports are made based on known events and circumstances at the time of release, and as such, are subject in the future to unforeseen uncertainties and risks. All statements regarding future performance, earnings projections, events or developments are forward-looking statements. It is possible that the future performance and earnings projections of the Company, including its individual segments, may differ materially from current expectations, depending on economic conditions within its mobile, industrial and aerospace markets, and the Company's ability to maintain and achieve anticipated benefits associated with announced realignment activities, strategic initiatives to improve operating margins, actions taken to combat the effects of the current economic environment, and growth, innovation and global diversification initiatives. Additionally, the actual impact of changes in tax laws in the United States and foreign jurisdictions and any judicial or regulatory interpretations thereof on future performance and earnings projections may impact the Company's tax calculations. A change in the economic conditions in individual markets may have a particularly volatile effect on segment performance.

Among other factors which may affect future performance are:

- global economic and political factors, including manufacturing activity, air travel trends, currency exchange rates and monetary policy, trade policy and tariffs, difficulties entering new markets and general economic conditions such as inflation, deflation, interest rates and credit availability;
- our ability to identify acceptable strategic acquisition targets; uncertainties surrounding timing, successful completion or integration of acquisitions and similar transactions, including the integration of CLARCOR Inc. ("Clarcor") and the proposed acquisitions of LORD Corporation ("Lord") and EMFCO Holdings Incorporated, parent company of Exotic Metals Forming Company LLC ("Exotic"); ability to successfully divest businesses planned for divestiture and realize the anticipated benefits of such divestitures;
- our ability to effectively manage expanded operations from the acquisition of Clarcor or the proposed acquisitions of Lord and Exotic;
- the determination to undertake business realignment activities and the expected costs thereof and, if undertaken, the ability to complete such activities and realize the anticipated cost savings from such activities;
- increased cybersecurity threats and sophisticated computer crime;
- business relationships with and purchases by or from major customers, suppliers or distributors, including delays or cancellations in shipments;
- the development of new products and technologies requiring substantial investment;
- availability, limitations or cost increases of raw materials, component products and/or commodities that cannot be recovered in product pricing;
- disputes regarding contract terms or significant changes in financial condition, changes in contract cost and revenue estimates for new development programs, and changes in product mix;
- uncertainties surrounding the ultimate resolution of outstanding legal and regulatory proceedings, including the outcome of any appeals;
- additional liabilities relating to changes in tax rates or exposure to additional income tax liabilities;
- potential product liability risks;
- our ability to enter into, own, renew and maintain intellectual property and know-how;
- our leverage and future debt service obligations;
- potential impairment of goodwill;
- compliance costs associated with environmental laws and climate change regulations;
- our ability to manage costs related to insurance and employee retirement and health care benefits;
- compliance with federal rules, regulations, audits and investigations associated with being a provider of products to the United States government; and
- our ability to implement successfully the Company's capital allocation initiatives, including timing, price and execution of share repurchases.

The Company makes these statements as of the date of the filing of its Annual Report on Form 10-K for the year ended June 30, 2019, and undertakes no obligation to update them unless otherwise required by law.

Overview

The Company is a leading worldwide diversified manufacturer of motion and control technologies and systems, providing precision engineered solutions for a wide variety of mobile, industrial and aerospace markets.

Our order rates provide a near-term perspective of the Company's outlook particularly when viewed in the context of prior and future order rates. The Company publishes its order rates on a quarterly basis. The lead time between the time an order is received and revenue is realized generally ranges from one day to 12 weeks for mobile and industrial orders and from one day to 18 months for aerospace orders. We believe the leading economic indicators of these markets that have a correlation to the Company's future order rates are as follows:

- Purchasing Managers Index ("PMI") on manufacturing activity specific to regions around the world with respect to most mobile and industrial markets;
- Global aircraft miles flown and global revenue passenger miles for commercial aerospace markets and Department of Defense spending for military aerospace markets; and
- Housing starts with respect to the North American residential air conditioning market and certain mobile construction markets.

A PMI above 50 indicates that the manufacturing activity specific to a region of the world in the mobile and industrial markets is expanding. A PMI below 50 indicates the opposite. Recent PMI levels for some regions around the world were as follows:

	June 30, 2019	March 31, 2019	June 30, 2018
United States	50.6	55.3	60.2
Eurozone countries	47.6	47.5	54.9
China	49.4	50.8	51.0
Brazil	51.0	52.8	49.8

Global aircraft miles flown increased by approximately four percent and global revenue passenger miles increased approximately five percent from their comparable 2018 levels. The Company anticipates that U.S. Department of Defense spending with regards to appropriations and operations and maintenance for the U.S. Government's fiscal year 2019 will increase by approximately four percent from its fiscal 2018 level.

Housing starts in June 2019 were 10 percent higher than housing starts in March 2019 and six percent higher than housing starts in June 2018.

We believe many opportunities for profitable growth are available. The Company intends to focus primarily on business opportunities in the areas of energy, water, food, environment, defense, life sciences, infrastructure and transportation.

We believe we can meet our strategic objectives by:

- Serving the customer and continuously enhancing its experience with the Company;
- Successfully executing The Win Strategy initiatives relating to engaged people, premier customer experience, profitable growth and financial performance;
- Maintaining a decentralized division and sales company structure;
- Fostering a safety first and entrepreneurial culture;
- Engineering innovative systems and products to provide superior customer value through improved service, efficiency and productivity;
- Delivering products, systems and services that have demonstrable savings to customers and are priced by the value they deliver;
- Acquiring strategic businesses;
- Organizing around targeted regions, technologies and markets;
- Driving efficiency by implementing lean enterprise principles; and
- Creating a culture of empowerment through our values, inclusion and diversity, accountability and teamwork.

Acquisitions will be considered from time to time to the extent there is a strong strategic fit, while at the same time maintaining the Company's strong financial position. In addition, we will continue to assess our existing businesses and initiate efforts to divest businesses that are not considered to be a good long-term strategic fit for the Company. Future business divestitures could have a negative effect on the Company's results of operations.

The discussion below is structured to separately discuss the financial statements presented in Part II, Item 8 of this Annual Report on Form 10-K. The term "year" and references to specific years refer to the applicable fiscal year. Discussion of the 2017 financial statements is included in Part II, Item 7 of the Company's 2018 Annual Report on Form 10-K.

CONSOLIDATED STATEMENT OF INCOME

The Consolidated Statement of Income summarizes the Company's operating performance over the last three years. The discussion below compares the operating performance in 2019 and 2018.

(dollars in millions)	2019	2018
Net sales	\$ 14,320	\$ 14,302
Gross profit margin	25.3 %	24.9 %
Selling, general and administrative expenses	\$ 1,544	\$ 1,640
Selling, general and administrative expenses, as a percent of sales	10.8 %	11.5 %
Interest expense	\$ 190	\$ 214
Other (income) expense, net	(61)	13
Loss (gain) on disposal of assets	11	(4)
Effective tax rate	21.7 %	37.7 %
Net income attributable to common shareholders	\$ 1,512	\$ 1,061

Net sales in 2019 increased slightly from the 2018 amount. This change was a result of an increase in volume, primarily in the Aerospace Systems Segment, partially offset by the effect of currency rate changes. The effect of currency rate changes decreased net sales in 2019 by approximately \$305 million, of which \$285 million was attributable to the Diversified Industrial International operations.

Gross profit margin (calculated as net sales less cost of sales, divided by net sales) increased in 2019 primarily due to higher margins in the Aerospace Systems Segment driven by increased aftermarket and original equipment manufacturer ("OEM") volume and profitability and lower engineering development costs. Lower operating costs in the Diversified Industrial Segment resulting from prior-year business realignment and acquisition integration activities and the Company's simplification initiative also contributed to higher margins in 2019. Foreign currency transaction loss included in cost of sales for 2019 and 2018 was \$5.9 million and \$7.3 million, respectively. Included in cost of sales in 2019 and 2018 were business realignment charges of \$14.7 million and \$44.9 million, respectively.

Selling, general and administrative expenses decreased 5.9 percent in 2019 primarily due to the benefits from prior-year business realignment and acquisition integration activities and the Company's simplification initiative, lower amortization expense and lower incentive compensation. These benefits were partially offset by an increase in acquisition-related expenses and higher net expense associated with the Company's deferred compensation program and related investments. Included in selling, general and administrative expenses in 2019 and 2018 were business realignment charges of \$13.2 million and \$36.8 million, respectively.

Interest expense in 2019 decreased primarily due to lower weighted-average interest rates, partially offset by higher weighted-average borrowings.

Other (income) expense, net included the following:

(dollars in millions)

Expense (income)	2019	2018
Income related to equity method investments	\$ (93)	\$ (50)
Non-service components of retirement benefit cost	40	42
Sale and writedown of investments	—	41
Interest income	(18)	(15)
Other items, net	10	(5)
	<u>\$ (61)</u>	<u>\$ 13</u>

Loss (gain) on disposal of assets in 2018 includes a loss of \$20 million on the sale of a business and a gain of \$28 million on the sale of real estate.

Effective tax rate in 2019 was lower than 2018 primarily due to the net impact of one-time adjustments that were recorded in the prior year as a result of the U.S. Tax Cuts and Jobs Act ("TCJ Act") and the reduced U.S. income tax rate in the current year resulting from enactment of the TCJ Act.

BUSINESS SEGMENT INFORMATION

The Business Segment information presents sales, operating income and assets on a basis that is consistent with the manner in which the Company's various businesses are managed for internal review and decision-making.

Diversified Industrial Segment

(dollars in millions)	2019	2018
Sales		
North America	\$ 6,809	\$ 6,727
International	5,001	5,260
Operating income		
North America	1,139	1,076
International	805	765
Operating income as a percent of sales		
North America	16.7 %	16.0 %
International	16.1 %	14.5 %
Backlog	\$ 2,011	\$ 2,167

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The Diversified Industrial Segment operations experienced the following percentage changes in net sales:

	2019
Diversified Industrial North America – as reported	1.2 %
Divestitures	(0.3)%
Currency	(0.3)%
Diversified Industrial North America – without divestitures and currency	1.8 %
Diversified Industrial International – as reported	(4.9)%
Divestitures	(0.6)%
Currency	(5.4)%
Diversified Industrial International – without divestitures and currency	1.1 %
Total Diversified Industrial Segment – as reported	(1.5)%
Divestitures	(0.5)%
Currency	(2.5)%
Total Diversified Industrial Segment – without divestitures and currency	1.5 %

The above presentation reconciles the percentage changes in net sales of the Diversified Industrial Segment reported in accordance with U.S. GAAP to percentage changes in net sales adjusted to remove the effects of divestitures made within the prior four fiscal quarters as well as the effects of currency exchange rates (a non-GAAP measure). The effects of divestitures and currency exchange rates are removed to allow investors and the Company to meaningfully evaluate the percentage changes in net sales on a comparable basis from period to period.

Sales in 2019 for the Diversified Industrial North American operations increased 1.2 percent from 2018. Divestitures and the effect of currency exchange rates decreased sales by approximately \$21 million and \$17 million, respectively. Excluding divestitures and the effect of currency rate changes, sales in 2019 for the Diversified Industrial North American operations increased 1.8 percent from prior-year levels reflecting higher demand from distributors and end users in the heavy-duty truck, engine, and construction equipment markets, partially offset by lower demand from end users in the oil and gas, marine, semiconductor and power generation markets.

Sales in the Diversified Industrial International operations decreased 4.9 percent in 2019. Divestitures contributed approximately \$31 million to the decrease in sales in 2019. The effect of currency rate changes decreased sales by \$285 million, reflecting the strengthening of the U.S. dollar primarily against currencies in the Eurozone countries, China and Brazil. Excluding divestitures and the effect of currency rate changes, sales in 2019 for the Diversified Industrial International operations increased 1.1 percent from 2018 levels due to slightly higher volume in the Asia Pacific and Latin America regions, partially offset by a decrease in sales in Europe. Within the Asia Pacific region, the increase in sales was primarily due to higher demand from distributors as well as end users in the construction equipment, oil and gas and engine markets, partially offset by lower end-user demand in the semiconductor, cars and light truck and industrial machinery markets. In Europe, higher demand from distributors and end users in the construction equipment, forestry and heavy-duty truck markets was offset by lower end-user demand in the general industrial machinery, cars and light truck, mills and foundries, machine tool and oil and gas markets. Within Latin America, distributors and end users in the farm and agricultural equipment and heavy-duty truck markets contributed to the increase in sales, partially offset by lower end-user demand in the power generation market.

Operating margins in 2019 increased in both the Diversified Industrial North American and International operations primarily due to lower operating expenses resulting from prior-year business realignment and acquisition integration activities and the Company's simplification initiative, lower current-year business realignment expenses and lower intangible amortization expense, partially offset by higher warehouse and shipping costs. Higher manufacturing and materials support costs also impacted the Diversified Industrial North American operating margins.

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The following business realignment charges and acquisition integration costs are included in Diversified Industrial North America and Diversified Industrial International operating income:

(dollars in millions)	2019	2018
Diversified Industrial North America	\$ 13	\$ 37
Diversified Industrial International	15	41

The business realignment charges consist primarily of severance and plant closure costs related to actions taken under the Company's simplification initiative aimed at reducing organizational and process complexity, which is being implemented by its operating units throughout the world. The majority of the Diversified Industrial International business realignment charges were incurred in Europe. The Company anticipates that cost savings realized from the work force reduction measures taken during 2019 will increase 2020 operating income by approximately two percent in both the Diversified Industrial North American and Diversified Industrial International operations. In 2020, the Company expects to continue to take actions necessary to structure appropriately the operations of the Diversified Industrial Segment. These actions are expected to result in approximately \$20 million in charges in 2020.

The Company anticipates Diversified Industrial North American sales for 2020 will range between a decrease of 2.8 percent and an increase of 0.2 percent from the 2019 level and Diversified Industrial International sales for 2020 will decrease between 6.2 percent and 3.2 percent from the 2019 level. Diversified Industrial North American operating margins in 2020 are expected to range from 16.8 percent to 17.2 percent and Diversified Industrial International margins are expected to range from 15.4 percent to 15.9 percent.

The decrease in total Diversified Industrial Segment backlog in 2019 was primarily due to shipments exceeding orders in both the North American and International businesses, with each business accounting for 50 percent of the change. Within the Diversified Industrial International business, the decrease in backlog was split evenly between Europe and the Asia Pacific region. Backlog consists of written firm orders from a customer to deliver products and, in the case of blanket purchase orders, only includes the portion of the order for which a schedule or release date has been agreed to with the customer. The dollar value of backlog is equal to the amount that is expected to be billed to the customer and reported as a sale.

Aerospace Systems Segment

(dollars in millions)	2019	2018
Sales	\$ 2,511	\$ 2,316
Operating income	488	398
Operating income as a percent of sales	19.4 %	17.2 %
Backlog	\$ 2,209	\$ 1,954

Sales in 2019 were higher than the 2018 level primarily due to higher volume in the commercial and military aftermarket businesses as well as in the commercial and military original equipment manufacturer (OEM) businesses.

The higher margin in 2019 was primarily due to a favorable product mix resulting from higher aftermarket and OEM volume and profitability, higher joint venture earnings, lower engineering development and the absence of business realignment expenses in the current year.

The increase in backlog in 2019 was primarily due to orders exceeding shipments in the military OEM and aftermarket businesses and in the commercial aftermarket business, partially offset by shipments exceeding orders in the commercial OEM business. Backlog consists of written firm orders from a customer to deliver products and, in the case of blanket purchase orders, only includes the portion of the order for which a schedule or release date has been agreed to with the customer. The dollar value of backlog is equal to the amount that is expected to be billed to the customer and reported as a sale.

For 2020, sales are expected to increase between 3.0 percent and 5.6 percent from the 2019 level and operating margins are expected to range from 20.4 percent to 21.0 percent. A higher concentration of commercial OEM volume in future product mix and higher than expected new product development costs could result in lower margins.

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Corporate general and administrative expenses were \$195 million in 2019 compared to \$201 million in 2018. As a percent of sales, corporate general and administrative expenses in both 2019 and 2018 were 1.4 percent. The lower expense in 2019 is primarily due to lower incentive compensation, partially offset by higher net expense associated with the Company's deferred compensation program and related investments.

Other expense (in the Business Segment Information)

(dollars in millions)

Expense (income)	2019	2018
Foreign currency transaction	\$ 6	\$ 7
Stock-based compensation	52	51
Pensions	20	26
Divestitures and asset sales and writedowns, net	11	(4)
Sale and writedown of investments	—	41
Acquisition expenses	17	5
Other items, net	7	(4)
	<u>\$ 113</u>	<u>\$ 122</u>

Foreign currency transaction primarily relates to the impact of changes in foreign exchange rates on cash, marketable securities and other investments and intercompany transactions. Divestitures and asset sales and writedowns in 2018 includes a net gain on the sale of assets, partially offset by a loss on the sale of the global Facet filtration business. The acquisition expenses incurred in 2019 primarily relate to the proposed acquisition of Lord.

CONSOLIDATED BALANCE SHEET

The Consolidated Balance Sheet shows the Company's financial position at year end, compared with the previous year end. This discussion provides information to assist in assessing factors such as the Company's liquidity and financial resources.

(dollars in millions)	2019	2018
Cash	\$ 3,371	\$ 855
Trade accounts receivable, net	2,131	2,146
Inventories	1,678	1,621
Long-term debt	6,521	4,319
Shareholders' equity	5,962	5,860
Working capital	\$ 4,521	\$ 1,888
Current ratio	2.4	1.6

Cash (comprised of cash and cash equivalents and marketable securities and other investments) includes \$975 million and \$836 million held by the Company's foreign subsidiaries at June 30, 2019 and 2018, respectively. As a result of the TCJ Act, the prior worldwide tax system was replaced by a territorial tax system, which generally allows companies to repatriate future foreign source earnings without incurring additional U.S. federal taxes. However, other U.S. or foreign taxes may be incurred should cash be distributed between the Company's subsidiaries. The Company has determined it will no longer permanently reinvest certain foreign earnings. All other undistributed foreign earnings remain permanently reinvested. Refer to Note 5 to the Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K for further discussion.

Trade accounts receivable, net are receivables due from customers for sales of product. Days sales outstanding relating to trade receivables for the Company was 53 days in 2019 and 51 days in 2018. The Company believes that its receivables are collectible and appropriate allowances for doubtful accounts have been recorded.

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Inventories increased \$57 million from 2018 primarily due to a \$59 million increase in inventories in the Aerospace Systems Segment and an increase of \$12 million in the Diversified Industrial Segment, partially offset by a decrease of \$15 million related to the effect of foreign currency translation. Within the Diversified Industrial Segment, an increase in inventories in the North American operations was partially offset by a decrease in the International operations. Days supply of inventory on hand was 69 days in 2019 and 64 days in 2018.

Long-term debt increased \$2,202 million from 2018 primarily due to issuance of new debt related to the proposed acquisition of Lord. Refer to Note 10 to the Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K for further discussion.

Shareholders' equity activity during 2019 included a decrease of \$800 million related to share repurchases, a decrease of \$228 million related to pensions and postretirement benefits resulting from net actuarial losses due to a decrease in discount rates and a decrease of \$66 million related to foreign currency translation adjustments.

CONSOLIDATED STATEMENT OF CASH FLOWS

The Consolidated Statement of Cash Flows reflects cash inflows and outflows from the Company's operating, investing and financing activities.

A summary of cash flows follows:

(dollars in millions)	2019	2018
Cash provided by (used in):		
Operating activities	\$ 1,730	\$ 1,597
Investing activities	(219)	24
Financing activities	902	(1,682)
Effect of exchange rates	(16)	(1)
Net increase (decrease) in cash and cash equivalents	\$ 2,397	\$ (62)

Cash flows from operating activities in 2019 reflects an increase in net income of \$452 million and an increase of \$144 million from cash provided by working capital items. The Company also made a discretionary cash contribution to the Company's domestic qualified defined benefit plan of \$200 million in 2019.

Cash flows from investing activities includes net (purchases) maturities of marketable securities and other investments of \$(107) million and \$3 million in 2019 and 2018, respectively. It also includes \$195 million and \$248 million of capital expenditures in 2019 and 2018, respectively. During 2018 cash flows from investing activities benefited from proceeds related to the sale of the global Facet filtration business.

Cash flows from financing activities includes issuance of long-term debt of \$2,337 million in 2019 primarily related to the proposed acquisition of Lord. Refer to Note 10 to the Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K for further discussion. Cash flows from financing activities during 2018 included the repayment of long-term debt of approximately \$945 million. The Company repurchased 4.8 million common shares for \$800 million during 2019 compared to the repurchase of 1.7 million common shares for \$300 million in 2018.

Dividends have been paid for 276 consecutive quarters, including a yearly increase in dividends for the last 63 years. The current annual dividend rate is \$3.52 per common share.

The Company's goal is to maintain a strong investment-grade credit profile. At June 30, 2019, the long-term credit ratings assigned to the Company's senior debt securities by the credit rating agencies engaged by the Company were as follows:

Fitch Ratings	A-
Moody's Investor Services, Inc.	Baa1
Standard & Poor's	A

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The rating agencies periodically update the Company's credit ratings as events occur. On July 29, 2019, Standard & Poor's downgraded the Company's credit rating to A- reflecting the additional debt that will be used to fund the recently announced acquisitions.

As of June 30, 2019, the Company had a line of credit totaling \$2,000 million through a multi-currency revolving credit agreement with a group of banks, of which \$1,414 million was available at June 30, 2019. Refer to Note 9 to the Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K for further discussion.

The Company is currently authorized to sell up to \$2,000 million of short-term commercial paper notes. There were \$586 million outstanding commercial paper notes as of June 30, 2019, and the largest amount of commercial paper notes outstanding during the last quarter of 2019 was \$1,000 million.

The Company's credit agreements and indentures governing certain debt agreements contain various covenants, the violation of which would limit or preclude the use of the applicable agreements for future borrowings or might accelerate the maturity of the related outstanding borrowings covered by the applicable agreements. The Company is in compliance with all covenants and expects to remain in compliance during the term of the credit agreements and indentures.

During 2019, the Company entered into a definitive agreement under which it expects to acquire Lord for approximately \$3,675 million in cash. The Company intends to finance the purchase price for the Lord acquisition with the net proceeds from the Senior Notes due 2024, 2029 and 2049, the delayed-draw term loan and certain commercial paper proceeds. Refer to Note 10 to the Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K for further discussion. On July 29, 2019, the Company announced that it had entered into a definitive agreement to acquire Exotic for approximately \$1,725 million in cash and intends to finance the purchase price for this acquisition with new debt. These acquisitions remain subject to certain closing conditions.

Contractual Obligations - The total amount of gross unrecognized tax benefits, including interest, for uncertain tax positions was \$166 million at June 30, 2019. Payment of these obligations would result from settlements with worldwide taxing authorities. Due to the difficulty in determining the timing of the settlements, these obligations are not included in the following summary of the Company's fixed contractual obligations. References to Notes are to the Notes to the Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K.

(dollars in millions)	Payments due by period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Contractual obligations					
Transition tax payments related to TCJ Act (Note 5)	\$ 187	\$ —	\$ —	\$ 59	\$ 128
Long-term debt (Note 10)	6,596	—	—	875	5,721
Interest on long-term debt	3,681	227	454	436	2,564
Operating leases (Note 10)	143	46	53	21	23
Retirement benefits (Note 11)	119	82	10	9	18
Total	\$ 10,726	\$ 355	\$ 517	\$ 1,400	\$ 8,454

OFF-BALANCE SHEET ARRANGEMENTS

The Company does not have off-balance sheet arrangements.

CRITICAL ACCOUNTING POLICIES

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. The policies discussed below are considered by management to be more critical than other policies because their application places the most significant demands on management's judgment.

Revenue Recognition - Revenues are recognized when control of performance obligations, which are distinct goods or services within the contract, is transferred to the customer. Control is transferred when the customer has the ability to direct the use of and obtain the benefits from the goods or services. A majority of the Company's revenues are recognized at a point in time when control is transferred to the customer, which is generally at the time of shipment. However, a portion of the Company's revenues are recognized over time if the customer simultaneously receives control as the Company performs work under a contract, if the customer controls the asset as it is being produced, or if the product being produced for the customer has no alternative use and the Company has a contractual right to payment.

For contracts where revenue is recognized over time, the Company uses the cost-to-cost, efforts expended or units of delivery method depending on the nature of the contract, including length of production time. The estimation of these costs and efforts expended requires judgment on the part of management due to the duration of the contractual agreements as well as the technical nature of the products involved. Adjustments to these estimates are made on a consistent basis and a contract reserve is established when the estimated costs to complete a contract exceed the expected contract revenues.

When there are multiple performance obligations within a contract, the transaction price is allocated to each performance obligation based on its standalone selling price. The primary method used to estimate a standalone selling price is the price observed in standalone sales to customers for the same product or service. Revenue is recognized when control of the individual performance obligations is transferred to the customer.

The Company considers the contractual consideration payable by the customer and assesses variable consideration that may affect the total transaction price. Variable consideration is included in the estimated transaction price when there is a basis to reasonably estimate the amount, including whether the estimate should be constrained in order to avoid a significant reversal of revenue in a future period. These estimates are based on historical experience, anticipated performance under the terms of the contract and the Company's best judgment at the time.

Impairment of Goodwill and Long-Lived Assets - Goodwill is tested for impairment, at the reporting unit level, on an annual basis and between annual tests whenever events or circumstances indicate that the carrying value of a reporting unit may exceed its fair value. For the Company, reporting units are equivalent to its operating segments. As quoted market prices are not available for the reporting units, determining whether an impairment has occurred requires the valuation of the respective reporting unit, which was estimated using both income-based and market-based valuation methods. The income-based valuation method utilized a discounted cash flow model, which required several assumptions including future sales growth and operating margin levels as well as assumptions regarding future industry-specific market conditions. Each reporting unit regularly prepares discrete operating forecasts and uses these forecasts as the basis for the assumptions in the discounted cash flow analysis. Within the discounted cash flow models, the Company also used a discount rate, commensurate with its cost of capital, but adjusted for inherent business risks, and an appropriate terminal growth factor. The market-based valuation method included an analysis, for each reporting unit, consisting of market-adjusted multiples based on key data points for guideline public companies. The Company also reconciled the estimated aggregate fair value of its reporting units resulting from these procedures to its overall market capitalization.

The results of the Company's 2019 annual goodwill impairment test performed as of December 31, 2018 indicated that no goodwill impairment existed. The Company continually monitors its reporting units for impairment indicators and updates assumptions used in the most recent calculation of the fair value of a reporting unit as appropriate. The Company is unaware of any current market trends that are contrary to the assumptions made in the estimation of the fair value of any of its reporting units. If actual experience is not consistent with the assumptions made in the estimation of the fair value of the reporting units, it is possible that the Company may need to conduct additional goodwill impairment tests, and the estimated fair value of certain reporting units could fall below their carrying value.

Long-lived assets held for use, which primarily includes finite-lived intangible assets and plant and equipment, are evaluated for impairment whenever events or circumstances indicate that the undiscounted net cash flows to be generated by their use over their expected useful lives and eventual disposition are less than their carrying value. The long-term nature of these assets requires the estimation of their cash inflows and outflows several years into the future and only takes into consideration technological advances known at the time of the impairment test. During 2019, the Company did not record any material impairment related to long-lived assets.

Pensions - The annual net periodic expense and benefit obligations related to the Company's defined benefit plans are determined on an actuarial basis. This determination requires critical assumptions regarding the discount rate, long-term rate of return on plan assets, increases in compensation levels and amortization periods for actuarial gains and losses. Assumptions are determined based on Company data and appropriate market indicators, and are evaluated each year as of the plans' measurement date. Changes in the assumptions to reflect actual experience as well as the amortization of actuarial gains and losses could result in a material change in the annual net periodic expense and benefit obligations reported in the financial statements.

For the Company's domestic qualified defined benefit plan, a 50 basis point change in the assumed long-term rate of return on plan assets is estimated to have a \$15 million effect on annual pension expense and a 50 basis point decrease in the discount rate is estimated to increase annual pension expense by \$23 million. As of June 30, 2019, \$1,064 million of past years' net actuarial losses related to the Company's domestic qualified defined benefit plan are subject to amortization in the future. These losses will generally be amortized over approximately seven years and will negatively affect earnings in the future. Any actuarial gains experienced in future years will help reduce the effect of the net actuarial loss amortization. Further information on pensions is provided in Note 11 to the Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K.

Income Taxes - Significant judgment is required in determining the Company's income tax expense and in evaluating tax positions. Deferred income tax assets and liabilities have been recorded for the differences between the financial accounting and income tax basis of assets and liabilities. Factors considered by the Company in determining the probability of realizing deferred income tax assets include forecasted operating earnings, available tax planning strategies and the time period over which the temporary differences will reverse. The Company reviews its tax positions on a regular basis and adjusts the balances as new information becomes available. For those tax positions where it is more likely than not that a tax benefit will be sustained, the largest amount of tax benefit with a greater than 50 percent likelihood of being realized upon examination by a taxing authority that has full knowledge of all relevant information will be recorded. For those income tax positions where it is not more likely than not that a tax benefit will be sustained, no tax benefit has been recognized in the Consolidated Financial Statements. Further information on income taxes is provided in Note 5 to the Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K.

Loss Contingencies - The Company has a number of loss exposures incurred in the ordinary course of business such as environmental claims, product liability and litigation reserves. Establishing loss accruals for these matters requires management's estimate and judgment with regards to risk exposure and ultimate liability or realization. These loss accruals are reviewed periodically and adjustments are made to reflect the most recent facts and circumstances.

RECENTLY ISSUED ACCOUNTING PRONOUNCEMENTS

Recently issued accounting pronouncements are described in Note 1 to the Consolidated Financial Statements, included in Part II, Item 8 of this Annual Report on Form 10-K.

ITEM 7A. Quantitative and Qualitative Disclosures About Market Risk

The Company manages foreign currency transaction and translation risk by utilizing derivative and non-derivative financial instruments, including forward exchange contracts, costless collar contracts, cross-currency swap contracts and certain foreign denominated debt designated as net investment hedges. The derivative financial instrument contracts are with major investment grade financial institutions and the Company does not anticipate any material non-performance by any of the counterparties. The Company does not hold or issue derivative financial instruments for trading purposes.

Derivative financial instruments are recognized on the Consolidated Balance Sheet as either assets or liabilities and are measured at fair value. Further information on the fair value of these contracts is provided in Part II, Item 8 of this Annual Report on Form 10-K. Gains or losses on derivatives that are not designated as hedges are adjusted to fair value through the Consolidated Statement of Income. Gains or losses on derivatives that are designated as hedges are adjusted to fair value through accumulated other comprehensive income (loss) in the Consolidated Balance Sheet until the hedged item is recognized in earnings. The translation of the foreign denominated debt that has been designated as a net investment hedge is recorded in accumulated other comprehensive income (loss) and remains there until the underlying net investment is sold or substantially liquidated.

The Company's debt portfolio contains variable rate debt, inherently exposing the Company to interest rate risk. The Company's objective is to maintain a 60/40 mix between fixed rate and variable rate debt thereby limiting its exposure to changes in near-term interest rates. A 100 basis point increase in near-term interest rates would increase annual interest expense on variable rate debt existing at June 30, 2019 by approximately \$9 million.

ITEM 8. Financial Statements and Supplementary Data.

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of
Parker-Hannifin Corporation

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Parker-Hannifin Corporation and subsidiaries (the "Company") as of June 30, 2019 and 2018, the related consolidated statements of income, comprehensive income, equity, and cash flows, for each of the three years in the period ended June 30, 2019, and the related notes and the schedule listed in the Index at Item 15 (collectively referred to as the "financial statements"). We also have audited the Company's internal control over financial reporting as of June 30, 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Company as of June 30, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended June 30, 2019, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of June 30, 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by COSO.

Basis for Opinions

The Company's management is responsible for these financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on these financial statements and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the financial statements included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures to respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed 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. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Goodwill - Refer to Notes 1 and 8 to the financial statements

Critical Audit Matter Description

The Company tests goodwill for impairment, at the reporting unit level, on an annual basis and between annual tests whenever events or circumstances indicate that the carrying value of a reporting unit may exceed its fair value. For the year ended June 30, 2019, the Company's reporting units are the same as its operating segments. Prior to fiscal year 2019, the Company's reporting units were one level below the operating segment level.

We identified the determination of reporting units for goodwill as a critical audit matter due to the changes in the composition of reporting units made by the Company during the year ended June 30, 2019 and the significant judgments made by management to conclude that the Company's reporting units are the same as its operating segments. This, in turn, required a high degree of auditor judgment and an increased extent of effort to evaluate management's conclusions regarding the changes to the composition of reporting units.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the determination of reporting units for goodwill included the following, among others:

- We tested the effectiveness of the control over management's determination of goodwill reporting units for goodwill.
- We evaluated the following significant judgments made by management:
 - Identification of reporting units including the consideration of discrete financial information that was available and level of review of the operating results for each reporting unit.
 - The aggregation of single reporting units based on similar economic characteristics.
- We performed a retrospective review of select reporting units identified at one level below the operating segment level to evaluate the potential existence of any impairment indicators prior to the change in the determination of reporting units at the operating segment level.

/s/ **DELOITTE & TOUCHE, LLP**
Cleveland, Ohio
August 23, 2019

We have served as the Company's auditor since 2008.

CONSOLIDATED STATEMENT OF INCOME

(Dollars in thousands, except per share amounts)	For the years ended June 30,		
	2019	2018	2017
Net Sales	\$ 14,320,324	\$ 14,302,392	\$ 12,029,312
Cost of sales	10,703,484	10,737,745	9,119,029
Selling, general and administrative expenses	1,543,939	1,639,989	1,412,820
Interest expense	190,138	213,873	162,436
Other (income) expense, net	(61,247)	12,991	49,647
Loss (gain) on disposal of assets (Note 3)	10,585	(4,483)	(43,261)
Income before income taxes	1,933,425	1,702,277	1,328,641
Income taxes (Note 5)	420,494	640,962	344,797
Net Income	1,512,931	1,061,315	983,844
Less: Noncontrolling interest in subsidiaries' earnings	567	514	432
Net Income Attributable to Common Shareholders	\$ 1,512,364	\$ 1,060,801	\$ 983,412
Earnings per Share Attributable to Common Shareholders (Note 6)			
Basic earnings per share	\$ 11.63	\$ 7.98	\$ 7.37
Diluted earnings per share	\$ 11.48	\$ 7.83	\$ 7.25

The accompanying notes are an integral part of the consolidated financial statements.

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

(Dollars in thousands)	For the years ended June 30,		
	2019	2018	2017
Net Income	\$ 1,512,931	\$ 1,061,315	\$ 983,844
Less: Noncontrolling interests in subsidiaries' earnings	567	514	432
Net income attributable to common shareholders	1,512,364	1,060,801	983,412
Other comprehensive (loss) income, net of tax			
Foreign currency translation adjustment and other (net of tax of \$709, \$16,964 and \$40,935 in 2019, 2018 and 2017)	(66,392)	(18,575)	(80,865)
Retirement benefits plan activity (net of tax of \$71,821, \$(82,506) and \$(218,590) in 2019, 2018 and 2017)	(227,783)	179,253	384,784
Other comprehensive (loss) income	(294,175)	160,678	303,919
Less: Other comprehensive income (loss) for noncontrolling interests	53	(440)	358
Other comprehensive (loss) income attributable to common shareholders	(294,228)	161,118	303,561
Total Comprehensive Income Attributable to Common Shareholders	\$ 1,218,136	\$ 1,221,919	\$ 1,286,973

The accompanying notes are an integral part of the consolidated financial statements.

BUSINESS SEGMENT INFORMATION

(Dollars in thousands)	2019	2018	2017
Net Sales:			
Diversified Industrial:			
North America	\$ 6,808,948	\$ 6,726,900	\$ 5,366,809
International	5,000,599	5,259,793	4,377,776
Aerospace Systems	2,510,777	2,315,699	2,284,727
	<u>\$ 14,320,324</u>	<u>\$ 14,302,392</u>	<u>\$ 12,029,312</u>
Segment Operating Income:			
Diversified Industrial:			
North America	\$ 1,138,586	\$ 1,076,021	\$ 873,552
International	804,890	765,188	579,207
Aerospace Systems	487,757	397,970	337,496
Total segment operating income	2,431,233	2,239,179	1,790,255
Corporate administration	194,994	200,901	172,632
Income before interest expense and other expense	2,236,239	2,038,278	1,617,623
Interest expense	190,138	213,873	162,436
Other expense	112,676	122,128	126,546
Income before income taxes	<u>\$ 1,933,425</u>	<u>\$ 1,702,277</u>	<u>\$ 1,328,641</u>
Assets:			
Diversified Industrial	\$ 13,189,204	\$ 13,368,619	\$ 13,366,981
Aerospace Systems (a)	1,546,053	1,446,745	1,412,707
Corporate	2,841,433	504,723	710,216
	<u>\$ 17,576,690</u>	<u>\$ 15,320,087</u>	<u>\$ 15,489,904</u>
Property Additions:			
Diversified Industrial	\$ 172,348	\$ 196,469	\$ 148,765
Aerospace Systems	20,748	15,225	16,929
Corporate	1,993	35,973	38,054
	<u>\$ 195,089</u>	<u>\$ 247,667</u>	<u>\$ 203,748</u>
Depreciation:			
Diversified Industrial	\$ 203,144	\$ 211,648	\$ 176,823
Aerospace Systems	16,268	16,737	17,484
Corporate	6,263	9,421	8,561
	<u>\$ 225,675</u>	<u>\$ 237,806</u>	<u>\$ 202,868</u>

(Dollars in thousands)	2019	2018	2017
By Geographic Area (b)			
Net Sales:			
North America	\$ 9,318,195	\$ 8,978,490	\$ 7,585,689
International	5,002,129	5,323,902	4,443,623
	<u>\$ 14,320,324</u>	<u>\$ 14,302,392</u>	<u>\$ 12,029,312</u>
Long-Lived Assets:			
North America	\$ 1,052,263	\$ 1,103,308	\$ 1,145,127
International	716,024	752,929	792,165
	<u>\$ 1,768,287</u>	<u>\$ 1,856,237</u>	<u>\$ 1,937,292</u>

The accounting policies of the business segments are the same as those described in the Significant Accounting Policies footnote except that the business segment results are prepared on a basis that is consistent with the manner in which the Company's management disaggregates financial information for internal review and decision-making.

- (a) Includes an investment in a joint venture in which ownership is 50 percent or less and in which the Company does not have operating control (2019 - \$234,703; 2018 - \$235,665; 2017 - \$240,182).
- (b) Net sales are attributed to countries based on the location of the selling unit. North America includes the United States, Canada and Mexico. No country other than the United States represents greater than 10 percent of consolidated sales. Long-lived assets are comprised of plant and equipment based on physical location.

CONSOLIDATED BALANCE SHEET

(Dollars in thousands)

June 30,	2019	2018
Assets		
Current Assets		
Cash and cash equivalents (Note 1)	\$ 3,219,767	\$ 822,137
Marketable securities and other investments (Note 1)	150,931	32,995
Trade accounts receivable, net (Note 1)	2,131,054	2,145,517
Non-trade and notes receivable (Note 1)	310,708	328,399
Inventories (Note 7)	1,678,132	1,621,304
Prepaid expenses	182,494	134,886
Total Current Assets	7,673,086	5,085,238
Plant and equipment (Note 1)	5,186,730	5,215,253
Less: Accumulated depreciation	3,418,443	3,359,016
Plant and equipment, net	1,768,287	1,856,237
Deferred income taxes (Notes 1 and 5)	150,462	57,623
Investments and other assets (Note 1)	747,773	801,049
Intangible assets, net (Notes 1 and 8)	1,783,277	2,015,520
Goodwill (Notes 1 and 8)	5,453,805	5,504,420
Total Assets	\$ 17,576,690	\$ 15,320,087
Liabilities and Equity		
Current Liabilities		
Notes payable and long-term debt payable within one year (Notes 9 and 10)	\$ 587,014	\$ 638,466
Accounts payable, trade	1,413,155	1,430,306
Accrued payrolls and other compensation	426,285	427,500
Accrued domestic and foreign taxes	167,312	198,878
Other accrued liabilities	558,007	502,333
Total Current Liabilities	3,151,773	3,197,483
Long-term debt (Note 10)	6,520,831	4,318,559
Pensions and other postretirement benefits (Note 11)	1,304,379	1,177,605
Deferred income taxes (Notes 1 and 5)	193,066	234,858
Other liabilities	438,489	526,089
Total Liabilities	11,608,538	9,454,594
Equity (Note 12)		
Shareholders' Equity		
Serial preferred stock, \$.50 par value, authorized 3,000,000 shares; none issued	—	—
Common stock, \$.50 par value, authorized 600,000,000 shares; issued 181,046,128 shares in 2019 and 2018	90,523	90,523
Additional capital	462,086	496,592
Retained earnings	12,777,538	11,625,975
Accumulated other comprehensive (loss)	(2,059,048)	(1,763,086)
Treasury shares at cost: 52,566,086 in 2019 and 48,632,105 in 2018	(5,309,130)	(4,590,138)
Total Shareholders' Equity	5,961,969	5,859,866
Noncontrolling interests	6,183	5,627
Total Equity	5,968,152	5,865,493
Total Liabilities and Equity	\$ 17,576,690	\$ 15,320,087

The accompanying notes are an integral part of the consolidated financial statements.

CONSOLIDATED STATEMENT OF CASH FLOWS

(Dollars in thousands)	For the years ended June 30,		
	2019	2018	2017
Cash Flows From Operating Activities			
Net income	\$ 1,512,931	\$ 1,061,315	\$ 983,844
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation	225,675	237,806	202,868
Amortization	210,514	228,279	152,361
Stock incentive plan compensation	104,078	118,831	80,339
Deferred income taxes	32,537	(41,412)	37,024
Foreign currency transaction loss	5,888	7,284	8,060
Loss (gain) on sale of plant and equipment	5,091	(24,422)	1,494
Loss (gain) on sale of businesses	5,854	19,666	(41,285)
(Gain) loss on sale and impairment of investments	(16,749)	41,219	—
Loss (gain) on sale of marketable securities	7,563	(2)	(1,032)
Changes in assets and liabilities, net of effects from acquisitions:			
Accounts receivable	2,452	(301,978)	(95,347)
Inventories	(51,817)	(92,209)	(73,673)
Prepaid expenses	(33,335)	(16,206)	2,410
Other assets	2,677	(16,880)	(5,795)
Accounts payable, trade	(12,397)	125,907	174,761
Accrued payrolls and other compensation	2,088	(4,614)	5,922
Accrued domestic and foreign taxes	(30,593)	44,019	18,165
Other accrued liabilities	16,698	(5,567)	(59,738)
Pensions and other postretirement benefits	(168,368)	31,239	(103,866)
Other liabilities	(90,647)	184,425	14,051
Net cash provided by operating activities	1,730,140	1,596,700	1,300,563
Cash Flows From Investing Activities			
Acquisitions (net of cash acquired of \$690 in 2019 and \$157,426 in 2017)	(2,042)	—	(4,069,197)
Capital expenditures	(195,089)	(247,667)	(203,748)
Proceeds from sale of plant and equipment	46,592	81,881	14,648
Proceeds from sale of businesses	19,678	177,741	85,610
Purchase of marketable securities and other investments	(181,780)	(80,607)	(465,666)
Maturities and sales of marketable securities and other investments	74,908	83,905	1,279,318
Other	19,223	8,424	(4,205)
Net cash (used in) provided by investing activities	(218,510)	23,677	(3,363,240)
Cash Flows From Financing Activities			
Proceeds from exercise of stock options	2,475	3,682	2,202
Payments for common shares	(860,052)	(381,041)	(338,078)
Proceeds from notes payable, net	48,828	4,115	230,499
Proceeds from long-term borrowings	2,336,749	1,189	2,614,463
Payments for long-term borrowings	(213,226)	(944,629)	(381,078)
Dividends paid	(412,468)	(365,288)	(345,380)
Net cash provided by (used in) financing activities	902,306	(1,681,972)	1,782,628
Effect of exchange rate changes on cash	(16,306)	(1,154)	(56,718)
Net increase (decrease) in cash and cash equivalents	2,397,630	(62,749)	(336,767)
Cash and cash equivalents at beginning of year	822,137	884,886	1,221,653
Cash and cash equivalents at end of year	\$ 3,219,767	\$ 822,137	\$ 884,886
Supplemental Data:			
Cash paid during the year for:			
Interest	\$ 169,378	\$ 200,860	\$ 131,937
Income taxes	454,699	408,765	268,127

The accompanying notes are an integral part of the consolidated financial statements.

CONSOLIDATED STATEMENT OF EQUITY

(Dollars in thousands)	Common Stock	Additional Capital	Retained Earnings	Accumulated Other Comprehensive (Loss)	Treasury Shares	Noncontrolling Interests	Total
Balance June 30, 2016	\$ 90,523	\$ 628,451	\$ 10,302,866	\$ (2,227,765)	\$ (4,218,820)	\$ 3,423	\$ 4,578,678
Net income			983,412			432	983,844
Other comprehensive income				303,561		358	303,919
Dividends paid (\$2.58 per share)			(345,042)			(338)	(345,380)
Stock incentive plan activity		(84,572)	(10,888)		104,615		9,155
Acquisition activity						1,822	1,822
Shares purchased at cost					(264,692)		(264,692)
Balance June 30, 2017	\$ 90,523	\$ 543,879	\$ 10,930,348	\$ (1,924,204)	\$ (4,378,897)	\$ 5,697	\$ 5,267,346
Net income			1,060,801			514	1,061,315
Other comprehensive income (loss)				161,118		(440)	160,678
Dividends paid (\$2.74 per share)			(365,174)			(114)	(365,288)
Stock incentive plan activity		(47,287)			88,759		41,472
Acquisition activity						(30)	(30)
Shares purchased at cost					(300,000)		(300,000)
Balance June 30, 2018	\$ 90,523	\$ 496,592	\$ 11,625,975	\$ (1,763,086)	\$ (4,590,138)	\$ 5,627	\$ 5,865,493
Impact of adoption of accounting standards			51,603	(1,734)			49,869
Net income			1,512,364			567	1,512,931
Other comprehensive (loss) income				(294,228)		53	(294,175)
Dividends paid (\$3.16 per share)			(412,404)			(64)	(412,468)
Stock incentive plan activity		(34,506)			81,007		46,501
Shares purchased at cost					(799,999)		(799,999)
Balance June 30, 2019	\$ 90,523	\$ 462,086	\$ 12,777,538	\$ (2,059,048)	\$ (5,309,130)	\$ 6,183	\$ 5,968,152

The accompanying notes are an integral part of the consolidated financial statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(Dollars in thousands, except per share amounts)

The term "year" and references to specific years refer to the applicable fiscal years.

1. Significant Accounting Policies

The significant accounting policies followed in the preparation of the accompanying consolidated financial statements are summarized below.

Nature of Operations - The Company is a leading worldwide diversified manufacturer of motion and control technologies and systems, providing precision engineered solutions for a wide variety of mobile, industrial and aerospace markets. The Company evaluates performance based on segment operating income before corporate administrative expenses, interest expense and income taxes.

The Diversified Industrial Segment is an aggregation of several business units, which manufacture motion-control and fluid power system components for builders and users of various types of manufacturing, packaging, processing, transportation, agricultural, construction, and military vehicles and equipment. Diversified Industrial Segment products are marketed primarily through field sales employees and independent distributors. The Diversified Industrial North American operations have manufacturing plants and distribution networks throughout the United States, Canada and Mexico and primarily service North America. The Diversified Industrial International operations provide Parker products and services to 47 countries throughout Europe, Asia Pacific, Latin America, the Middle East and Africa.

The Aerospace Systems Segment produces hydraulic, fuel, pneumatic and electro-mechanical systems and components, which are utilized on virtually every domestic commercial, military and general aviation aircraft and also performs a vital role in naval vessels and land-based weapons systems. This segment serves original equipment and maintenance, repair and overhaul customers worldwide. Aerospace Systems Segment products are marketed by field sales employees and are sold directly to manufacturers and end users.

There are no individual customers to whom sales are more than three percent of the Company's consolidated sales. Due to the diverse group of customers throughout the world, the Company does not consider itself exposed to any concentration of credit risks.

The Company manufactures and markets its products throughout the world. Although certain risks and uncertainties exist, the diversity and breadth of the Company's products and geographic operations mitigate the risk that adverse changes with respect to any particular product and geographic operation would materially affect the Company's operating results.

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

Basis of Consolidation - The consolidated financial statements include the accounts of all majority-owned domestic and foreign subsidiaries. All intercompany transactions and profits have been eliminated in the consolidated financial statements. The Company does not have off-balance sheet arrangements. Within the Business Segment Information, intersegment and interarea sales have been eliminated.

Revenue Recognition - Revenues are recognized when control of performance obligations, which are distinct goods or services within the contract, is transferred to the customer. Control is transferred when the customer has the ability to direct the use of and obtain the benefits from the goods or services. When revenue is recognized at a point in time, control generally transfers at time of shipment. Revenues are recognized over time if the customer simultaneously receives control as the Company performs work under a contract, if the customer controls the asset as it is being produced, or if the product produced for the customer has no alternative use and the Company has a contractual right to payment.

For contracts where revenue is recognized over time, the Company uses the cost-to-cost, efforts expended or units of delivery method depending on the nature of the contract, including length of production time. The estimation of these costs and efforts expended requires judgment on the part of management due to the duration of the contractual agreements as well as the technical nature of the products involved. Adjustments to these estimates are made on a consistent basis and a contract reserve is established when the estimated costs to complete a contract exceed the expected contract revenues.

A contract's transaction price is allocated to each distinct performance obligation. When there are multiple performance obligations within a contract, the transaction price is allocated to each performance obligation based on its standalone selling price. The primary method used to estimate a standalone selling price is the price observed in standalone sales to customers of the same product or service. Revenue is recognized when control of the individual performance obligations is transferred to the customer.

The Company considers the contractual consideration payable by the customer and assesses variable consideration that may affect the total transaction price. Variable consideration primarily includes prompt pay discounts, rebates and volume discounts and is included in the estimated transaction price when there is a basis to reasonably estimate the amount, including whether the estimate should be constrained in order to avoid a significant reversal of revenue in a future period. These estimates are based on historical experience, anticipated performance under the terms of the contract and the Company's best judgment at the time.

Payment terms vary by customer and the geographic location of the customer. The time between when revenue is recognized and payment is due is not significant. The Company's contracts with customers generally do not include significant financing components or noncash consideration.

Taxes collected from customers and remitted to governmental authorities are excluded from revenue. Shipping and handling costs are treated as fulfillment costs and are included in cost of sales. The costs to obtain a contract where the amortization period for the related asset is one year or less are expensed as incurred.

There is generally no unilateral right to return products. The Company primarily offers an assurance-type standard warranty that the product will conform to certain specifications for a defined period of time or period of usage after delivery. This type of warranty does not represent a separate performance obligation.

Cash - Cash equivalents consist of short-term, highly liquid investments with a three-month or less maturity. These investments are carried at cost plus accrued interest and are readily convertible into cash.

Marketable Securities and Other Investments - Consist of short-term, highly liquid investments with stated maturities of greater than three months from the date of purchase, which are carried at cost plus accrued interest. Marketable securities and other investments also includes investments in equity securities and available-for-sale debt securities, which are carried at fair value. Changes in fair value related to equity securities are recorded in net income. Unrealized gains and losses related to available-for-sale debt securities are recorded in accumulated other comprehensive (loss). Gains and losses on available-for-sale debt securities are calculated based on the first-in, first-out method. The Company has the ability to liquidate these investments after giving appropriate notice to the issuer.

Trade Accounts Receivable, Net - Trade accounts receivable are initially recorded at their net collectible amount and are generally recorded at the time the revenue from the sales transaction is recorded. Receivables are written off to bad debt primarily when, in the judgment of the Company, the receivable is deemed to be uncollectible due to the insolvency of the debtor. Allowance for doubtful accounts was \$8,874 and \$9,672 at June 30, 2019 and 2018, respectively.

Non-Trade and Notes Receivable - The non-trade and notes receivable caption in the Consolidated Balance Sheet is comprised of the following components:

June 30,	2019	2018
Notes receivable	\$ 147,719	\$ 149,254
Accounts receivable, other	162,989	179,145
Total	\$ 310,708	\$ 328,399

Plant, Equipment and Depreciation - Plant and equipment are recorded at cost and are depreciated principally using the straight-line method for financial reporting purposes. Depreciation rates are based on estimated useful lives of the assets, generally 40 years for buildings, 15 years for land improvements and building equipment, seven to 10 years for machinery and equipment, and three to eight years for vehicles and office equipment. Improvements, which extend the useful life of property, are capitalized, and maintenance and repairs are expensed. The Company reviews plant and equipment for impairment whenever events or changes in circumstances indicate that their carrying value may not be recoverable. When plant and equipment are retired or otherwise disposed of, the cost and accumulated depreciation are removed from the appropriate accounts and any gain or loss is included in current income.

The plant and equipment caption in the Consolidated Balance Sheet is comprised of the following components:

June 30,	2019	2018
Land and land improvements	\$ 281,040	\$ 289,686
Buildings and building equipment	1,567,130	1,578,701
Machinery and equipment	3,223,585	3,218,639
Construction in progress	114,975	128,227
Total	\$ 5,186,730	\$ 5,215,253

Investments and Other Assets - Investments in joint-venture companies in which ownership is 50 percent or less and in which the Company does not have operating control are stated at cost plus the Company's equity in undistributed earnings and amounted to \$316,728 and \$304,389 at June 30, 2019 and 2018, respectively. A significant portion of the underlying net assets of the joint ventures are related to goodwill. The Company's share of earnings from investments in joint-venture companies were \$93,239, \$50,473 and \$42,352 in 2019, 2018 and 2017, respectively.

Intangible Assets - Intangible assets primarily include patents, trademarks and customer lists and are recorded at cost and amortized on a straight-line method. Patents are amortized over the shorter of their remaining useful or legal life. Trademarks are amortized over the estimated time period over which an economic benefit is expected to be received. Customer lists are amortized over a period based on anticipated customer attrition rates. The Company reviews intangible assets for impairment whenever events or changes in circumstances indicate that their carrying value may not be recoverable.

Goodwill - The Company conducts a formal impairment test of goodwill on an annual basis and between annual tests if an event occurs or circumstances change that would, more likely than not, reduce the fair value of a reporting unit below its carrying value.

Income Taxes - Income taxes are provided based upon income for financial reporting purposes. Tax credits and similar tax incentives are applied to reduce the provision for income taxes in the year in which the credits arise. The Company recognizes accrued interest related to unrecognized tax benefits in income tax expense. Penalties, if incurred, are recognized in income tax expense. Deferred income taxes arise from temporary differences in the recognition of income and expense for tax purposes. Income tax effects resulting from adjusting temporary differences recorded in accumulated other comprehensive (loss) are released when the circumstances on which they are based cease to exist.

Foreign Currency Translation - Assets and liabilities of foreign subsidiaries are translated at current exchange rates, and income and expenses are translated using weighted-average exchange rates. The effects of these translation adjustments, as well as gains and losses from certain intercompany transactions, are reported in accumulated other comprehensive (loss). Such adjustments will affect net income only upon sale or liquidation of the underlying foreign investments. Exchange losses from transactions in a currency other than the local currency of the entity involved are included within the cost of sales caption in the Consolidated Statement of Income and were \$5,888, \$7,284 and \$8,060, in 2019, 2018 and 2017, respectively.

Subsequent Events - The Company has evaluated subsequent events that have occurred through the date of filing of this Annual Report on Form 10-K for the year ended June 30, 2019. On July 29, 2019, the Company announced that it had entered into a definitive agreement to acquire EMFCO Holdings Incorporated, parent company of Exotic Metals Forming Company LLC for approximately \$1,725 million in cash. The Company intends to finance the purchase price for the acquisition with new debt. The acquisition remains subject to certain customary closing conditions.

Recent Accounting Pronouncements - In August 2018, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2018-14, "Compensation--Retirement Benefits--Defined Benefit Plans--General." ASU 2018-14 aims to improve disclosure effectiveness by adding, removing or clarifying certain disclosure requirements related to defined benefit pension or other postretirement plans. ASU 2018-14 is effective for fiscal years ending after December 15, 2020. Early adoption is permitted. The Company adopted ASU 2018-14 on June 30, 2019. The adoption of ASU 2018-14 did not materially impact the Company's financial statements or related disclosures.

In August 2018, the FASB issued ASU 2018-13, "Fair Value Measurement." ASU 2018-13 aims to improve disclosure effectiveness by adding, modifying or removing certain disclosure requirements for both recurring and nonrecurring fair value measurements. ASU 2018-13 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2019. Early adoption is permitted upon issuance of the ASU for any removed or modified disclosure. Adoption of additional disclosures may be delayed until their effective dates. The Company adopted ASU 2018-13 on April 1, 2019. The adoption of ASU 2018-13 did not materially impact the Company's financial statements or related disclosures.

In February 2018, the FASB issued ASU 2018-02, "Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income." ASU 2018-02 allows for a reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the U.S. Tax Cuts and Jobs Act ("TCJ Act") reduction of the U.S. federal corporate income tax rate. The amendments also require certain disclosures about stranded tax effects. ASU 2018-02 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2018. Early adoption is permitted in any period after the issuance of the update. The amendments in this update should be applied either in the period of adoption or retrospectively to each period in which the effect of the change in the U.S. federal corporate income tax rate in the TCJ Act is recognized. The Company adopted ASU 2018-02 on April 1, 2019 and elected not to reclassify the tax effects resulting from the TCJ Act. As a result, the adoption of ASU 2018-02 did not affect the Company's financial statements.

In August 2017, the FASB issued ASU 2017-12, "Targeted Improvements to Accounting for Hedging Activities." ASU 2017-12 provides targeted improvements to Topic 815 accounting for hedging activities by expanding an entity's ability to hedge non-financial and financial risk components and reduce complexity in fair value hedges of interest rate risk. The guidance eliminates the requirement to separately measure and report hedge ineffectiveness and generally requires the entire change in the fair value of a hedging instrument to be presented in the same income statement line as the hedged item. The guidance also eases certain documentation and assessment requirements and modifies the accounting for components excluded from the assessment of hedge effectiveness. ASU 2017-12 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2018. Early application is permitted in any interim period after issuance of the update. ASU 2017-12 should be applied using a modified retrospective approach for cash flow and net investment hedge relationships that exist on the date of adoption and prospectively for presentation and disclosure requirements. The Company adopted ASU 2017-12 on April 1, 2019. The adoption of ASU 2017-12 did not materially impact the Company's financial statements or related disclosures.

In March 2017, the FASB issued ASU 2017-07, "Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost." ASU 2017-07 requires that an employer report the service cost component in the same line item or items as other compensation costs arising from services rendered by the pertinent employees during the period. The other components of net benefit cost are required to be presented in the income statement separately from the service cost component and outside a subtotal of income from operations, if one is presented. ASU 2017-07 also provides that only the service cost component is eligible for capitalization, when applicable. ASU 2017-07 should be applied retrospectively for the income statement presentation of net periodic pension cost and net periodic postretirement benefit cost and prospectively, on or after the effective date, for the capitalization of the service cost component of net periodic pension cost and net periodic postretirement benefit cost. On July 1, 2018, the Company retrospectively adopted ASU 2017-07 and reclassified prior-year amounts using a practical expedient that permits the usage of amounts previously disclosed in the retirement benefits note. As a result, \$25,096 and \$17,163 of expense was reclassified from cost of sales and selling, general and administrative expenses, respectively, to other (income) expense, net for 2018. Expense of \$69,933 and \$41,115 was reclassified from cost of sales and selling, general and administrative expenses, respectively, to other (income) expense, net for 2017.

In October 2016, the FASB issued ASU 2016-16, "Intra-Entity Transfers of Assets Other Than Inventory." ASU 2016-16 provides that an entity should recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. Consequently, the amendments in ASU 2016-16 eliminate the exception for an intra-entity transfer of an asset other than inventory. The Company adopted ASU 2016-16 on July 1, 2018 and recorded a cumulative effect adjustment to increase retained earnings by approximately \$32 million.

In August 2016, the FASB issued ASU 2016-15, "Classification of Certain Cash Receipts and Cash Payments." ASU 2016-15 provides specific guidance on several cash flow classification issues to reduce diversity in practice in how certain transactions are classified within the statement of cash flows. On July 1, 2018, the Company adopted ASU 2016-15 and retrospectively adjusted its Consolidated Statement of Cash Flows. These retrospective adjustments were not material.

In June 2016, the FASB issued ASU 2016-13, "Measurement of Credit Losses on Financial Instruments." ASU 2016-13 requires a financial asset (or a group of financial assets) measured at amortized cost to be presented at the net amount expected to be collected. The allowance for credit losses is a valuation account that is deducted from the amortized cost basis of the financial asset(s) to present the net carrying value at the amount expected to be collected on the financial asset. Credit losses relating to available-for-sale debt securities should be recorded through an allowance for credit losses. ASU 2016-13 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2019. Early adoption is permitted. The Company has not yet determined the effect that ASU 2016-13 will have on its financial statements.

In February 2016, the FASB issued ASU 2016-02, "Leases." ASU 2016-02 requires lessees to put most leases with terms greater than 12 months on their balance sheet by recognizing a liability to make lease payments and an asset representing their right to use the asset during the lease term. For leases with a term of 12 months or less, a lessee is permitted to make an accounting policy election, by class of underlying asset, not to recognize the corresponding assets and lease liabilities. Lessee recognition, measurement, and presentation of expenses and cash flows will not change significantly from existing guidance and lessor accounting is largely unchanged. ASU 2016-02 also changes the definition of a lease and requires qualitative, and quantitative disclosures that provide information about the amount, timing, and uncertainty of cash flows arising from leases. ASU 2016-02 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2018. The Company adopted ASU 2016-02 on July 1, 2019 using the optional transition method and will not restate prior periods. The Company elected to use the package of practical expedients permitted under the transition guidance of the new standard. The Company is executing a project plan to guide the implementation of this standard and is identifying and implementing appropriate changes to its business processes and controls to support the accounting and disclosure requirements under the new guidance. Upon adoption, the Company recorded a right-of-use asset and lease liability related to its operating leases of less than one percent of total assets.

In January 2016, the FASB issued ASU 2016-01, "Recognition and Measurement of Financial Assets and Liabilities." ASU 2016-01 requires equity investments (excluding equity method investments and investments that are consolidated) to be measured at fair value with changes in fair value recognized in net income. Equity investments that do not have a readily determinable fair value may be measured at cost, adjusted for impairment and observable price changes. ASU 2016-01 also simplifies the impairment assessment of equity investments, eliminates the disclosure of the assumptions used to estimate the fair value that is required to be disclosed for financial instruments measured at cost on the balance sheet and requires the exit price to be used when measuring fair value of financial instruments for disclosure purposes. Under ASU 2016-01, changes in fair value (resulting from instrument-specific credit risk) will be presented separately in other comprehensive income for liabilities measured using the fair value option. Financial assets and liabilities will be presented separately by measurement category and type, either on the balance sheet or in the financial statement disclosures. The Company adopted ASU 2016-01 on July 1, 2018 and reclassified approximately \$2 million of unrealized gains from accumulated other comprehensive (loss) to retained earnings.

In May 2014, the FASB issued ASU 2014-09, "Revenue from Contracts with Customers." ASU 2014-09 requires revenue recognition to depict the transfer of goods or services to customers in an amount that reflects the consideration that a company expects to be entitled to in exchange for the goods or services. To achieve this principle, a company must apply five steps including identifying the contract with a customer, identifying the performance obligations in the contract, determining the transaction price, allocating the transaction price to the performance obligations, and recognizing revenue when (or as) the company satisfies the performance obligations. The Company adopted ASU 2014-09 on July 1, 2018 using the modified retrospective method and recorded a cumulative effect adjustment to increase retained earnings by approximately \$5 million. See Note 2 for further discussion.

2. Revenue recognition

Revenue is derived primarily from the sale of products in a variety of mobile, industrial and aerospace markets. A majority of the Company's revenues are recognized at a point in time. However, a portion of the Company's revenues are recognized over time.

Disaggregation of revenue

Revenue from contracts with customers is disaggregated by technology platforms for the Diversified Industrial Segment, by product platforms for the Aerospace Systems Segment and by geographic location for the total Company.

The Diversified Industrial Segment is an aggregation of several business units, which manufacture motion-control and fluid power system components for builders and users of various types of manufacturing, packaging, processing, transportation, agricultural, construction, and military vehicles and equipment. Contracts consist of individual purchase orders for standard product, blanket purchase orders and production contracts. Blanket purchase orders are often associated with individual purchase orders and have terms and conditions which are subject to a master supply or distributor agreement. Individual production contracts, some of which may include multiple performance obligations, are typically for products to be manufactured to the customer's specifications. Revenue in the Diversified Industrial Segment is typically recognized at the time of product shipment, but a portion of revenue may be recognized over time for installation services or in situations where the product being manufactured has no alternative use and the Company has an enforceable right to payment.

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Diversified Industrial Segment revenues by technology platform:

	2019
Motion Systems	\$ 3,485,068
Flow and Process Control	4,293,393
Filtration and Engineered Materials	4,031,086
Total	\$ 11,809,547

The Aerospace Systems Segment produces hydraulic, fuel, pneumatic and electro-mechanical systems and components, which are utilized on virtually every domestic commercial, military and general aviation aircraft and which also perform a vital role in naval vessels and land-based weapon systems. Contracts generally consist of blanket purchase orders and individual long-term production contracts. Blanket purchase orders, which have terms and conditions subject to long-term supply agreements, are typically associated with individual purchase orders. Revenue in the Aerospace Systems Segment is typically recognized at the time of product shipment, but a portion of revenue may be recognized over time in situations where the customer controls the asset as it is being produced or the product being manufactured has no alternative use and the Company has an enforceable right to payment.

Aerospace Systems Segment revenues by product platform:

	2019
Flight Control Actuation	\$ 750,311
Fuel and Inerting	634,658
Hydraulics	461,554
Engines	285,292
Fluid Conveyance	299,035
Other	79,927
Total	\$ 2,510,777

Total revenues by geographic region based on the Company's selling operation's location:

	2019
North America	\$ 9,318,195
Europe	2,968,971
Asia Pacific	1,855,831
Latin America	177,327
Total	\$ 14,320,324

The majority of revenues from the Aerospace Systems Segment is generated from sales to customers within North America.

[Contract balances](#)

Contract assets and contract liabilities are reported on a contract-by-contract basis. Contract assets reflect revenue recognized and performance obligations satisfied in advance of customer billing. Contract liabilities relate to payments received in advance of the satisfaction of performance under the contract. Payments from customers are received based on the terms established in the contract with the customer.

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Total contract assets and contract liabilities are as follows:

	2019
Contract assets, current (included within Prepaid expenses and other)	\$ 22,726
Contract assets, noncurrent (included within Investments and other assets)	1,301
Total contract assets	24,027
Contract liabilities, current (included within Other accrued liabilities)	(64,668)
Contract liabilities, noncurrent (included within Other liabilities)	(421)
Total contract liabilities	(65,089)
Net contract (liabilities)	\$ (41,062)

At June 30, 2019, net contract liabilities increased \$3 million from July 1, 2018 net contract liabilities of \$38 million. The increase in net contract liabilities was primarily due to advance payments from customers exceeding revenue recognized during the period. During 2019, approximately \$37 million of revenue was recognized that was included in the contract liabilities at July 1, 2018.

Remaining performance obligations

The Company's backlog represents written firm orders from a customer to deliver products and, in the case of blanket purchase orders, only includes the portion of the order for which a schedule or release has been agreed to with the customer. The Company believes its backlog represents its unsatisfied or partially unsatisfied performance obligations. Backlog at June 30, 2019 was \$4,220 million, of which approximately 90 percent is expected to be recognized as revenue within the next 12 months and the balance thereafter.

Adoption of ASU 2014-09

On July 1, 2018, the Company adopted ASU 2014-09 using the modified retrospective approach. The provisions of ASU 2014-09 were applied only to contracts that were not completed as of July 1, 2018. Comparative prior-period financial information has not been restated and continues to be reported under the accounting standards in effect for the comparative prior-year period.

The cumulative effect of the changes made to the Company's Consolidated Balance Sheet as of July 1, 2018 related to the adoption of ASU 2014-09 is as follows:

	Balance as of June 30, 2018	Cumulative Effect of Adjustments	Balance as of July 1, 2018
Assets:			
Trade accounts receivable, net	\$ 2,145,517	\$ (11)	\$ 2,145,506
Inventories	1,621,304	23,205	1,644,509
Prepaid expenses and other	134,886	14,575	149,461
Investments and other assets	801,049	2,020	803,069
Liabilities:			
Other accrued liabilities	\$ 502,333	\$ 28,288	\$ 530,621
Other liabilities	526,089	5,160	531,249
Deferred income taxes	234,858	1,560	236,418
Equity:			
Retained earnings	\$ 11,625,975	\$ 4,781	\$ 11,630,756

The adoption of ASU 2014-09 had an immaterial impact on the Company's net sales, results of operations and financial position in 2019.

3. Acquisitions and Divestitures

Acquisitions - On April 26, 2019, the Company announced that it had entered into a definitive agreement under which it expects to acquire LORD Corporation ("Lord") for approximately \$3,675 million in cash. Acquisition-related transaction and integration costs totaled \$17,146 in 2019. These costs are included in selling, general, and administrative expenses in the Consolidated Statement of Income. The acquisition remains subject to certain closing conditions. The Company intends to finance the purchase price for the Lord acquisition with the net proceeds from the Senior Notes due 2024, 2029 and 2049, the delayed-draw term loan and certain commercial paper proceeds. See Note 10 for further discussion.

During 2017, the Company completed three acquisitions, including Clarcor, whose aggregate sales for their most recent fiscal year prior to acquisition were approximately \$1,522 million. Total purchase price for the three acquisitions was approximately \$4,227 million in cash and \$316 million in assumed debt.

The results of operations for completed acquisitions were included as of the respective dates of acquisition. Assets acquired and liabilities assumed were recognized at their respective fair values as of the acquisition date. The process of estimating the fair values of certain tangible assets, identifiable intangible assets and assumed liabilities requires the use of judgment in determining the appropriate assumptions and estimates. Revisions occur as valuations are finalized, additional information becomes available and as additional analysis is performed. All measurement period adjustments were completed within a year from the acquisition date, and such adjustments did not have a material impact on the Company's results of operations and financial position.

The purchase price allocation for acquisitions in 2017 is as follows:

	2017
Assets:	
Accounts receivable	\$ 263,616
Inventories	302,422
Prepaid expenses	18,342
Deferred income taxes	4,658
Plant and equipment	376,826
Intangible and other assets	1,526,909
Goodwill	2,677,489
	<u>5,170,262</u>
Liabilities:	
Notes payable	20,162
Accounts payable, trade	84,753
Accrued payrolls and other compensation	45,942
Accrued domestic and foreign taxes	5,435
Other accrued liabilities	80,515
Long-term debt	296,240
Pensions and other postretirement benefits	33,929
Deferred income taxes	520,389
Other liabilities	11,878
Noncontrolling interests	1,822
	<u>1,101,065</u>
Net assets acquired	<u>\$ 4,069,197</u>

Goodwill is calculated as the excess of the purchase price over the net assets acquired, primarily all of which is not deductible for tax purposes. With respect to the Clarcor acquisition, goodwill represents cost synergies and enhancements to the Company's existing filtration technologies.

The remaining disclosures in Note 3 pertain only to the Clarcor acquisition as the other two acquisitions completed during 2017 were immaterial.

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Clarcor is a major manufacturer of filtration products under more than a dozen respected brands, including CLARCOR, Baldwin, Fuel Manager, PECOFacet, Airguard, Altair, BHA, Clearcurrent, Clark Filter, Hastings, United Air Specialists, Keddeg and Purolator. Clarcor had annual sales of approximately \$1,400 million for its fiscal 2016. For segment reporting purposes, Clarcor is part of the Diversified Industrial Segment.

The Company believes that Clarcor is a highly complementary acquisition that provides the Company with additional proprietary media, industrial and process filtration products and technologies, as well as a broad portfolio of replacement filters. The acquisition of Clarcor also offers significant expected operating synergies.

The Company's results of operations for 2017 include Clarcor's results of operations from the date of acquisition, February 28, 2017, through June 30, 2017. Net sales and segment operating (loss) attributable to Clarcor during this period was \$487,388 and \$(16,164), respectively.

The following unaudited pro forma information gives effect to the Company's acquisition of Clarcor as if the acquisition had occurred on July 1, 2015, and Clarcor had been included in the Company's results of operations for 2017.

	2017
Net sales	\$ 12,935,834
Net income attributable to common shareholders	1,027,693
Diluted earnings per share	7.58

The unaudited pro forma financial information in the table above includes adjustments related to amortization expense, depreciation, interest expense and transaction costs incurred as well as adjustments to cost of sales for the step-up in inventory to estimated acquisition-date fair value and related income tax effects and was based on a preliminary purchase price allocation using information available at that time. Transaction costs incurred (which are reflected in the selling, general and administrative expenses caption in the Consolidated Statement of Income) and the adjustment to cost of sales for the step-up in inventory to estimated acquisition-date fair value are considered to be non-recurring. Adjustments for non-recurring items increased pro forma net income attributable to common shareholders by \$108,078 for 2017. The unaudited pro forma financial information does not give effect to any synergies, operating efficiencies or cost savings that may result or have resulted from the Clarcor acquisition.

Divestitures - During 2018, the Company divested its global Facet filtration business, which was part of the Diversified Industrial Segment. The operating results and net assets of the global Facet filtration business were immaterial to the Company's consolidated results of operations and financial position. The Company recorded a pre-tax loss in 2018 of approximately \$20 million and tax expense of approximately \$29 million resulting from a tax gain related to the divestiture. The pre-tax loss is reflected in the loss (gain) on disposal of assets caption in the Consolidated Statement of Income and the other expense caption in the Business Segment Information.

During 2017, the Company divested its Autoline product line, which was part of the Diversified Industrial Segment. The operating results and net assets of the Autoline product line were immaterial to the Company's consolidated results of operations and financial position. The Company recorded a net pre-tax gain in 2017 of approximately \$45 million related to the divestiture. The gain is reflected in the loss (gain) on disposal of assets caption in the Consolidated Statement of Income and the other expense caption in the Business Segment Information.

4. Charges Related to Business Realignment

The Company incurred business realignment charges and acquisition integration costs in 2019, 2018 and 2017. The acquisition integration costs relate to the 2017 acquisition of Clarcor.

Business realignment charges and acquisition integration costs presented in the Business Segment Information are as follows:

	2019	2018	2017
Diversified Industrial	\$ 27,830	\$ 78,558	\$ 52,939
Aerospace Systems	—	3,428	2,674
Other expense	305	1,009	784

Work force reductions in connection with such business realignment charges and acquisition integration costs in the Business Segment Information are as follows:

	2019	2018	2017
Diversified Industrial	598	1,757	1,102
Aerospace Systems	—	265	89

The business realignment charges primarily relate to actions taken under the Company's simplification initiative aimed at reducing organizational and process complexity. Business realignment charges and acquisition integration costs primarily consist of severance costs as well as plant closures, with the majority of charges incurred in Europe and North America. The Company believes the realignment and acquisition integration actions taken will positively impact future results of operations but will not have a material effect on liquidity and sources and uses of capital.

The business realignment charges and acquisition integration costs are presented in the Consolidated Statement of Income as follows:

	2019	2018	2017
Cost of sales	\$ 14,650	\$ 44,949	\$ 35,932
Selling, general and administrative expenses	13,180	36,813	19,681
Loss (gain) on disposal of assets	305	1,233	784

As of June 30, 2019, approximately \$14 million in severance payments have been made relating to business realignment and acquisition integration charges incurred during 2019, the remainder of which are expected to be paid by June 30, 2020. Severance payments relating to prior-year actions are being made as required. Remaining severance payments related to current-year and prior-year business realignment and acquisition integration actions of approximately \$13 million are primarily reflected within the other accrued liabilities caption in the Consolidated Balance Sheet. Additional charges may be recognized in future periods related to the business realignment and acquisition integration actions described above, the timing and amount of which are not known at this time.

5. Income Taxes

Income before income taxes was derived from the following sources:

	2019	2018	2017
United States	\$ 1,124,933	\$ 963,843	\$ 722,925
Foreign	808,492	738,434	605,716
	<u>\$ 1,933,425</u>	<u>\$ 1,702,277</u>	<u>\$ 1,328,641</u>

Income taxes include the following:

	2019	2018	2017
Federal			
Current	\$ 160,858	\$ 453,821	\$ 132,420
Deferred	14,903	(23,876)	37,316
Foreign			
Current	206,167	210,385	157,518
Deferred	3,202	(17,454)	(5,319)
State and local			
Current	20,932	18,168	17,835
Deferred	14,432	(82)	5,027
	<u>\$ 420,494</u>	<u>\$ 640,962</u>	<u>\$ 344,797</u>

A reconciliation of the Company's effective income tax rate to the statutory federal rate follows:

	2019	2018	2017
Statutory federal income tax rate	21.0 %	28.1 %	35.0 %
State and local income taxes	1.7	1.2	1.7
Tax related to international activities	2.9	(1.0)	(5.5)
Transition tax related to the TCJ Act	0.8	17.5	—
Remeasurement of deferred tax assets and liabilities related to the TCJ Act	(0.9)	(4.8)	—
Cash surrender value of life insurance	(0.1)	(0.4)	(0.9)
Federal manufacturing deduction	0.1	(1.0)	(0.9)
Foreign derived intangible income deduction	(1.0)	—	—
Research tax credit	(0.5)	(0.7)	(0.8)
Share-based compensation	(1.7)	(2.2)	(2.7)
Other	(0.6)	1.0	0.1
Effective income tax rate	<u>21.7 %</u>	<u>37.7 %</u>	<u>26.0 %</u>

The Company made the accounting policy election to treat taxes related to Global Intangible Low-Taxed Income ("GILTI") as a current period expense when incurred. The tax rate impact of GILTI is included with tax related to international activities in the table above.

The Securities and Exchange Commission staff issued Staff Accounting Bulletin ("SAB") 118, which provided guidance on accounting for the tax effects of the TCJ Act. SAB 118 provided a measurement period that should not extend beyond one year from the TCJ Act's enactment date for companies to complete the applicable accounting under Topic 740. In accordance with SAB 118 and based on the information available, the Company recorded additional tax expense of \$14,485 to the estimated one-time transition tax during 2019 prior to the close of the measurement period. This adjustment is a result of the Company's analysis of related proposed regulations that were issued subsequent to the recording of the previous provisional amount. The Company considers its provisional accounting for the effects of the TCJ Act, which includes the remeasurement of deferred tax balances and related valuation allowances, the one-time transition tax and the repatriation of undistributed foreign earnings, as being complete and as meeting the recognition guidance under Topic 740.

Deferred income taxes are provided for the temporary differences between the financial reporting basis and the tax basis of assets and liabilities. The differences comprising the net deferred taxes shown on the Consolidated Balance Sheet at June 30 were as follows:

	2019	2018
Retirement benefits	\$ 368,269	\$ 340,480
Other liabilities and reserves	104,850	112,935
Long-term contracts	22,241	17,496
Stock-based compensation	38,730	38,535
Loss carryforwards	792,914	679,880
Unrealized currency exchange gains and losses	27,034	27,228
Inventory	5,540	6,696
Foreign tax credit carryforward	1,726	—
Undistributed foreign earnings	(16,762)	(16,308)
Depreciation and amortization	(589,454)	(689,320)
Valuation allowance	(797,692)	(694,857)
Net deferred tax (liability)	<u>\$ (42,604)</u>	<u>\$ (177,235)</u>
Change in net deferred tax (liability):		
Provision for deferred tax	\$ (32,537)	\$ 41,412
Items of other comprehensive income (loss)	72,530	(65,542)
Acquisitions and other	94,638	32,628
Total change in net deferred tax	<u>\$ 134,631</u>	<u>\$ 8,498</u>

As of June 30, 2019, the Company recorded deferred tax assets of \$792,914 resulting from \$3,057,386 in loss carryforwards. A valuation allowance of \$779,733 related to the loss carryforwards has been established due to the uncertainty of their realization. Of this valuation allowance, \$745,293 relates to non-operating entities whose loss carryforward utilization is considered to be remote. Some of the loss carryforwards can be carried forward indefinitely; others can be carried forward from three to 20 years. In addition, a valuation allowance of \$17,959 related to future deductible items has been established due to the uncertainty of their realization. These future deductible items are recorded in the other liabilities and reserves line in the table above.

Although future distributions of foreign earnings to the U.S. should not be subject to U.S. federal income taxes, other U.S. or foreign taxes may be imposed on such earnings. The Company has analyzed existing factors and determined it will no longer permanently reinvest certain foreign earnings. On these undistributed foreign earnings of approximately \$219 million that are no longer permanently reinvested outside of the U.S., the Company has recorded a deferred tax liability of \$11 million. The remaining undistributed foreign earnings of approximately \$3,000 million remain permanently reinvested outside the U.S. at June 30, 2019. Of these undistributed earnings, we have recorded a deferred tax liability of \$6 million where certain foreign holding companies are not permanently reinvested in their subsidiaries. It is not practicable to estimate the additional taxes, including applicable foreign withholding taxes, that might be payable on the potential distribution of such permanently reinvested foreign earnings.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

	2019	2018	2017
Balance July 1	\$ 153,091	\$ 147,506	\$ 139,907
Additions for tax positions related to current year	2,272	4,195	4,735
Additions for tax positions of prior years	45	8,333	2,618
Additions for acquisitions	—	—	3,939
Reductions for tax positions of prior years	(927)	(3,790)	(1,175)
Reductions for settlements	(832)	(315)	(3,020)
Reductions for expiration of statute of limitations	(9,388)	(4,480)	(2,792)
Effect of foreign currency translation	(3,599)	1,642	3,294
Balance June 30	<u>\$ 140,662</u>	<u>\$ 153,091</u>	<u>\$ 147,506</u>

The total amount of unrecognized tax benefits that, if recognized, would affect the effective tax rate was \$140,662, \$153,091 and \$95,460 as of June 30, 2019, 2018 and 2017, respectively. If recognized, a significant portion of the gross unrecognized tax benefits as of June 30, 2017, would have been offset against an asset that had been recorded in the Consolidated Balance Sheet. The accrued interest related to the gross unrecognized tax benefits, excluded from the amounts above, was \$25,214, \$21,737 and \$15,432 as of June 30, 2019, 2018 and 2017, respectively.

It is reasonably possible that, within the next 12 months, the amount of gross unrecognized tax benefits could be reduced by up to approximately \$100,000 as a result of the revaluation of existing uncertain tax positions arising from developments in the examination process or the closure of tax statutes. Any increase in the amount of unrecognized tax benefits within the next 12 months is expected to be insignificant.

The Company and its subsidiaries file income tax returns in the United States and in various foreign jurisdictions. In the normal course of business, the Company is subject to examination by taxing authorities throughout the world. The Company is open to assessment of its U.S. federal income tax returns by the Internal Revenue Service for years after 2013, and its state and local tax returns for years after 2013. The Company is open to assessment for significant foreign jurisdictions for years after 2009.

6. Earnings Per Share

Basic earnings per share are computed using the weighted-average number of common shares outstanding during the year. Diluted earnings per share are computed using the weighted-average number of common shares and common share equivalents outstanding during the year. Common share equivalents represent the dilutive effect of outstanding equity-based awards. The reconciliation of the numerator and denominator of basic and diluted earnings per share was as follows:

	2019	2018	2017
Numerator:			
Net income attributable to common shareholders	\$ 1,512,364	\$ 1,060,801	\$ 983,412
Denominator:			
Basic - weighted-average common shares	129,997,640	133,004,613	133,377,547
Increase in weighted-average common shares from dilutive effect of equity-based awards	1,783,977	2,422,221	2,182,217
Diluted - weighted-average common shares, assuming exercise of equity-based awards	<u>131,781,617</u>	<u>135,426,834</u>	<u>135,559,764</u>
Basic earnings per share	\$ 11.63	\$ 7.98	\$ 7.37
Diluted earnings per share	\$ 11.48	\$ 7.83	\$ 7.25

For 2019, 2018 and 2017, 0.9 million, 0.5 million and 1.4 million common shares, respectively, subject to equity-based awards were excluded from the computation of diluted earnings per share because the effect of their exercise would be anti-dilutive.

7. Inventories

The majority of domestic inventories are valued by the last-in, first-out ("LIFO") cost method and the balance of the Company's inventories are valued by the first-in, first-out ("FIFO") cost method. Inventories valued by the FIFO cost method are stated at the lower of cost or net realizable value. Inventories valued by the LIFO cost method are stated at lower of cost or market.

Inventories valued on the LIFO cost method were approximately 41 percent of total inventories in both 2019 and 2018. The current cost of these inventories exceeds their valuation determined on the LIFO basis by \$222,715 in 2019 and \$203,192 in 2018. Progress payments of \$25,026 in 2018 are netted against inventories.

The inventories caption in the Consolidated Balance Sheet is comprised of the following components:

June 30,	2019	2018
Finished products	\$ 663,068	\$ 673,323
Work in process	850,778	765,835
Raw materials	164,286	182,146
Total	<u>\$ 1,678,132</u>	<u>\$ 1,621,304</u>

8. Goodwill and Intangible Assets

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

	Diversified Industrial Segment	Aerospace Systems Segment	Total
Balance June 30, 2017	\$ 5,488,236	\$ 98,642	\$ 5,586,878
Acquisitions	37,489	—	37,489
Divestitures	(138,541)	—	(138,541)
Foreign currency translation and other	18,587	7	18,594
Balance June 30, 2018	\$ 5,405,771	\$ 98,649	\$ 5,504,420
Acquisitions	2,940	—	2,940
Foreign currency translation and other	(53,546)	(9)	(53,555)
Balance June 30, 2019	<u>\$ 5,355,165</u>	<u>\$ 98,640</u>	<u>\$ 5,453,805</u>

Acquisitions represent the original goodwill allocation, purchase price adjustments and final adjustments to the purchase price allocation for the acquisitions during the measurement period subsequent to the applicable acquisition dates. The impact of the purchase price adjustments and final adjustments to the purchase price allocation on the Company's results of operations and financial position were immaterial. Divestitures primarily represent goodwill associated with the sale of a business in 2018 (see Note 3 for further discussion).

The Company's annual impairment tests performed in 2019, 2018 and 2017 resulted in no impairment loss being recognized.

Intangible assets are amortized on a straight-line method over their legal or estimated useful lives. The gross carrying value and accumulated amortization for each major category of intangible asset at June 30 are as follows:

	2019		2018	
	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Patents	\$ 265,644	\$ 130,233	\$ 265,423	\$ 117,440
Trademarks	542,573	252,388	546,905	227,580
Customer lists and other	2,435,461	1,077,780	2,482,079	933,867
Total	<u>\$ 3,243,678</u>	<u>\$ 1,460,401</u>	<u>\$ 3,294,407</u>	<u>\$ 1,278,887</u>

Total intangible asset amortization expense in 2019, 2018 and 2017 was \$205,164, \$221,494 and \$145,128, respectively. Estimated intangible asset amortization expense for the five years ending June 30, 2020 through 2024 is \$177,239, \$172,522, \$166,398, \$155,437 and \$149,798, respectively.

Intangible assets are evaluated for impairment whenever events or circumstances indicate that the undiscounted net cash flows to be generated by their use over their expected useful lives and eventual disposition may be less than their net carrying value. No material intangible asset impairments occurred in 2019, 2018 or 2017.

9. Financing Arrangements

The Company has a line of credit totaling \$2,000,000 through a multi-currency revolving credit agreement with a group of banks, of which \$1,414,000 was available at June 30, 2019. The credit agreement expires in October 2021; however, the Company has the right to request a one-year extension of the expiration date on an annual basis, which request may result in changes to the current terms and conditions of the credit agreement. Advances from the credit agreement can be used for general corporate purposes, including acquisitions, and for the refinancing of existing indebtedness. The credit agreement requires the payment of an annual facility fee, the amount of which may increase in the event the Company's credit ratings are lowered. Although a lowering of the Company's credit ratings would likely increase the cost of future debt, it would not limit the Company's ability to use the credit agreement nor would it accelerate the repayment of any outstanding borrowings.

The Company is currently authorized to sell up to \$2,000,000 of short-term commercial paper notes. Commercial paper notes outstanding at June 30, 2019 and 2018 were \$586,000 and \$533,800, respectively.

In addition to commercial paper notes, notes payable includes short-term lines of credit and borrowings from foreign banks. At June 30, 2019 and 2018, the Company had \$48,751 and \$48,338, respectively, in lines of credit from various foreign banks, none of which were outstanding at June 30, 2019 and 2018. Most of these agreements are renewed annually. The Company had borrowings from foreign banks of \$786 and \$4,255 at June 30, 2019 and 2018, respectively. The weighted-average interest rate on notes payable during 2019 and 2018 was 2.8 percent and 1.8 percent, respectively.

The Company's foreign locations in the ordinary course of business may enter into financial guarantees through financial institutions which enable customers to be reimbursed in the event of nonperformance by the Company.

The Company's credit agreements and indentures governing certain debt agreements contain various covenants, the violation of which would limit or preclude the use of the applicable agreements for future borrowings, or might accelerate the maturity of the related outstanding borrowings covered by the applicable agreements. Based on the Company's rating level at June 30, 2019, the most restrictive financial covenant provides that the ratio of debt to debt-shareholders' equity cannot exceed 0.60 to 1.0. As of June 30, 2019, the Company's debt to debt-shareholders' equity ratio was 0.55 to 1.0. The Company is in compliance with all covenants.

10. Debt

June 30,	2019	2018
Domestic:		
Fixed rate medium-term notes, 3.30% to 6.25%, due 2023 - 2045	\$ 2,125,000	\$ 2,225,000
Senior Notes, 2.70% to 4.10%, due 2024 - 2049	3,675,000	1,300,000
Foreign:		
Euro Senior Notes, 1.125%, due 2025	796,040	817,810
Euro Term loan, Libor plus 150 bps, due 2022	—	116,830
Other long-term debt	340	762
Deferred debt issuance costs	(75,321)	(41,432)
Total long-term debt	<u>6,521,059</u>	<u>4,418,970</u>
Less: Long-term debt payable within one year	228	100,411
Long-term debt, net	<u>\$ 6,520,831</u>	<u>\$ 4,318,559</u>

During 2019, the Company issued \$575,000 aggregate principal amount of 2.70 percent Senior Notes due 2024, \$1,000,000 aggregate principal amount of 3.25 percent Senior Notes due 2029, and \$800,000 aggregate principal amount of 4.00 percent Senior Notes due 2049 (collectively, the "Senior Notes"). Interest payments are due semi-annually. The net proceeds received from the issuance of the Senior Notes are intended to finance a portion of the purchase price for the proposed acquisition of Lord. If either the acquisition of Lord does not occur on or before April 27, 2020, or if the Company notifies the trustee that it will not pursue the acquisition of Lord, the 2024 Senior Notes and the 2049 Senior Notes (collectively, the "SMR Notes") will be subject to a special mandatory redemption. The special mandatory redemption price will be equal to 101 percent of the aggregate principal amount of the SMR Notes, plus accrued and unpaid interest. If the acquisition of Lord does not occur, the net proceeds from the 2029 Senior Notes will be used for general corporate purposes.

During 2019, the Company also entered into a delayed-draw term loan with an aggregate principal amount of \$800,000. The draw on the term loan is subject to the closing of the proposed acquisition of Lord, and the related proceeds will be used solely to finance a portion of the purchase price. The Company anticipates that the term loan will bear an interest rate of LIBOR plus 112.5 bps. Interest payments are due quarterly.

Debt issuance costs related to both the Senior Notes and delayed-draw term loan were approximately \$39,322 and will be amortized over the respective debt terms.

Principal amounts of long-term debt payable in the five years ending June 30, 2020 through 2024 are \$228, \$32, \$11, \$300,006 and \$575,006, respectively. The principal amounts of long-term debt payable exclude the impact of the amortization of debt issuance costs.

Lease Commitments - Future minimum rental commitments as of June 30, 2019, under non-cancelable operating leases, which expire at various dates, are as follows: 2020-\$45,920; 2021-\$31,115; 2022-\$21,625; 2023-\$13,228; 2024-\$7,591 and after 2024-\$22,723.

Rental expense in 2019, 2018 and 2017 was \$126,752, \$126,940 and \$118,723, respectively.

11. Retirement Benefits

Pensions - The Company has noncontributory defined benefit pension plans covering eligible employees, including certain employees in foreign countries. Plans for most salaried employees provide pay-related benefits based on years of service. Plans for hourly employees generally provide benefits based on flat-dollar amounts and years of service. The Company also has arrangements for certain key employees which provide for supplemental retirement benefits. In general, the Company's policy is to fund these plans based on legal requirements, tax considerations, local practices and investment opportunities. The Company also sponsors defined contribution plans and participates in government-sponsored programs in certain foreign countries.

A summary of the Company's defined benefit pension plans follows:

	2019	2018	2017
Benefit cost			
Service cost	\$ 76,647	\$ 82,993	\$ 94,356
Interest cost	160,542	144,339	126,131
Expected return on plan assets	(251,072)	(258,490)	(239,537)
Amortization of prior service cost	6,655	6,570	8,116
Amortization of unrecognized actuarial loss	121,823	147,387	212,433
Amortization of transition obligation	18	18	18
Net periodic benefit cost	<u>\$ 114,613</u>	<u>\$ 122,817</u>	<u>\$ 201,517</u>

Components of net pension benefit cost, other than service cost, are included in other (income) expense, net in the Consolidated Statement of Income.

	2019	2018
Change in benefit obligation		
Benefit obligation at beginning of year	\$ 5,033,997	\$ 5,217,857
Service cost	76,647	82,993
Interest cost	160,542	144,339
Plan amendments	7,719	2,932
Divestiture	—	(9,535)
Actuarial loss (gain)	491,792	(182,588)
Benefits paid	(237,080)	(216,169)
Foreign currency translation and other	(46,043)	(5,832)
Benefit obligation at end of year	<u>\$ 5,487,574</u>	<u>\$ 5,033,997</u>

Change in plan assets		
Fair value of plan assets at beginning of year	\$ 3,915,889	\$ 3,896,001
Actual gain on plan assets	318,809	174,951
Divestiture	—	(12,231)
Employer contributions	284,965	81,518
Benefits paid	(237,080)	(216,169)
Foreign currency translation and other	(37,614)	(8,181)
Fair value of plan assets at end of year	<u>\$ 4,244,969</u>	<u>\$ 3,915,889</u>
Funded status	<u>\$ (1,242,605)</u>	<u>\$ (1,118,108)</u>

Amounts recognized on the Consolidated Balance Sheet		
Other accrued liabilities	\$ (8,396)	\$ (11,333)
Pensions and other postretirement benefits	(1,234,209)	(1,106,775)
Net amount recognized	<u>\$ (1,242,605)</u>	<u>\$ (1,118,108)</u>

Amounts recognized in Accumulated Other Comprehensive (Loss)		
Net actuarial loss	\$ 1,510,901	\$ 1,216,612
Prior service cost	19,602	18,900
Transition obligation	44	61
Net amount recognized	<u>\$ 1,530,547</u>	<u>\$ 1,235,573</u>

The presentation of the amounts recognized on the Consolidated Balance Sheet and in accumulated other comprehensive (loss) is on a debit (credit) basis and excludes the effect of income taxes.

The increase in the benefit obligation in 2019, largely reflected in the net actuarial loss component, is primarily due to the decrease in the discount rate used to measure the obligation across all pension plans. Additionally, the benefit obligation increased slightly as a result of updated census data for the domestic qualified defined benefit plan due to delayed retirements and higher than anticipated compensation increases.

The decrease in the benefit obligation in 2018, which is also largely reflected in net actuarial loss component, is primarily due to the increase in the discount rates for all plans as well as updated mortality assumptions for the domestic qualified defined benefit plan.

The increase in the fair value of plan assets in 2019 is attributable to a \$200 million discretionary contribution made during 2019 into the domestic qualified defined benefit plan and investment gains. The increase in the fair value of plan assets in 2018 is predominantly due to the favorable investment returns of plan assets.

The accumulated benefit obligation for all defined benefit plans was \$5,184,637 and \$4,751,111 at June 30, 2019 and 2018, respectively. The accumulated benefit obligation and fair value of plan assets for pension plans with accumulated benefit obligations in excess of plan assets were \$5,094,129 and \$4,140,395, respectively, at June 30, 2019, and \$4,665,272 and \$3,807,859, respectively, at June 30, 2018. The projected benefit obligation and fair value of plan assets for pension plans with projected benefit obligations in excess of plan assets were \$5,427,084 and \$4,175,871, respectively, at June 30, 2019, and \$4,970,120 and \$3,842,539, respectively, at June 30, 2018.

The Company expects to make cash contributions of approximately \$77 million to its defined benefit pension plans in 2020, the majority of which relate to its non-U.S. plans. Estimated future benefit payments in the five years ending June 30, 2020 through 2024 are \$235,709, \$249,814, \$306,446, \$266,915 and \$274,452, respectively, and \$1,482,681 in the aggregate for the five years ending June 30, 2025 through June 30, 2029.

The assumptions used to measure net periodic benefit cost for the Company's significant defined benefit plans are:

	2019	2018	2017
U.S. defined benefit plan			
Discount rate	4.01 %	3.64 %	3.33 %
Average increase in compensation	3.65 %	3.89 %	5.02 %
Expected return on plan assets	7.00 %	7.50 %	7.50 %
Non-U.S. defined benefit plans			
Discount rate	0.30 to 3.37%	0.30 to 7.57%	0.23 to 7.75%
Average increase in compensation	1.75 to 5.5%	2.0 to 5.5%	2.0 to 5.5%
Expected return on plan assets	1.0 to 5.75%	1.0 to 5.75%	1.0 to 5.75%

The assumptions used to measure the benefit obligation for the Company's significant defined benefit plans are:

	2019	2018
U.S. defined benefit plan		
Discount rate	3.28 %	4.01 %
Average increase in compensation	3.60 %	3.65 %
Non-U.S. defined benefit plans		
Discount rate	0.20 to 2.96%	0.30 to 3.37%
Average increase in compensation	1.75 to 3.9%	1.75 to 5.5%

The discount rate assumption is based on current rates of high-quality, long-term corporate bonds over the same estimated time period that benefit payments will be required to be made. The expected return on plan assets assumption is based on the weighted-average expected return of the various asset classes in the plans' portfolio. The asset class return is developed using historical asset return performance as well as current market conditions such as inflation, interest rates and equity market performance.

The weighted-average allocation of the majority of the assets related to defined benefit plans is as follows:

	2019	2018
Equity securities	43 %	44 %
Debt securities	54 %	49 %
Other investments	3 %	7 %
	<u>100 %</u>	<u>100 %</u>

The weighted-average target asset allocation as of June 30, 2019 is 42 percent equity securities, 46 percent debt securities and 12 percent other investments. The investment strategy for the Company's worldwide defined benefit pension plan assets focuses on achieving prudent actuarial funding ratios while maintaining acceptable levels of risk in order to provide adequate liquidity to meet immediate and future benefit requirements. This strategy requires investment portfolios that are broadly diversified across various asset classes and external investment managers. Assets held in the U.S. defined benefit plan account for approximately 75 percent of the Company's total defined benefit plan assets. The Company's overall investment strategy with respect to the Company's U.S. defined benefit plan is to opportunistically migrate from its traditional mix between growth seeking assets (primarily consisting of global public equities in developed and emerging countries and hedge fund strategies) and income generating assets (primarily consisting of high quality bonds, both domestic and global) to an allocation more heavily weighted toward liability-hedging assets. Over time, the Company will continue to add long duration fixed income assets to the portfolio and eliminate hedge funds. These securities are highly correlated with the Company's pension liabilities and will be managed in a liability framework.

The fair values of pension plan assets at June 30, 2019 and at June 30, 2018, by asset class, are as follows:

	June 30, 2019	Quoted Prices In Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash and cash equivalents	\$ 111,520	\$ 117,823	\$ (6,303)	\$ —
Equity securities				
U.S. based companies	226,027	226,027	—	—
Non-U.S. based companies	16,385	16,385	—	—
Fixed income securities				
Corporate debt securities	701,842	137,227	564,615	—
Government issued securities	528,394	367,518	160,876	—
Mutual funds				
Equity funds	266,240	266,240	—	—
Fixed income funds	183,732	183,732	—	—
Mutual funds measured at net asset value	304,504			
Common/Collective trusts				
Equity funds	84,790	84,790	—	—
Common/Collective trusts measured at net asset value	1,872,473			
Limited Partnerships measured at net asset value	240,803			
Miscellaneous	(291,741)	—	(291,741)	—
Total at June 30, 2019	<u>\$ 4,244,969</u>	<u>\$ 1,399,742</u>	<u>\$ 427,447</u>	<u>\$ —</u>

	June 30, 2018	Quoted Prices In Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash and cash equivalents	\$ 57,307	\$ 54,322	\$ 2,985	\$ —
Equity securities				
U.S. based companies	447,553	447,553	—	—
Non-U.S. based companies	243,253	243,253	—	—
Fixed income securities				
Corporate debt securities	225,929	115,534	110,395	—
Government issued securities	272,604	184,636	87,968	—
Mutual funds				
Equity funds	176,846	176,846	—	—
Fixed income funds	179,562	179,562	—	—
Mutual funds measured at net asset value	232,050			
Common/Collective trusts				
Equity funds	89,578	89,578	—	—
Fixed income funds	46,620	46,620	—	—
Common/Collective trusts measured at net asset value	1,737,543			
Limited Partnerships measured at net asset value	243,536			
Miscellaneous	(36,492)	—	(36,492)	—
Total at June 30, 2018	<u>\$ 3,915,889</u>	<u>\$ 1,537,904</u>	<u>\$ 164,856</u>	<u>\$ —</u>

Cash and cash equivalents, which include repurchase agreements and other short-term investments, are valued at cost, which approximates fair value.

Equity securities are valued at the closing price reported on the active market on which the individual securities are traded. U.S. based companies include Parker stock with a fair value of \$226,027 and \$207,202 as of June 30, 2019 and 2018, respectively.

Fixed income securities are valued using both market observable inputs for similar assets that are traded on an active market and the closing price on the active market on which the individual securities are traded.

Mutual funds are valued using the closing market price reported on the active market on which the fund is traded or at net asset value per share and primarily consist of equity and fixed income funds. The equity funds primarily provide exposure to U.S. and international equities, real estate and commodities. The fixed income funds primarily provide exposure to high-yield securities and emerging market fixed income instruments. Mutual funds measured at fair value using the net asset value per share practical expedient have not been categorized in the fair value hierarchy and are being presented in the tables above to permit a reconciliation of the fair value hierarchy to total pension plan assets.

Common/Collective trusts primarily consist of equity, fixed income and real estate funds and are valued using the closing market price reported on the active market on which the fund is traded or at net asset value per share. Common/Collective trust investments can be redeemed without restriction after giving appropriate notice to the issuer. Generally, redemption of the entire investment balance requires a 60-day notice period. The equity funds provide exposure to large, mid and small cap U.S. equities, international large and small cap equities and emerging market equities. The fixed income funds provide exposure to U.S., international and emerging market debt securities. Common/Collective trusts measured at fair value using the net asset value per share practical expedient have not been categorized in the fair value hierarchy and are being presented in the tables above to permit a reconciliation of the fair value hierarchy to total pension plan assets.

Limited Partnerships primarily consist of hedge funds valued using a net asset value per share and provide exposure to a variety of hedging strategies including long/short equity, relative value, event driven and global macro. Limited Partnership investments can be redeemed either monthly or quarterly and without restriction after giving appropriate notice to the issuer. Redemption of the entire investment balance generally requires no more than a 95-day notice period. Limited Partnerships measured at fair value using the net asset value per share practical expedient have not been categorized in the fair value hierarchy and are being presented in the tables above to permit a reconciliation of the fair value hierarchy to total pension plan assets.

Miscellaneous primarily includes insurance contracts held in the asset portfolio of the Company's non-U.S. defined benefit pension plans and net payables for securities purchased but not settled in the asset portfolio of the Company's U.S. defined benefit pension plan. Insurance contracts are valued at the present value of future cash flows promised under the terms of the insurance contracts.

The primary investment objective of equity securities and equity funds, within both the mutual fund and common/collective trust asset class, is to obtain capital appreciation in an amount that at least equals various market-based benchmarks. The primary investment objective of fixed income securities and fixed income funds, within both the mutual fund and common/collective trust asset class, is to provide for a constant stream of income while preserving capital. The primary investment objective of limited partnerships is to achieve capital appreciation through an investment program focused on specialized investment strategies. The primary investment objective of insurance contracts, included in the miscellaneous asset class, is to provide a stable rate of return over a specified period of time.

Employee Savings Plan - The Company sponsors an employee stock ownership plan ("ESOP") as part of its existing savings and investment 401(k) plan. The ESOP is available to eligible domestic employees. Company matching contributions, up to a maximum of four percent of an employee's annual compensation, are recorded as compensation expense. Participants may direct company matching contributions to any investment option within the savings and investment 401(k) plan.

	2019		2018		2017
Shares held by ESOP	6,134,280		6,476,154		6,911,436
Company matching contributions	\$ 72,032	\$	65,262	\$	57,766

In addition to shares within the ESOP, as of June 30, 2019, employees have elected to invest in 1,777,467 shares of common stock within a company stock fund of the savings and investment 401(k) plan.

The Company has a retirement income account ("RIA") within the employee savings plan. The Company makes a cash contribution to the participant's RIA each year, the amount of which is based on the participant's age and years of service. Participants do not contribute to the RIA. The Company recognized \$30,603, \$29,023 and \$29,309 in expense related to the RIA in 2019, 2018 and 2017, respectively.

During 2017, the Company assumed various defined contribution plans previously sponsored by Clarcor. The Company recognized expense of \$4,481 and \$2,199 in 2018 and 2017, respectively, related to these defined contribution plans. In January 2018, the former employees of Clarcor became eligible to participate in the savings and investment 401(k) plan.

Other Postretirement Benefits - The Company provides postretirement medical and life insurance benefits to certain retirees and eligible dependents. Most plans are contributory, with retiree contributions adjusted annually. The plans are unfunded and pay stated percentages of covered medically necessary expenses incurred by retirees, after subtracting payments by Medicare or other providers and after stated deductibles have been met. For most plans, the Company has established cost maximums to more effectively control future medical costs. The Company has reserved the right to change these benefit plans.

The Company recognized \$1,838, \$2,755 and \$4,357 in expense related to other postretirement benefits in 2019, 2018 and 2017, respectively. Components of net other postretirement benefit cost, other than service cost, are included in other (income) expense, net in the Consolidated Statement of Income.

	2019	2018
Change in benefit obligation		
Benefit obligation at beginning of year	\$ 66,521	\$ 79,933
Service cost	205	320
Interest cost	2,043	2,003
Actuarial gain	(3,235)	(11,259)
Benefits paid	(4,536)	(4,476)
Benefit obligation at end of year	<u>\$ 60,998</u>	<u>\$ 66,521</u>
Funded status	<u>\$ (60,998)</u>	<u>\$ (66,521)</u>
Amounts recognized on the Consolidated Balance Sheet		
Other accrued liabilities	\$ (5,308)	\$ (6,180)
Pensions and other postretirement benefits	(55,690)	(60,341)
Net amount recognized	<u>\$ (60,998)</u>	<u>\$ (66,521)</u>
Amounts recognized in Accumulated Other Comprehensive (Loss)		
Net actuarial (gain) loss	\$ (1,713)	\$ 1,232
Prior service credit	(194)	(314)
Net amount recognized	<u>\$ (1,907)</u>	<u>\$ 918</u>

The presentation of the amounts recognized on the Consolidated Balance Sheet and in accumulated other comprehensive (loss) is on a debit (credit) basis and is before the effect of income taxes.

The decrease in the benefit obligation in 2019, largely reflected in the net actuarial gain component, is primarily due to updated census data resulting from a different mix of benefit selections and actuarial assumptions reflecting lower benefit claims offset by decreases in the discount rates. The decrease in the benefit obligation in 2018, which is also primarily reflected in the net actuarial gain component, is due to increases in the discount rates, updated census data related to coverage elections and actuarial assumption changes.

The assumptions used to measure the net periodic benefit cost for postretirement benefit obligations are:

	2019	2018	2017
Discount rate	3.92 %	3.46 %	3.15 %
Current medical cost trend rate (Pre-65 participants)	7.47 %	8.19 %	7.35 %
Current medical cost trend rate (Post-65 participants)	7.87 %	9.79 %	8.68 %
Ultimate medical cost trend rate	4.50 %	4.50 %	4.50 %
Medical cost trend rate decreases to ultimate in year	2026	2025	2025

The discount rate assumption used to measure the benefit obligation was 3.15 percent in 2019 and 3.92 percent in 2018.

Estimated future benefit payments for other postretirement benefits in the five years ending June 30, 2020 through 2024 are \$5,308, \$5,051, \$4,675, \$4,401 and \$4,212, respectively, and \$18,271 in the aggregate for the five years ending June 30, 2025 through June 30, 2029.

Other - The Company has established nonqualified deferred compensation programs, which permit officers, directors and certain management employees annually to elect to defer a portion of their compensation, on a pre-tax basis, until their retirement. The retirement benefit to be provided is based on the amount of compensation deferred, Company matching contributions and earnings on the deferrals. In addition, the Company maintains a defined contribution nonqualified supplemental executive pension plan in which the Company is the only contributor. During 2019, 2018 and 2017, the Company recorded expense relating to these programs of \$5,916, \$13,420 and \$20,400, respectively.

The Company has invested in corporate-owned life insurance policies to assist in meeting the obligation under these programs. The policies are held in a rabbi trust and are recorded as assets of the Company.

12. Equity

Changes in accumulated other comprehensive (loss) in shareholders' equity by component:

	Foreign Currency Translation Adjustment and Other	Retirement Benefit Plans	Total
Balance June 30, 2017	\$ (925,342)	\$ (998,862)	\$ (1,924,204)
Other comprehensive income (loss) before reclassifications	(10,141)	76,417	66,276
Amounts reclassified from accumulated other comprehensive (loss)	(7,994)	102,836	94,842
Balance June 30, 2018	\$ (943,477)	\$ (819,609)	\$ (1,763,086)
Impact of adoption of ASU 2016-01	(1,734)	—	(1,734)
Other comprehensive loss before reclassifications	(70,023)	(325,213)	(395,236)
Amounts reclassified from accumulated other comprehensive (loss)	3,578	97,430	101,008
Balance June 30, 2019	\$ (1,011,656)	\$ (1,047,392)	\$ (2,059,048)

Significant reclassifications out of accumulated other comprehensive (loss) in shareholders' equity during 2019:

Details about Accumulated Other Comprehensive (Loss) Components	Income (Expense) Reclassified from Accumulated Other Comprehensive (Loss)	Consolidated Statement of Income Classification
Retirement benefit plans		
Amortization of prior service cost and initial net obligation	\$ (6,552)	Other (income) expense, net
Recognized actuarial loss	(121,534)	Other (income) expense, net
Total before tax	(128,086)	
Tax benefit	30,656	
Net of tax	\$ (97,430)	

Significant reclassifications out of accumulated other comprehensive (loss) in shareholders' equity during 2018:

Details about Accumulated Other Comprehensive (Loss) Components	Income (Expense) Reclassified from Accumulated Other Comprehensive (Loss)	Consolidated Statement of Income Classification
Retirement benefit plans		
Amortization of prior service cost and initial net obligation	\$ (6,467)	Other (income) expense, net
Recognized actuarial loss	(147,611)	Other (income) expense, net
Total before tax	(154,078)	
Tax benefit	51,242	
Net of tax	\$ (102,836)	

Share Repurchases - The Company has a program to repurchase its common shares. On October 22, 2014, the Board of Directors of the Company approved an increase in the overall number of shares authorized to repurchase under the program so that, beginning on such date, the aggregate number of shares authorized for repurchase was 35 million. There is no limitation on the number of shares that can be repurchased in a year. Repurchases may be funded primarily from operating cash flows and commercial paper borrowings and the shares are initially held as treasury shares. The number of common shares repurchased at the average purchase price follows:

	2019	2018	2017
Shares repurchased	4,755,273	1,738,234	1,976,778
Average price per share including commissions	\$ 168.23	\$ 172.59	\$ 133.90

13. Stock Incentive Plans

The Company's 2016 Omnibus Stock Incentive Plan provides for the granting of share-based incentive awards in the form of nonqualified stock options, stock appreciation rights ("SARs"), restricted stock units ("RSUs") and restricted and unrestricted stock to officers and key employees of the Company. The aggregate number of shares authorized for issuance under the 2016 Omnibus Stock Incentive Plan is 16 million. At June 30, 2019, 8.7 million common shares were available for future issuance.

The Company satisfies share-based incentive award obligations by issuing shares of common stock out of treasury, which have been repurchased pursuant to the Company's share repurchase program described in Note 12, or through the issuance of previously unissued common stock.

SARs - Upon exercise, SARs entitle the participant to receive shares of common stock equal to the increase in value of the award between the grant date and the exercise date. SARs are exercisable from one to three years after the date of grant and expire no more than 10 years after grant.

The fair value of each SAR award granted in 2019, 2018 and 2017 was estimated at the date of grant using a Black-Scholes option pricing model with the following weighted-average assumptions:

	2019	2018	2017
Risk-free interest rate	2.8 %	1.9 %	1.4 %
Expected life of award	5.1 years	5.2 years	5.3 years
Expected dividend yield of stock	1.9 %	2.0 %	2.0 %
Expected volatility of stock	24.2 %	23.4 %	28.5 %
Weighted-average fair value	\$ 35.09	\$ 29.71	\$ 27.39

The risk-free interest rate was based on U.S. Treasury yields with a term similar to the expected life of the award. The expected life of the award was derived by referring to actual exercise and post-vesting employment termination experience. The expected dividend yield was based on the Company's historical dividend rate and stock price over a period similar to the expected life of the award. The expected volatility of stock was derived by referring to changes in the Company's historical common stock prices over a time-frame similar to the expected life of the award.

SAR activity during 2019 is as follows (aggregate intrinsic value in millions):

	Number of Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value
Outstanding June 30, 2018	6,046,881	\$ 106.98		
Granted	748,901	\$ 166.49		
Exercised	(983,205)	\$ 77.28		
Canceled	(63,122)	\$ 154.93		
Outstanding June 30, 2019	5,749,455	\$ 119.29	5.8 years	\$ 291.6
Exercisable June 30, 2019	4,088,257	\$ 105.15	4.8 years	\$ 265.2

A summary of the status and changes of shares subject to SAR awards and the related average price per share follows:

	Number of Shares	Weighted-Average Grant Date Fair Value
Nonvested June 30, 2018	1,878,209	\$ 28.44
Granted	748,901	\$ 35.09
Vested	(905,842)	\$ 28.00
Canceled	(60,070)	\$ 31.15
Nonvested June 30, 2019	1,661,198	\$ 31.58

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During 2019, 2018 and 2017, the Company recognized stock-based compensation expense of \$26,568, \$27,422 and \$28,535, respectively, relating to SAR awards. The Company derives a tax deduction measured by the excess of the market value over the grant price at the date stock-based awards are exercised. The related income tax benefit was credited to income tax expense.

At June 30, 2019, \$11,817 of expense with respect to nonvested SAR awards has yet to be recognized and will be amortized into expense over a weighted-average period of approximately 16 months. The total fair value of shares vested during 2019, 2018 and 2017 was \$25,365, \$26,461 and \$33,094, respectively.

Information related to SAR awards exercised during 2019, 2018 and 2017 is as follows:

	2019	2018	2017
Net cash proceeds	\$ 2,475	\$ 3,682	\$ 2,202
Intrinsic value	95,502	136,000	153,908
Income tax benefit	15,584	28,701	31,193

Shares surrendered upon exercise of SARs: 2019 - 158,610; 2018 - 269,670; 2017 - 371,246.

RSUs - RSUs constitute an agreement to deliver shares of common stock to the participant at the end of a vesting period. Generally, the RSUs granted to employees vest and the underlying stock is issued ratably over a three-year graded vesting period. Nonvested RSUs may not be transferred and do not have dividend or voting rights. For each nonvested RSU, recipients are entitled to receive a dividend equivalent, payable in cash or common shares, equal to the cash dividend per share paid to common shareholders.

The fair value of each RSU award granted in 2019, 2018 and 2017 was based on the fair market value of the Company's common stock on the date of grant. A summary of the status and changes of shares subject to RSU awards for employees and the related average price per share follows:

	Number of Shares	Weighted-Average Grant Date Fair Value
Nonvested June 30, 2018	360,611	\$ 138.85
Granted	184,913	\$ 166.47
Vested	(156,079)	\$ 131.18
Canceled	(15,365)	\$ 154.22
Nonvested June 30, 2019	374,080	\$ 155.07

During 2019, 2018 and 2017, the Company recognized stock-based compensation expense of \$25,258, \$24,073 and \$23,025 respectively, relating to RSU awards for employees. At June 30, 2019, \$21,933 of expense with respect to nonvested RSU awards has yet to be recognized and will be amortized into expense over a weighted-average period of approximately 24 months. The total fair value of RSU awards vested during 2019, 2018 and 2017 was \$20,475, \$20,681 and \$21,576, respectively. The Company recognized an income tax benefit of \$1,548, \$2,451 and \$939 relating to the issuance of common stock for RSU awards that vested during 2019, 2018 and 2017, respectively.

During 2019, 2018 and 2017, 8,047, 9,900 and 12,430 RSU awards, respectively, with a one-year vesting period were granted to non-employee members of the Board of Directors. Although nonvested shares do not have dividend or voting rights, recipients receive a dividend equivalent payable in common shares, equal to the cash dividend per share paid to common shareholders. In 2019, 2018 and 2017, the Company recognized stock-based compensation expense of \$1,345, \$1,697, and \$1,560, respectively, relating to these awards. At June 30, 2019, \$414 of expense with respect to 8,003 nonvested RSU awards granted to the Board of Directors has yet to be recognized and will be amortized into expense over a weighted-average period of approximately four months. During 2019, 2018 and 2017 the Company recognized an income tax (cost) benefit of \$(82), \$270 and \$105 respectively, related to the vesting of 9,889, 12,639 and \$13,740 RSU awards, respectively, issued to the Board of Directors.

LTIP - The Company's Long Term Incentive Plans ("LTIP") provide for the issuance of unrestricted stock to certain officers and key employees based on the attainment of certain goals relating to the Company's revenue growth, earnings per share growth and return on invested capital during the three-year performance period.

Stock issued for LTIP	2019	2018	2017
LTIP three-year plan	2016-17-18	2015-16-17	2014-15-16
Number of shares issued	293,136	308,278	227,707
Share value on date of issuance	\$ 183.00	\$ 176.39	\$ 157.07
Total value	\$ 53,644	\$ 54,377	\$ 35,766

Under the Company's 2017-18-19 LTIP, a payout of unrestricted stock will be issued in April 2020.

The fair value of each LTIP award granted in 2019, 2018 and 2017 was based on the fair market value of the Company's common stock on the date of grant. Beginning January 2019, the Company changed the terms of the LTIP plan allowing newly granted LTIP awards to earn a dividend equivalent unit payable in common shares, equal to the cash dividend per share paid to common shareholders. These dividend equivalent units do not have dividend or voting rights and are subject to the same performance goals as the initial award granted. Any nonvested LTIP awards granted prior to January 2019 will continue not earning dividends or dividend equivalent units. A summary of the status and changes of shares relating to the LTIP and the related average price per share follows:

	Number of Shares	Weighted-Average Grant Date Fair Value
Nonvested June 30, 2018	658,271	\$ 143.90
Granted	198,737	\$ 157.20
Vested	(232,842)	\$ 86.51
Canceled	(23,449)	\$ 174.05
Nonvested June 30, 2019	600,717	\$ 169.36

During 2019, 2018 and 2017, the Company recorded stock-based compensation expense of \$50,908, \$65,640 and \$27,219, respectively, relating to the LTIP. During 2019, 2018 and 2017, the Company recognized an income tax benefit of \$14,101, \$3,893 and \$1,701, respectively, relating to the LTIP.

Shares surrendered in connection with the LTIP: 2019 - 134,169; 2018 - 139,918; 2017 - 113,074.

14. Research and Development

Research and development costs amounted to \$294,852 in 2019, \$327,877 in 2018 and \$336,675 in 2017. These amounts include both costs incurred by the Company related to independent research and development initiatives as well as costs incurred in connection with research and development contracts. Costs incurred in connection with research and development contracts amounted to \$44,484 in 2019, \$40,823 in 2018 and \$65,292 in 2017. These costs are included in the total research and development cost for each of the respective years.

15. Financial Instruments

The Company's financial instruments consist primarily of cash and cash equivalents, marketable securities and other investments, accounts receivable and long-term investments as well as obligations under accounts payable, trade, notes payable and long-term debt. Due to their short-term nature, the carrying values for cash and cash equivalents, accounts receivable, accounts payable, trade and notes payable approximate fair value.

Marketable securities and other investments include deposits, equity investments and available-for-sale debt securities. Deposits are recorded at cost, and equity investments and available-for-sale debt securities are recorded at fair value. Changes in fair value related to available-for-sale debt securities are recorded in accumulated other comprehensive (loss). Upon the adoption of ASU 2016-01 on July 1, 2018, changes in fair value of equity investments are recognized in net income. Prior to the adoption of ASU 2016-01, these changes in fair value were recognized in accumulated other comprehensive (loss).

Gross unrealized gains and losses related to both equity investments and available-for-sale debt securities were not material as of June 30, 2019 and 2018. There were no facts or circumstances that indicated the unrealized losses were other than temporary.

There were no investments in available-for-sale debt securities at June 30, 2019. The contractual maturities of available-for-sale investments were predominantly one to three years at June 30, 2018. Actual maturities of available-for-sale investments may differ from their contractual maturities as the Company has the ability to liquidate the available-for-sale investments after giving appropriate notice to the issuer.

The carrying value of long-term debt and estimated fair value of long-term debt at June 30 are as follows:

	2019	2018
Carrying value of long-term debt	\$ 6,596,380	\$ 4,460,402
Estimated fair value of long-term debt	7,012,641	4,548,796

The fair value of long-term debt is classified within level 2 of the fair value hierarchy.

The Company utilizes derivative and non-derivative financial instruments, including forward exchange contracts, costless collar contracts, cross-currency swap contracts and certain foreign denominated debt designated as net investment hedges, to manage foreign currency transaction and translation risk. The derivative financial instrument contracts are with major investment grade financial institutions and the Company does not anticipate any material non-performance by any of the counterparties. The Company does not hold or issue derivative financial instruments for trading purposes.

The Company's €700 million aggregate principal amount of Senior Notes due 2025 have been designated as a hedge of the Company's net investment in certain foreign subsidiaries. The translation of the Senior Notes due 2025 into U.S. dollars is recorded in accumulated other comprehensive (loss) and remains there until the underlying net investment is sold or substantially liquidated.

Derivative financial instruments are recognized on the Consolidated Balance Sheet as either assets or liabilities and are measured at fair value.

The location and fair value of derivative financial instruments reported in the Consolidated Balance Sheet are as follows:

	Balance Sheet Caption	2019	2018
Net investment hedges			
Cross-currency swap contracts	Other assets	\$ 24,545	\$ 7,614
Cash flow hedges			
Forward exchange contracts	Non-trade and notes receivable	13,242	5,564
Forward exchange contracts	Other accrued liabilities	2,578	5,079
Costless collar contracts	Non-trade and notes receivable	457	932
Costless collar contracts	Other accrued liabilities	1,934	236

The cross-currency swap, forward exchange contracts and costless collar contracts are reflected on a gross basis in the Consolidated Balance Sheet. The Company has not entered into any master netting arrangements.

Gains or losses on derivatives that are not designated as hedges are adjusted to fair value through the cost of sales caption in the Consolidated Statement of Income. Gains or losses on derivatives that are designated as hedges are adjusted to fair value through accumulated other comprehensive (loss) in the Consolidated Balance Sheet until the hedged item is recognized in earnings.

The cross-currency swap contracts have been designated as hedging instruments. The forward exchange and costless collar contracts have not been designated as hedging instruments and are considered to be economic hedges of forecasted transactions.

Gains or losses on derivative financial instruments that were recorded in the Consolidated Statement of Income during 2019, 2018 and 2017 were not material.

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Gains (losses) on derivative and non-derivative financial instruments that were recorded in accumulated other comprehensive (loss) in the Consolidated Balance Sheet are as follows:

	2019	2018
Cross-currency swap contracts	\$ 13,723	\$ (9,209)
Foreign denominated debt	16,458	(9,543)

No portion of these financial instruments were excluded from the effectiveness testing during 2019, 2018 and 2017.

A summary of financial assets and liabilities that were measured at fair value on a recurring basis at June 30, 2019 and 2018 are as follows:

	June 30, 2019	Quoted Prices In Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Equity securities	\$ 7,533	\$ 7,533	\$ —	\$ —
Derivatives	38,244	—	38,244	—
Investments measured at net asset value	9,728			
Liabilities:				
Derivatives	4,512	—	4,512	—

	June 30, 2018	Quoted Prices In Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Equity securities	\$ 2,956	\$ 2,956	\$ —	\$ —
Corporate bonds	5,331	5,331	—	—
Asset-backed and mortgage-backed securities	3,911	—	3,911	—
Derivatives	14,110	—	14,110	—
Investments measured at net asset value	7,208			
Liabilities:				
Derivatives	5,315	—	5,315	—

The fair values of the equity securities, corporate bonds and asset-backed and mortgage-backed securities are determined using the closing market price reported in the active market in which the fund is traded or the market price for similar assets that are traded in an active market.

Derivatives consist of forward exchange, costless collar and cross-currency swap contracts, the fair values of which are calculated using market observable inputs including both spot and forward prices for the same underlying currencies. The calculation of fair value of the cross-currency swap contracts also utilizes a present value cash flow model that has been adjusted to reflect the credit risk of either the Company or the counterparty.

Investments measured at net asset value primarily consist of investments in fixed income mutual funds, which are measured at fair value using the net asset value per share practical expedient. These investments have not been categorized in the fair value hierarchy. The Company has the ability to liquidate these investments after giving appropriate notice to the issuer.

The primary investment objective for all investments is the preservation of principal and liquidity while earning income.

There are no other financial assets or financial liabilities that are marked to market on a recurring basis.

16. Contingencies

The Company is involved in various litigation matters arising in the normal course of business, including proceedings based on product liability claims, workers' compensation claims and alleged violations of various environmental laws. The Company is self-insured in the United States for health care, workers' compensation, general liability and product liability up to predetermined amounts, above which third party insurance applies. Management regularly reviews the probable outcome of these proceedings, the expenses expected to be incurred, the availability and limits of the insurance coverage and the established accruals for liabilities. While the outcome of pending proceedings cannot be predicted with certainty, management believes that any liabilities that may result from these proceedings will not have a material adverse effect on the Company's liquidity, financial condition or results of operations.

Environmental - The Company is currently responsible for environmental remediation at various manufacturing facilities presently or formerly operated by the Company and has been named as a "potentially responsible party," along with other companies, at off-site waste disposal facilities and regional sites.

As of June 30, 2019, the Company had an accrual of \$16,070 for environmental matters, which are probable and reasonably estimable. The accrual is recorded based upon the best estimate of costs to be incurred in light of the progress made in determining the magnitude of remediation costs, the timing and extent of remedial actions required by governmental authorities and the amount of the Company's liability in proportion to other responsible parties.

The Company's estimated total liability for environmental matters ranges from a minimum of \$16.1 million to a maximum of \$80.1 million. The largest range for any one site is approximately \$8.2 million. The actual costs to be incurred by the Company will be dependent on final determination of contamination and required remedial action, negotiations with governmental authorities with respect to cleanup levels, changes in regulatory requirements, innovations in investigatory and remedial technologies, effectiveness of remedial technologies employed, the ability of other responsible parties to pay, and any insurance or other third-party recoveries.

17. Quarterly Information
(Unaudited)

2019	1st		2nd		3rd		4th		Total
Net sales	\$	3,479,294	\$	3,472,045	\$	3,687,518	\$	3,681,467	\$ 14,320,324
Net income attributable to common shareholders		375,711		311,737		411,248		413,668	1,512,364
Diluted earnings per share		2.79		2.36		3.14		3.17	11.48

2018	1st		2nd		3rd		4th		Total
Net sales	\$	3,364,651	\$	3,370,673	\$	3,749,591	\$	3,817,477	\$ 14,302,392
Net income attributable to common shareholders		285,397		56,159		365,989		353,256	1,060,801
Diluted earnings per share		2.10		0.41		2.70		2.62	7.83

Earnings per share amounts are computed independently for each of the quarters presented, therefore, the sum of the quarterly earnings per share amounts may not equal the total computed for the year.

ITEM 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure. None.

ITEM 9A. Controls and Procedures. The Company carried out an evaluation, under the supervision and with the participation of the Company's management, including the Company's principal executive officer and principal financial officer, of the effectiveness of the Company's disclosure controls and procedures as of June 30, 2019. Based on this evaluation, the Company's principal executive officer and principal financial officer concluded that, as of June 30, 2019, the Company's disclosure controls and procedures were effective.

There was no change in the Company's internal control over financial reporting during the quarter ended June 30, 2019 that materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

Management's Report On Internal Control Over Financial Reporting

Our management, including the principal executive officer and the principal financial officer, is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)). We assessed the effectiveness of our internal control over financial reporting as of June 30, 2019. In making this assessment, we used the criteria established by the Committee of Sponsoring Organizations of the Treadway Commission in "Internal Control-Integrated Framework (2013)." We concluded that based on our assessment, the Company's internal control over financial reporting was effective as of June 30, 2019.

Deloitte & Touche LLP, the independent registered public accounting firm that audited the Company's consolidated financial statements, has issued an attestation report on the Company's internal control over financial reporting as of June 30, 2019, which is included in Part II, Item 8 of this Annual Report on Form 10-K.

ITEM 9B. Other Information. None.

PART III

ITEM 10. Directors, Executive Officers and Corporate Governance. Information required with respect to the Directors of the Company is set forth under the caption "Item I – Election of Directors" in the definitive Proxy Statement for the Company's 2019 Annual Meeting of Shareholders, to be held October 23, 2019 (the 2019 Proxy Statement), and is incorporated herein by reference. Information with respect to the executive officers of the Company is included in Part I, Item 1C of this Annual Report on Form 10-K under the caption "Executive Officers of the Registrant."

The information set forth under the caption "Delinquent Section 16(A) Reports" in the 2019 Proxy Statement is incorporated herein by reference.

The Company has adopted a Global Code of Business Conduct that applies to its Chief Executive Officer, Chief Financial Officer and Controller. The Global Code of Business Conduct is posted on the Company's investor relations internet website at www.phstock.com under the Corporate Governance page. Any amendment to, or waiver from, a provision of the Company's Global Code of Business Conduct that applies to its Chief Executive Officer, Chief Financial Officer or Controller will also be posted at www.phstock.com under the Corporate Governance page.

The information set forth under the captions "Committees of Our Board of Directors - The Audit Committee" and "Report of the Audit Committee" in the 2019 Proxy Statement is incorporated herein by reference.

ITEM 11. Executive Compensation. The information set forth under the captions "Compensation Discussion and Analysis," "Compensation Committee Report," and "Compensation Tables" in the 2019 Proxy Statement is incorporated herein by reference.

ITEM 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters The information set forth under the captions "Principal Shareholders" in the 2019 Proxy Statement is incorporated herein by reference.

Equity Compensation Plan Information. The following table sets forth certain information regarding the Company's equity compensation plans as of June 30, 2019, unless otherwise indicated.

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under Equity compensation plans
Equity compensation plans approved by security holders	7,347,772 ⁽¹⁾	\$121.51	18,673,701 ⁽²⁾
Equity compensation plans not approved by security holders	—	—	—
Total	7,347,772	\$121.51	18,673,701

⁽¹⁾Includes the maximum future payouts of common stock that may be issued under the calendar year 2017-18-19, 2018-19-20 and 2019-20-21 long term incentive performance awards ("LTIP awards"). For these LTIP awards, payouts will be determined based on our achieving an average return on average equity of 4% or an average free cash flow margin of 4%. If these performance measures are achieved, the participants will be eligible to receive the maximum payout of 200%. The Human Resources and Compensation Committee will then compare our performance to that of a group of our peers and, if appropriate, apply its discretion to reduce the final payouts based on any performance measures that the Committee determines to be appropriate.

⁽²⁾The maximum number of shares of our common stock that may be issued under the 2016 Omnibus Stock Incentive Plan is 16 million shares, of which approximately 8.7 million shares are available for future issuance. The maximum number of shares that may be issued under the Global Employee Stock Purchase Plan is 10 million shares, of which approximately 9.9 million shares are still available for future issuance.

ITEM 13. Certain Relationships and Related Transactions, and Director Independence. The information set forth under the captions "Other Governance Matters - Review and Approval of Transactions with Related Persons" and "Corporate Governance: Board of Directors - Director Independence" in the 2019 Proxy Statement is incorporated herein by reference.

ITEM 14. Principal Accountant Fees and Services. The information set forth under the captions "Audit Fees," "Audit-Related Fees," "Tax Fees," "All Other Fees" and "Audit Committee Pre-Approval Policies and Procedures" in the 2019 Proxy Statement is incorporated herein by reference.

PART IV

ITEM 15. Exhibits and Financial Statement Schedules.

a. The following are filed as part of this report:

	Page Number in Form 10-K
1. <u>Financial Statements</u>	
Consolidated Statement of Income	32
Consolidated Statement of Comprehensive Income	33
Business Segment Information	34
Consolidated Balance Sheet	36
Consolidated Statement of Cash Flows	37
Consolidated Statement of Equity	38
Notes to Consolidated Financial Statements	39
2. <u>Schedule</u>	
II - Valuation and Qualifying Accounts	76

3. Exhibits

Exhibit No.	Description of Exhibit
(2)(a)	Agreement and Plan of Merger among Parker-Hannifin Corporation, CLARCOR, Inc. and Parker Eagle Corporation dated as of December 1, 2016, incorporated by reference to Exhibit 2.1 of Registrant's Form 8-K filed with the SEC on December 1, 2016 (Commission File No. 1-4982). +
(2)(b)	Agreement and Plan of Merger among Parker-Hannifin Corporation, Erie Merger Sub, Inc., LORD Corporation and Shareholder Representative Services LLC as the shareholders' representative, dated as of April 26, 2019, incorporated by reference to Exhibit 2.1 of Registrant's Form 8-K filed with the SEC on April 29, 2019 (Commission File No. 1-4982). +
(2)(c)	Share Purchase Agreement, among Parker-Hannifin Corporation, EMFCO Holdings Incorporated, the shareholders of the Company, and Fortis Advisors LLC, as the Sellers' representative, dated as of July 26, 2019, incorporated by reference to Exhibit 2.1 of Registrant's Form 8-K filed with the SEC on July 29, 2019 (Commission File No. 1-4982). +
	<u>Articles of Incorporation and By-Laws:</u>
(3)(a)	Amended Articles of Incorporation , incorporated by reference to Exhibit 3(a) to Registrant's Report on Form 10-K for the fiscal year ended June 30, 2016 (Commission File No. 1-4982).
(3)(b)	Regulations, Amended and Restated as of January 24, 2019, incorporated by reference to Exhibit 3(a) to Registrant's Report on Form 10-Q for the quarterly period ended December 31, 2018 (Commission File No. 1-4982).
	<u>Instruments Defining Rights of Security Holders</u>
(4)(a)	Description of Parker-Hannifin's Securities .*
	<u>Material Contracts:</u>
(10)(a)	Form of Parker-Hannifin Corporation Amended and Restated Change in Control Severance Agreement entered into by Registrant and its executive officers, incorporated by reference to Exhibit 10(a) to Registrant's Report on Form 10-Q for the quarterly period ended September 30, 2008 (Commission File No. 1-4982).
(10)(b)	Form of Parker-Hannifin Corporation Change in Control Severance Agreement for Executive Officers elected after September 1, 2015 at or above Grade 29 , incorporated by reference to Exhibit 10(c) to Registrant's Report on Form 10-K for the fiscal year ended June 30, 2016 (Commission File No. 1-4982).

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- (10)(c) [Form of Parker-Hannifin Corporation Change in Control Severance Agreement for Executive Officers dated after September 1, 2015 below Grade 29](#) incorporated by reference to Exhibit 10(d) to Registrant's Report on Form 10-K for the fiscal year ended June 30, 2016 (Commission File No. 1-4982).
- (10)(d) [Parker-Hannifin Corporation Amended and Restated Change in Control Severance Plan](#), incorporated by reference to Exhibit 10(b) to Registrant's Report on Form 10-Q for the quarterly period ended September 30, 2008 (Commission File No. 1-4982).
- (10)(e) [Form of Indemnification Agreement entered into by the Registrant and its directors and executive officers](#) incorporated by reference to Exhibit 10(c) to Registrant's Report on Form 10-K for the fiscal year ended June 30, 2003 (Commission File No. 1-4982).
- (10)(f) [Description of the Parker-Hannifin Corporation Officer Life Insurance Plan](#), incorporated by reference to Exhibit 10(h) to Registrant's Report on Form 10-K for the fiscal year ended June 30, 2005 (Commission File No. 1-4982).
- (10)(g) [Parker-Hannifin Corporation Amended and Restated Supplemental Executive Retirement Benefits Program](#), effective July 1, 2014, incorporated by reference to Exhibit 10(a) to Registrant's Report on Form 10-Q for the quarterly period ended March 31, 2016 (Commission File No. 1-4982).
- (10)(h) [Parker-Hannifin Corporation Amended and Restated Defined Contribution Supplemental Executive Retirement Program](#), effective January 22, 2015, incorporated by reference to Exhibit 10(c) to Registrant's Report on Form 10-Q for the quarterly period ended December 31, 2015 (Commission File No. 1-4982).
- (10)(i) [Summary of the Parker-Hannifin Corporation Executive Disability Insurance Plan](#), incorporated by reference to Exhibit 10(j) to Registrant's Report on Form 10-K for the fiscal year ended June 30, 2016 (Commission File No. 1-4982).
- (10)(j) [Parker-Hannifin Corporation Amended and Restated 2003 Stock Incentive Plan](#), incorporated by reference to Exhibit 10(b) to Registrant's Report on Form 10-Q for the quarterly period ended September 30, 2010 (Commission File No. 1-4982).
- (10)(k) [Parker-Hannifin Corporation Amended and Restated 2009 Omnibus Stock Incentive Plan](#), incorporated by reference to Appendix A to Registrant's Definitive Proxy Statement filed with the Commission on September 24, 2012 (Commission File No. 1-4982).
- (10)(l) [Parker-Hannifin Corporation 2016 Omnibus Stock Incentive Plan](#), incorporated by reference to Annex B to Registrant's Definitive Proxy Statement on Schedule 14A, filed with the SEC on September 26, 2016 (Commission File No. 1-4982).
- (10)(m) [Parker-Hannifin Corporation First Amendment to 2016 Omnibus Stock Incentive Plan](#), effective April 1, 2017, incorporated by reference to Exhibit 10(a) to Registrant's Report on Form 10-Q for the quarterly period ended March 31, 2017 (Commission File No. 1-4982).
- (10)(n) [Parker-Hannifin Corporation 2015 Performance Bonus Plan](#) incorporated by reference to Appendix B to Registrant's Definitive Proxy Statement filed with the Commission on September 28, 2015 (Commission File No. 1-4982).
- (10)(o) [Form of 2010 Notice of Stock Options with Tandem Stock Appreciation Rights for Executive Officers](#), incorporated by reference to Exhibit 10(d) to Registrant's Report on Form 10-Q for the quarterly period ended September 30, 2009 (Commission File No. 1-4982).
- (10)(p) [Form of 2011 Parker-Hannifin Corporation Stock Appreciation Rights Award Agreement for executive officers](#) incorporated by reference to Exhibit 10.2 to Registrant's Report on Form 8-K filed with the SEC on August 17, 2010 (Commission File No. 1-4982).
- (10)(q) [2011 Parker-Hannifin Corporation Stock Appreciation Rights Terms and Conditions for executive officers](#) incorporated by reference to Exhibit 10.1 to Registrant's Report on Form 8-K filed with the SEC on August 17, 2010 (Commission File No. 1-4982).
- (10)(r) [Form of Parker-Hannifin Corporation Stock Appreciation Rights Award Agreement](#) for executive officers, incorporated by reference to Exhibit 10(a) to Registrant's Report on Form 10-Q for the quarterly period ended September 30, 2011 (Commission File No. 1-4982).
- (10)(s) [Parker-Hannifin Corporation Stock Appreciation Rights Terms and Conditions](#) for executive officers, incorporated by reference to Exhibit 10(b) to Registrant's Report on Form 10-Q for the quarterly period ended September 30, 2011 (Commission File No. 1-4982).
- (10)(t) [Form of 2018 Parker-Hannifin Corporation Stock Appreciation Rights Award Agreement, incorporated by reference to Exhibit 10\(d\) to Registrant's Report on Form 10-Q for the quarterly period ended December 31, 2018 \(Commission File No. 1-4982\).](#)

- (10)(u) [2018 Parker-Hannifin Corporation Stock Appreciation Rights Terms and Conditions, incorporated by reference to Exhibit 10\(e\) to Registrant's Report on Form 10-Q for the quarterly period ended December 31, 2018 \(Commission File No. 1-4982\)](#)
- (10)(v) [Parker-Hannifin Corporation Target Incentive Plan, incorporated by reference to Exhibit 10\(d\) to Registrant's Report on Form 10-Q for the quarterly period ended September 30, 2010 \(Commission File No. 1-4982\).](#)
- (10)(w) [Parker-Hannifin Corporation Target Incentive Plan Subject to Performance Bonus Plan incorporated by reference to Exhibit 10\(e\) to Registrant's Report on Form 10-Q for the quarterly period ended September 30, 2010 \(Commission File No. 1-4982\).](#)
- (10)(x) [Parker-Hannifin Corporation Long-Term Incentive Performance Plan Under the Performance Bonus Plan, as amended and restated, effective January 20, 2016, incorporated by reference to Exhibit 10\(aa\) to Registrant's Annual Report on Form 10-K for the fiscal year ended June 30, 2016 \(Commission file No. 1-4982\).](#)
- (10)(y) [Form of Notice of Award under the Parker-Hannifin Corporation Long-Term Incentive Performance Plan Under the Performance Bonus Plan \(as Amended and Restated\), incorporated by reference to Exhibit 10\(bb\) to the Registrant's Annual Report on Form 10-K for the fiscal year ended June 30, 2016 \(Commission file No. 1-4982\).](#)
- (10)(z) [Form of Notice of Award under the Parker-Hannifin Corporation Long-Term Incentive Performance Plan Under the Performance Bonus Plan \(as Amended and Restated\), effective as of January 23, 2019, incorporated by reference to Exhibit 10\(f\) to the Registrant's Annual Report on Form 10-Q for the quarterly period ended December 31, 2018 \(Commission file No. 1-4982\).](#)
- (10)(aa) [Parker-Hannifin Corporation Long-Term Incentive Performance Plan Under the Performance Bonus Plan \(as Amended and Restated\), effective as of January 23, 2019, incorporated by reference to Exhibit 10\(g\) to the Registrant's Report on Form 10-Q for the quarterly period ended December 31, 2018 \(Commission File No. 1-4982\).](#)
- (10)(bb) [Parker-Hannifin Corporation Restricted Stock Unit Award Agreement dated August 17, 2016 for Lee C. Banks, incorporated by reference to Exhibit 10\(a\) to Registrant's Report on Form 10-Q for the quarterly period ended September 30, 2014 \(Commission File No. 1-4982\).](#)
- (10)(cc) [Parker-Hannifin Corporation Restricted Stock Unit Terms and Conditions for Lee C. Banks, incorporated by reference to Exhibit 10\(b\) to Registrant's Report on Form 10-Q for the quarterly period ended September 30, 2014 \(Commission File No. 1-4982\).](#)
- (10)(dd) [Form of Parker-Hannifin Corporation Restricted Stock Unit Award Agreement, incorporated by reference to Exhibit 10\(a\) to Registrant's Report on Form 10-Q for the quarterly period ended December 31, 2018 \(Commission file No. 1-4982\).](#)
- (10)(ee) [Form of Parker-Hannifin Corporation Restricted Stock Unit Award Agreement, incorporated by reference to Exhibit 10\(b\) to Registrant's Report on Form 10-Q for the quarterly period ended December 31, 2018 \(Commission File No. 1-4982\).](#)
- (10)(ff) [Form of Parker-Hannifin Corporation Restricted Stock Unit Terms and Conditions for Awards Granted, incorporated by reference to Exhibit 10\(c\) to Registrant's Report on Form 10-Q for the quarterly period ended December 31, 2018 \(Commission File No. 1-4982\).](#)
- (10)(gg) [Form of 2018 Parker-Hannifin Corporation Restricted Stock Unit Award Agreement to Certain Executive Officers, incorporated by reference to Exhibit 10\(b\) to Registrant's Report on Form 10-Q for the quarterly period ended September 30, 2018 \(Commission File No. 1-4982\).](#)
- (10)(hh) [Parker-Hannifin Corporation 2018 Restricted Stock Unit Terms and Conditions for Certain Executive Officers, incorporated by reference to Exhibit 10\(c\) to Registrant's Report on Form 10-Q for the quarterly period ended September 30, 2018 \(Commission File No. 1-4982\).](#)
- (10)(ii) [Parker-Hannifin Corporation Profitable Growth Incentive Plan, incorporated by reference to Exhibit 10\(c\) to Registrant's Report on Form 10-Q for the quarterly period ended September 30, 2014 \(Commission File No. 1-4982\).](#)
- (10)(jj) [Form of Notice of RONA Bonus Award Under the Parker-Hannifin Corporation Performance Bonus Plan, incorporated by reference to Exhibit 10\(h\) to Registrant's Report on Form 10-Q for the quarterly period ended September 30, 2009 \(Commission File No. 1-4982\).](#)
- (10)(kk) [Parker-Hannifin Corporation RONA Plan Subject to Performance Bonus Plan incorporated by reference to Exhibit 10\(f\) to Registrant's Report on Form 10-Q for the quarterly period ended September 30, 2010 \(Commission File No. 1-4982\).](#)

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(10)(ll)	Parker-Hannifin Corporation Summary of RONA Bonus Awards in Lieu of Certain Executive Perquisites , incorporated by reference to Exhibit 10(h) to Registrant's Report on Form 10-Q for the quarterly period ended September 30, 2008 (Commission File No. 1-4982).
(10)(mm)	Parker-Hannifin Corporation amended and restated Savings Restoration Plan , as of September 1, 2004, incorporated by reference to Exhibit 10(t) to Registrant's Report on Form 10-K for the fiscal year ended June 30, 2004 (Commission File No. 1-4982).
(10)(nn)	Parker-Hannifin Corporation Amended and Restated Savings Restoration Plan , effective January 1, 2016, incorporated by reference to Exhibit 10(d) to Registrant's Report on Form 10-Q for the quarterly period ended December 31, 2016 (Commission File No. 1-4982).
(10)(oo)	Parker-Hannifin Corporation Amended and Restated Pension Restoration Plan , effective July 1, 2016, incorporated by reference to Exhibit 10(mm) to Registrant's Report on Form 10-K for the fiscal year ended June 30, 2016 (Commission File No. 1-4982).
(10)(pp)	Parker-Hannifin Corporation amended and restated Executive Deferral Plan as of September 1, 2004, incorporated by reference to Exhibit 10(v) to Registrant's Report on Form 10-K for the fiscal year ended June 30, 2004 (Commission File No. 1-4982).
(10)(qq)	Parker-Hannifin Corporation Amended and Restated Executive Deferral Plan , effective September 2, 2015, incorporated by reference to Exhibit 10(pp) to Registrant's Report on Form 10-K for the fiscal year ended June 30, 2016 (Commission File No. 1-4982).
(10)(rr)	Parker-Hannifin Corporation Global Employee Stock Purchase Plan , incorporated by reference to Appendix A to Registrant's Definitive Proxy Statement filed with the SEC on September 22, 2014 (Commission File No. 1-4982).
(10)(ss)	Parker-Hannifin Corporation Claw-back Policy , incorporated by reference to Exhibit 10.2 to Registrant's Report on Form 8-K filed with the SEC on August 18, 2009 (Commission File No. 1-4982).
(10)(tt)	Amended and Restated Deferred Compensation Plan for Directors of Parker-Hannifin Corporation, effective January 22, 2015 incorporated by reference to Exhibit 10(i) to Registrant's Report on Form 10-Q for the quarterly period ended December 31, 2015 (Commission File No. 1-4982).
(10)(uu)	Summary of the Compensation of the Non-Employee Members of the Board of Directors, effective October 24, 2018, incorporated by reference to Exhibit 10(a) to Registrant's Report on Form 10-Q for the quarterly period ended September 30, 2018 (Commission File No. 1-4982).
(10)(vv)	Credit Agreement among Parker-Hannifin Corporation, the lenders party thereto and KeyBank National Association, as Administrative Agent, dated as of May 22, 2019, incorporated by reference to Exhibit 10.1 to Registrant's Report on Form 8-K filed with the SEC on May 24, 2019 (Commission File No. 1-4982).
(21)	List of subsidiaries of Registrant. *
(23)	Consent of Independent Registered Public Accounting Firm. *
(24)	Power of Attorney. *
(31)(a)	Certification of the Principal Executive Officer Pursuant to 17 CFR 240.13a-14(a), as Adopted Pursuant to §302 of the Sarbanes-Oxley Act of 2002*
(31)(b)	Certification of the Principal Financial Officer Pursuant to 17 CFR 240.13a-14(a), as Adopted Pursuant to §302 of the Sarbanes-Oxley Act of 2002*
(32)	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to §906 of the Sarbanes-Oxley Act of 2002*
101.INS	The instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.*
101.SCH	Inline XBRL Taxonomy Extension Schema Document.*
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document.*
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document.*
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document.*
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document.*
104	Cover page Interactive Data File (formatted as Inline XBRL with applicable taxonomy extension information contained in Exhibits 101).

+ Certain schedules have been omitted and the Company agrees to furnish supplementally to the Commission a copy of any omitted exhibits and schedules upon request.

* Submitted electronically
herewith.

Attached as Exhibit 101 to this Annual Report are the following formatted in Inline XBRL (Extensible Business Reporting Language): (i) Consolidated Statement of Income for the years ended June 30, 2019, 2018 and 2017, (ii) Consolidated Statement of Comprehensive Income for the years ended June 30, 2019, 2018 and 2017, (iii) Consolidated Balance Sheet at June 30, 2019 and 2018, (iv) Consolidated Statement of Cash Flows for the years ended June 30, 2019, 2018 and 2017, (v) Consolidated Statement of Equity for the years ended June 30, 2019, 2018 and 2017, and (vi) Notes to Consolidated Financial Statements.

Shareholders may request a copy of any of the exhibits to this Annual Report on Form 10-K by writing to the Secretary, Parker-Hannifin Corporation, 6035 Parkland Boulevard, Cleveland, Ohio 44124-4141.

Individual financial statements and related applicable schedules for the Registrant (separately) have been omitted because the Registrant is primarily an operating company and its subsidiaries are considered to be wholly-owned.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) 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.

PARKER-HANNIFIN CORPORATION

By: /s/ Catherine A. Suever
Catherine A. Suever
Executive Vice President - Finance &
Administration and Chief Financial Officer

August 23, 2019

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the date indicated.

Signature and Title

THOMAS L. WILLIAMS, Chairman of the Board of Directors and Principal Executive Officer; TODD M. LEOMBRUNO, Principal Accounting Officer; LEE C. BANKS, Director; ROBERT G. BOHN, Director; LINDA S. HARTY, Director; KEVIN A. LOBO, Director; CANDY M. OBOURN, Director; JOSEPH SCAMINACE, Director; ÅKE SVENSSON, Director; LAURA K. THOMPSON, Director; JAMES R. VERRIER, Director; and JAMES L. WAINSCOTT, Director.

Date: August 23, 2019

/s/ Catherine A. Suever
Catherine A. Suever, Executive Vice President –
Finance & Administration and Chief Financial
Officer (Principal Financial Officer and
Attorney-in-Fact)

PARKER-HANNIFIN CORPORATION
 SCHEDULE II - VALUATION AND QUALIFYING ACCOUNTS
 FOR THE YEARS ENDED JUNE 30, 2017, 2018 AND 2019
 (Dollars in Thousands)

Column A	Column B	Column C	Column D	Column E
Description	Balance at Beginning of Period	Additions Charged to Costs and Expenses	Other (Deductions)/ Additions (A)	Balance at End of Period
<u>Allowance for doubtful accounts:</u>				
Year ended June 30, 2017	\$ 8,010	\$ 3,559	\$ 2,767	\$ 14,336
Year ended June 30, 2018	\$ 14,336	\$ 2,861	\$ (7,525)	\$ 9,672
Year ended June 30, 2019	\$ 9,672	\$ 2,034	\$ (2,832)	\$ 8,874
<u>Deferred tax asset valuation allowance:</u>				
Year ended June 30, 2017	\$ 332,708	\$ 349,803	\$ 1,568	\$ 684,079
Year ended June 30, 2018	\$ 684,079	\$ 10,778	\$ —	\$ 694,857
Year ended June 30, 2019	\$ 694,857	\$ 102,835	\$ —	\$ 797,692

(A) For allowance for doubtful accounts, net balance is comprised of deductions due to divestitures or uncollectible accounts charged off, additions due to acquisitions or recoveries, and currency translation adjustments. For deferred tax asset valuation allowance, the balance primarily represents adjustments due to acquisitions.

**DESCRIPTION OF THE REGISTRANT'S SECURITIES
REGISTERED PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934**

As of June 30, 2019, Parker-Hannifin Corporation ("Parker," the "Company," "we," "us" or "our") had one class of securities registered under Section 12 of the Securities Exchange Act of 1934: our common stock.

DESCRIPTION OF CAPITAL STOCK

The following summary of the terms of our capital stock is based upon our amended articles of incorporation, our regulations, as amended and restated and applicable provisions of law. The summary is not complete, and is qualified by reference to our [amended articles of incorporation](#) and [regulations, as amended and restated](#), which are filed as exhibits to this Annual Report on Form 10-K and are incorporated by reference herein.

Capitalization

Our authorized capital stock consists of 603,000,000 shares of stock, including:

- 600,000,000 common shares, par value of \$.50 per share; and
- 3,000,000 shares of serial preferred stock, par value of \$.50 per share.

Common Shares

Holders of our common shares are entitled to one vote per share with respect to each matter submitted to a vote of our shareholders, subject to voting rights of shares of our serial preferred stock, if any. Except as provided in connection with our serial preferred stock or as otherwise may be required by law or our amended articles of incorporation, our common shares are the only capital stock entitled to vote in the election of directors. Shareholders of Parker do not have cumulative voting rights in the election of directors.

Subject to the rights of holders of our serial preferred stock, if any, holders of our common shares are entitled to receive dividends and distributions lawfully declared by our board of directors. If we liquidate, dissolve or wind up our business, whether voluntarily or involuntarily, holders of our common shares will be entitled to receive any assets available for distribution to our shareholders after we have paid or set apart for payment the amounts necessary to satisfy any preferential or participating rights to which the holders of each outstanding series of serial preferred stock are entitled by the express terms of that series of serial preferred stock.

Our outstanding common shares are fully paid and nonassessable. Our common shares do not have any preemptive, subscription or conversion rights. We may issue additional authorized common shares as it is authorized by our board of directors from time to time, without shareholder approval, except as may be required by applicable stock exchange requirements.

Serial Preferred Stock

Our board of directors has been authorized to provide for the issuance of shares of our serial preferred stock in multiple series without the approval of shareholders. With respect to each series of our serial preferred stock, our board of directors has the authority, consistent with our amended articles of incorporation, to fix the following terms:

- the designation of the series distinguished by number, letter or title;
 - the number of shares within the series, which the board of directors may increase or decrease, except where otherwise provided in the terms of the series;
-

- the dividend rate of the series;
- the dates at which dividends, if declared, shall be payable, and the dates from which dividends shall be cumulative;
- the liquidation price of the series;
- the redemption rights and price or prices, if any, for shares of the series;
- the terms and amount of any sinking fund provided for the purchase or redemption of shares of the series;
- whether the shares are convertible, the price or rate of conversion, and the applicable terms and conditions; and
- any restrictions on issuance of shares in the same series or any other series.

Dividends in respect of the serial preferred stock will be cumulative and payable quarterly in cash. Holders of serial preferred stock are entitled to one vote for each share of serial preferred stock on all matters presented to shareholders and vote, in general, together with common shares as one class. In the event of a default in the payment of dividends (whether or not declared) in an aggregate amount equivalent to six quarterly dividends (whether or not consecutive), the holders of serial preferred stock, voting as a separate class, have the right to elect two additional directors on Parker's board of directors. In addition, the holders of serial preferred stock have supermajority voting rights in regard to changes to our amended articles of incorporation or regulations, as amended and restated adversely affecting the voting powers, rights or preferences of this serial preferred stock.

Rights of holders of shares of the serial preferred stock will be subordinate to the rights of our general creditors. Shares of our serial preferred stock that we issue will be fully paid and nonassessable, and will not be entitled to preemptive rights unless specified in the applicable prospectus supplement.

The description of our board of director's powers with respect to serial preferred stock and rights of serial preferred stock shareholders in this section does not describe every aspect of these powers and rights. A copy of our amended articles of incorporation has been incorporated by reference herein.

Limitation on Directors' Liability

Under Section 1701.59(D) of the Ohio Revised Code, unless the articles or the regulations of a corporation state by specific reference that this provision of Ohio law does not apply, a director is liable for monetary damages for any action or omission as a director only if it is proven by clear and convincing evidence that this act or omission was undertaken either with deliberate intent to cause injury to the corporation or with reckless disregard for the best interests of the corporation. This provision, however, does not affect the liability of directors under Section 1701.95 of the Ohio Revised Code, which relates to:

- the payment of dividends or distributions, the making of distributions of assets to shareholders or the purchase or redemption of the corporation's shares, contrary to the law or the corporation's articles;
 - the distribution of assets to shareholders during the winding up of our affairs by dissolution or otherwise, if creditors are not adequately provided for; and
-

- the making of certain loans to officers, directors or shareholders, other than in the usual course of business, without approval by a majority of the disinterested directors of the corporation who determined that the loan could reasonably be expected to benefit the corporation.

Section 1701.59(D) applies to our board of directors because our amended articles of incorporation and regulations, as amended and restated do not specifically exclude its applicability. This may have the effect of reducing the likelihood of derivative litigation against directors, and may discourage or deter shareholders or management from bringing a lawsuit against directors based on their actions or omissions, even though such a lawsuit, if successful, might otherwise have benefited us and our shareholders.

Ohio Anti-Takeover Law

Several provisions of the Ohio Revised Code may make it more difficult to acquire us by means of a tender offer, open market purchase, proxy fight or otherwise. These provisions include Section 1701.831 (“Control Share Acquisitions”), Chapter 1704 (“Business Combinations”) and Section 1707.041 (“Control Bids”).

These statutory provisions are designed to encourage persons seeking to acquire control of us to negotiate with our board of directors. We believe that, as a general rule, our interests and the interests of our shareholders would be served best if any change in control results from negotiations with our board of directors based upon careful consideration of the proposed terms, such as, among other factors, the price to be paid to shareholders, the form of consideration to be paid and the anticipated tax effects of the transaction.

These statutory provisions could have the effect of discouraging a prospective acquirer from making a tender offer for our shares or otherwise attempting to obtain control of us. To the extent that these provisions discourage takeover attempts, they could deprive shareholders of opportunities to realize takeover premiums for their shares. Moreover, these provisions could discourage accumulations of large blocks of common shares, thus depriving shareholders of any advantages which large accumulations of stock might provide. Finally, these provisions could limit the ability of shareholders to approve a transaction that they may deem to be in their best interests.

The Ohio Revised Code’s Control Share Acquisitions, Business Combinations and Control Bids provisions are set forth in summary below. This summary does not purport to be complete and is subject to, and is qualified in its entirety by reference to, all sections of the Ohio Revised Code.

Control Share Acquisitions

Section 1701.831 of the Ohio Revised Code provides that certain notice and informational filings and special shareholder meeting and voting procedures must be followed prior to consummation of a proposed “control share acquisition.” The Ohio Revised Code defines a “control share acquisition” as any acquisition of an issuer’s shares which would entitle the acquirer, immediately after that acquisition, directly or indirectly, to exercise or direct the exercise of voting power of the issuer in the election of directors within any one of the following ranges of that voting power:

- one-fifth or more, but less than one-third of that voting power;
- one-third or more, but less than a majority of that voting power; or
- a majority or more of that voting power.

Assuming compliance with the notice and information filings prescribed by the statute, the proposed control share acquisition may be made only if, at a special meeting of shareholders, the acquisition is approved by at least a majority of the voting power of the issuer represented at the meeting and at least a majority of the voting power remaining after excluding the combined voting power of the “interested shares.” “Interested shares” are the shares held by the intended acquirer and the employee-directors and officers of the issuer, as well as certain shares that

were acquired after the date of the first public disclosure of the acquisition but before the record date for the meeting of shareholders and shares that were transferred, together with the voting power thereof, after the record date for the meeting of shareholders.

Business Combinations

We are subject to Chapter 1704 of the Ohio Revised Code, which prohibits certain business combinations and transactions between an “issuing public corporation” and an “interested shareholder” for at least three years after the interested shareholder attains 10% ownership of the issuing public corporation, unless the board of directors of the issuing public corporation approves the transaction prior to the interested shareholder attaining such 10% ownership. An “issuing public corporation” is an Ohio corporation with 50 or more shareholders that has its principal place of business, principal executive offices, or substantial assets within the State of Ohio, and as to which no close corporation agreement exists. An “interested shareholder” is a beneficial owner of 10% or more of the shares of a corporation. Examples of transactions regulated by Chapter 1704 include the disposition of assets, mergers and consolidations, voluntary dissolutions and the transfer of shares.

Subsequent to the three-year period, a transaction subject to Chapter 1704 may take place provided that certain conditions are satisfied, including:

- prior to the interested shareholder’s share acquisition date, the board of directors of the issuing public corporation approved the purchase of shares by the interested shareholder;
- the transaction is approved by the holders of shares with at least $66\frac{2}{3}\%$ of the voting power of the corporation (or a different proportion set forth in the articles of incorporation), including at least a majority of the outstanding shares after excluding shares controlled by the interested shareholder; or
- the business combination results in shareholders, other than the interested shareholder, receiving a fair price plus interest for their shares.

Control Bids

Section 1707.041 of the Ohio Revised Code regulates certain “control bids” for corporations in Ohio with certain concentrations of Ohio shareholders and permits the Ohio Division of Securities to suspend a control bid if certain information is not provided to offerees, the subject corporation and the Ohio Division of Securities. Control bids include the purchase or offer to purchase any equity security of such a corporation from a resident of Ohio if, after the purchase of that security, the offeror would be directly or indirectly the beneficial owner of more than 10% of any class of issued and outstanding equity securities of the corporation. Information that must be provided in connection with a control bid includes a statement of any plans or proposals that the offeror, upon gaining control, may have to liquidate the subject corporation, sell its assets, effect a merger or consolidation of the corporation, establish, terminate, convert, or amend employee benefit plans, close any plant or facility of the subject corporation or of any of its subsidiaries or affiliates, change or reduce its work force or the work force of any of its subsidiaries or affiliates, or make any other major change in the corporation’s business, corporate structure, management personnel or policies of employment.

Special Charter and Regulations Provisions

Our amended articles of incorporation contain a “fair price” provision that applies to certain business combination transactions involving any person or group that beneficially owns at least 20% of the aggregate voting power of our outstanding capital stock, referred to as an “interested party.” The provision requires the affirmative vote of the holders of at least 80% of our voting stock to approve certain business combination transactions between the interested party and us or our subsidiaries, including:

- any merger or consolidation;
-

- any sale, lease, exchange, mortgage, pledge, transfer or other disposition of our assets or the assets of a subsidiary having a fair market value of at least \$20,000,000;
- the adoption of any plan or proposal for our liquidation or dissolution proposed by or on behalf of the interested party;
- the issuance or transfer by us or a subsidiary to an interested party of any of our securities or the securities of a subsidiary having a fair market value of \$20,000,000 or more; or
- any recapitalization, reclassification, merger or consolidation involving us that would have the effect of increasing the interested party's voting power in us or a subsidiary.

The 80% voting requirement will not apply if:

- the business combination is approved by our board of directors, including by not less than a majority of our continuing directors (as defined in our amended articles of incorporation); or
- the business combination is a merger or consolidation and the consideration to be received by the holders of each class of capital stock is the highest of:
 - the highest per share price paid by the interested party for the capital stock during the prior two years;
 - the highest sales price reported on a national securities exchange during the prior two years; or
 - in the case of serial preferred stock, the amount of the liquidation preference plus annual compound interest from the date the interested party became an interested party less the aggregate amount of any cash dividends paid during the interest period.

This provision could have the effect of delaying or preventing a change in control in a transaction or series of transactions not satisfying the "fair price" criteria.

The "fair price" provision may be amended only by the affirmative vote of the holders of at least 80% of the aggregate voting power of our outstanding capital stock, unless two-thirds of the continuing directors recommends such a change.

The foregoing provisions of our amended articles of incorporation and regulations, as amended and restated, together with the provisions of the Ohio antitakeover laws (Section 1701.831, Chapter 1704 and Section 1707.041 of the Ohio Revised Code), could have the effect of delaying, deferring or preventing a change in control or the removal of existing management, of deterring potential acquirors from making an offer to our shareholders and of limiting any opportunity to realize premiums over prevailing market prices for our common shares in connection therewith. This could be the case notwithstanding that a majority of our shareholders might benefit from this change in control or offer.

Transfer Agent and Registrar

Equiniti Trust Company serves as the registrar and transfer agent for our common shares.

Stock Exchange Listing

Our common shares are listed on the New York Stock Exchange. The trading symbol for our common shares on this exchange is “PH.”

**Exhibit 21 to Annual Report
on Form 10-K
for Fiscal Year Ended June 30, 2019
by Parker-Hannifin Corporation**

Listed below are the significant subsidiaries of the Company and their jurisdictions of organization. All other subsidiaries, if considered in the aggregate as a single subsidiary, would not constitute a significant subsidiary. All of the following subsidiaries are either directly or indirectly wholly-owned by the Company.

Name of Subsidiary	State/Country of Organization
UNITED STATES	
Winco Enterprises Inc.	California
Baldwin Filters, Inc.	Delaware
BHA Altair, LLC	Delaware
CLARCOR Total Filtration, Inc.	Delaware
Clark Filter, Inc.	Delaware
Parker Hannifin ACD Europe LLC	Delaware
Parker Hannifin CFA, LLC	Delaware
Parker Hannifin Filtration (Houston), LLC	Delaware
Parker Hannifin Filtration (US), Inc.	Delaware
Parker Intangibles LLC	Delaware
Parker Italy (PH Espana Holding) LLC	Delaware
Parker Olaer Holdings LLC	Delaware
Parker-Hannifin International Corp.	Delaware
Purolator Facet, Inc.	Delaware
Parker Hannifin Luxembourg Acquisitions LLC - US Branch	Delaware
Parker Hannifin Lux Finco LLC - US Branch	Delaware
Parker Hannifin Holding EMEA LLC - US Branch	Delaware
PG Square LLC	Delaware
Altair Filter Technology Inc.	Kentucky
Clarcor Air Filtration Products, Inc.	Kentucky
Parker Royalty Partnership	Ohio
United Air Specialists, Inc.	Ohio
Total Filtration Services, Inc.	Ohio
Parker Hannifin Luxembourg Finance Limited Company - US Branch	Texas
INTERNATIONAL	
Parker Hannifin Australia Assets Pty Limited	Australia
Parker Hannifin (Australia) Pty. Limited	Australia
Parker Hannifin Australia Holding Pty Limited	Australia
Parker Hannifin GmbH, Zweigniederlassung Sankt Florian	Austria
Parker Hannifin (Barbados) SRL	Barbados
Parker Hannifin Manufacturing Holding Belgium SPRL	Belgium
Parker Hannifin (Bermuda) Ltd.	Bermuda
Parker Hannifin Partner I GP	Bermuda
Parker Hannifin Partner II GP	Bermuda
Parker Hannifin Indústria e Comércio Ltda.	Brazil
Parker Canada Holding Co.	Canada

Name of Subsidiary	State/Country of Organization
Parker Hannifin Canada	Canada
Parker Ontario Holding Inc.	Canada
Parker Hannifin Filtration (Canada) ULC	Canada
Parker Hannifin Fluid Power Systems & Components (Shanghai) Co., Ltd.	China
Parker Hannifin Hydraulics (Shanghai) Co., Ltd.	China
Parker Hannifin Hydraulics (Tianjin) Co., Ltd	China
Parker Hannifin Motion & Control (Shanghai) Co. Ltd.	China
Parker Hannifin Motion & Control (Wuxi) Company Ltd	China
Weifang Parker Hannifin Filtration Products and Systems Co., Ltd.	China
Parker Hannifin Industrial s.r.o.	Czech Republic
Parker Hannifin Manufacturing Holding Czech Republic s.r.o.	Czech Republic
Parker Hannifin Manufacturing Holding Denmark ApS	Denmark
Parker Hannifin France Finance SAS	France
Parker Hannifin France Holding SAS	France
Parker Hannifin France SAS	France
Parker Hannifin Manufacturing France SAS	France
Parker Hannifin GmbH	Germany
Parker Hannifin Holding GmbH	Germany
Parker Hannifin Manufacturing Germany GmbH & Co. KG	Germany
Parker Hannifin (Gibraltar) Acquisitions Limited	Gibraltar
Parker Hannifin (Gibraltar) Holding Limited	Gibraltar
Parker Hannifin (Gibraltar) Properties Limited	Gibraltar
Parker Hannifin Hong Kong, Ltd.	Hong Kong
Parker International Capital Management Hungary Limited Liability Company	Hungary
Parker Hannifin India Private Ltd.	India
Parker Hannifin Manufacturing (Ireland) Limited	Ireland
Parker Hannifin Italy S.R.L.	Italy
Parker Hannifin Manufacturing Holding Italy srl	Italy
Parker Hannifin Manufacturing srl	Italy
Parker Hannifin Japan Holdings GK	Japan
Parker Hannifin Japan Ltd.	Japan
Taiyo, Ltd.	Japan
Parker Hannifin Connectors Ltd.	Korea
Parker Korea Ltd.	Korea
Parker Hannifin (Luxembourg) S.a.r.l.	Luxembourg
Parker Hannifin Bermuda Luxembourg S.C.S.	Luxembourg
Parker Hannifin Global Capital Management S.a.r.l.	Luxembourg
Parker Hannifin Holding EMEA S.a.r.l.	Luxembourg
Parker Hannifin Lux FinCo S.a.r.l.	Luxembourg
Parker Hannifin Luxembourg Acquisitions S.a.r.l.	Luxembourg
Parker Hannifin Luxembourg Finance S.à r.l.	Luxembourg
Parker Hannifin Luxembourg Investments 1 S.a.r.l.	Luxembourg
Parker Hannifin Partnership S.C.S.	Luxembourg
Parker Hannifin Filtration Systems Sdn.Bhd.	Malaysia
Parker Hannifin de Mexico, S.A. de C.V.	Mexico

Name of Subsidiary	State/Country of Organization
Parker Industrial, S. de R.L. de C.V.	Mexico
Perry Holdings de Mexico S. de R.L. de C.V.	Mexico
Parker Hannifin B.V.	Netherlands
Parker Hannifin Netherlands Holdings 2 B.V.	Netherlands
Parker Hannifin Netherlands Holdings B.V.	Netherlands
Parker Hannifin VAS Netherlands B.V.	Netherlands
PECOFacet (Holland) B.V.	Netherlands
Twin Filter B.V.	Netherlands
Parker Hannifin (Norway) Holdings AS	Norway
Parker Hannifin LLC.	Russian Federation
Parker Hannifin Singapore Private Limited	Singapore
Parker Hannifin Cartera Industrial S.L.	Spain
Parker Hannifin España S.L.	Spain
Parker Hannifin Industries and Assets Holding S.L.	Spain
Parker Hannifin Italy srl Sucursal en Espana	Spain
Parker Hannifin Aktiebolag	Sweden
Parker Hannifin Manufacturing Sweden AB	Sweden
Parker Hannifin Sweden Holding Co AB	Sweden
Parker Hannifin Cartera Industrial S.L., Bilboa (Espagne), succursale de Carouge	Switzerland
Parker Hannifin EMEA S.a.r.l.	Switzerland
Parker Hannifin Manufacturing Switzerland SA	Switzerland
Parker Hannifin Lux Finco S.à.r.l. FZ LLC - UAE Branch	United Arab Emirates
Alenco (Holdings) Limited	United Kingdom
Altair (UK) Limited	United Kingdom
Domnick Hunter Group Limited	United Kingdom
Olaer Group Limited	United Kingdom
Parker Hannifin 2007 LLP	United Kingdom
Parker Hannifin (GB) Limited	United Kingdom
Parker Hannifin (Holdings) Limited	United Kingdom
Parker Hannifin Industries Limited	United Kingdom
Parker Hannifin Limited	United Kingdom
Parker Hannifin Manufacturing (UK) Limited	United Kingdom
Parker Hannifin Manufacturing Limited	United Kingdom

**Exhibit 23 to Annual Report
On Form 10-K
for Fiscal Year Ended June 30, 2019
By Parker-Hannifin Corporation**

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement No. 333-214864 on Form S-3; and Registration Statement Nos. 333-117761, 333-126957, 333-186733, 333-186734, 333-192909, 333-201071 and 333-215107 on Form S-8 of our report dated August 23, 2019, relating to the financial statements and the financial statement schedule of Parker-Hannifin Corporation and subsidiaries (the "Company"), and the effectiveness of the Company's internal control over financial reporting, appearing in this Annual Report on Form 10-K of the Company for the year ended June 30, 2019.

/s/ DELOITTE & TOUCHE LLP
Cleveland, Ohio
August 23, 2019

Securities and Exchange Commission
Washington, D.C. 20549

Re: Parker-Hannifin Corporation

Commission File No. 1-4982
Annual Report on Form 10-K
Authorized Representatives

Gentlemen:

Parker-Hannifin Corporation (the "Company") is the issuer of Securities registered under Section 12(b) of the Securities Exchange Act of 1934 (the "Act"). Each of the persons signing his or her name below confirms, as of the date appearing opposite his or her signature, that each of the following "Authorized Representatives" is authorized on his or her behalf to sign and to submit to the Securities and Exchange Commission Annual Reports on Form 10-K and amendments thereto as required by the Act:

Authorized Representatives

Thomas L. Williams
Catherine A. Suever
Joseph R. Leonti

Each person so signing also confirms the authority of each of the Authorized Representatives named above to do and perform, on his or her behalf, any and all acts and things requisite or necessary to assure compliance by the signing person with the Form 10-K filing requirements. The authority confirmed herein shall remain in effect as to each person signing his or her name below until such time as the Commission shall receive from such person a written communication terminating or modifying the authority.

	<u>Date</u>		<u>Date</u>
<u>/s/ Thomas L. Williams</u> Thomas L. Williams, Chairman of the Board and Chief Executive Officer (Principal Executive Officer)	8/15/2019	<u>/s/ Candy M. Obourn</u> Candy M. Obourn, Director	8/15/2019
<u>/s/ Catherine A. Suever</u> Catherine A. Suever, Executive Vice President – Finance & Administration and Chief Financial Officer (Principal Financial Officer)	8/15/2019	<u>/s/ Joseph Scaminace</u> Joseph Scaminace, Director	8/15/2019
<u>/s/ Todd M. Leombruno</u> Todd M. Leombruno, Vice President and Controller (Principal Accounting Officer)	8/15/2019	<u>/s/ Åke Svensson</u> Åke Svensson, Director	8/15/2019
<u>/s/ Lee C. Banks</u> Lee C. Banks, Director	8/15/2019	<u>/s/ Laura K. Thompson</u> Laura K. Thompson, Director	8/15/2019
<u>/s/ Robert G. Bohn</u> Robert G. Bohn, Director	8/15/2019	<u>/s/ James R. Verrier</u> James R. Verrier, Director	8/15/2019
<u>/s/ Linda S. Harty</u> Linda S. Harty, Director	8/15/2019	<u>/s/ James L. Wainscott</u> James L. Wainscott, Director	8/15/2019
<u>/s/ Kevin A. Lobo</u> Kevin A. Lobo, Director	8/15/2019		

CERTIFICATIONS

I, Thomas L. Williams, certify that:

1. I have reviewed this annual report on Form 10-K of Parker-Hannifin Corporation;
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(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Registrant and have:
 - a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) evaluated the effectiveness of the Registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) disclosed in this report any change in the Registrant's internal control over financial reporting that occurred during the Registrant's most recent fiscal quarter (the Registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the Registrant's internal control over financial reporting; and
5. The Registrant's other certifying officer(s) 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: August 23, 2019

/s/ Thomas L. Williams

Thomas L. Williams

Chief Executive Officer

CERTIFICATIONS

I, Catherine A. Suever, certify that:

1. I have reviewed this annual report on Form 10-K of Parker-Hannifin Corporation;
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(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Registrant and have:
 - a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) evaluated the effectiveness of the Registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) disclosed in this report any change in the Registrant's internal control over financial reporting that occurred during the Registrant's most recent fiscal quarter (the Registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the Registrant's internal control over financial reporting; and
5. The Registrant's other certifying officer(s) 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: August 23, 2019

/s/ Catherine A. Suever

Catherine A. Suever
Executive Vice President – Finance &
Administration and Chief Financial Officer

Certification Pursuant to
18 U.S.C. Section 1350,
As Adopted Pursuant to
§ 906 of the Sarbanes-Oxley Act of 2002

Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, in connection with the filing of the Annual Report on Form 10-K of Parker-Hannifin Corporation (the "Company") for the fiscal year ended June 30, 2019, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned officers of the Company certifies, that, to such officer's knowledge:

- (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 Company as of the dates and for the periods expressed in the Report.

Dated: August 23, 2019

/s/ Thomas L. Williams

Name: Thomas L. Williams

Title: Chief Executive Officer

/s/ Catherine A. Suever

Name: Catherine A. Suever

Title: Executive Vice President-Finance &
Administration and Chief Financial Officer