



The th Term April 1, 2018 September 30, 2018 Interim Business Report

Corporate Philosophy

## The JAMCO Commitment

## JAMCO, a Technology Oriented Company with Samurai Values

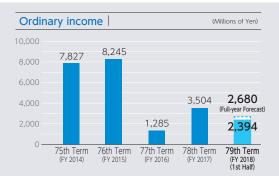
- Rising to the eternal challenge to realize our aspirations.
- Bringing joy and satisfaction to our customers and employees.
- Striving for coexistence with nature, contributing to a prosperous and progressive society.

Harutoshi Okita

President & CEO









#### Overview of 1st Half FY 2018 Performance

JAMCO generated year-on-year growth in both sales and profits in the first half of fiscal year 2018, ending March 31, 2019.

The air transportation industry was characterized by intensifying competition from low-cost carriers (LCCs) aggressively vying to capture market share amid growing worldwide demand for air travel. Major airlines are launching strategies ranging from securing new flight routes and enhancing passenger cabin service to even planning their own LCC operations.

Aircraft manufacturers anticipate an ongoing brisk market for aircraft supported by strong demand, an abundant backlog of orders, plans to increase production of some models, and advancing development of new models promising greater fuel efficiency. In addition, the strategic acquisitions of regional aircraft manufacturers by Boeing and Airbus are fueling a historical realignment of the

aircraft manufacturing industry.

The JAMCO Group responded to these conditions in its Aircraft Interiors Business by enhancing production efficiency and developing new lavatories for the Boeing 777X.

In the Aircraft Seat Business, we improved production efficiency and reduced costs while introducing a first class seat designed specifically for major airlines. We also continued efforts to increase orders for our standard seat offerings.

The Aircraft Components Business continued enhancing its productivity and took steps to increase the production volume of its aircraft engine parts.

In the Aircraft Maintenance Business, we continued advancing initiatives to ensure flight safety and enhance maintenance quality, while also augmenting our services and launching initiatives to improve earnings. In addition, we entered into a capital participation with MRO Japan of the ANA Group with the aim of broadening the range

of our business operations.

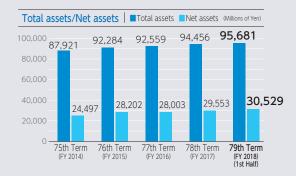
The results of these activities in the first half of fiscal year 2018 were consolidated net sales of ¥40,354 million (up ¥2,310 million versus the same period in the previous fiscal year), operating income of ¥2,152 million (up ¥245 million), ordinary income of ¥2,394 million (up ¥521 million) and net income attributable to shareholders of parent company of ¥1,430 million (up ¥395 million).

#### Outlook

The Company's consolidated earnings forecast for fiscal year 2018 continues to be based on a foreign exchange rate assumption of ¥105 to the U.S. dollar for the third quarter forward. Guidance is unchanged from the update announced on November 2, 2018.

The Company intends to fulfill its initial plan to not distribute a midterm dividend and, contingent on the earnings results for the year, to distribute a year-end dividend of ¥20 per share.







Feature

#### **Evolution of the Venture Business Class Seat**

# JAMCO Designs for Comfort in the Sky

JAMCO has developed aircraft seats specifically designed for the major airlines since launching its seat design and development operation in fiscal year 2014.

Our highly customized seats have garnered high praise for their comfort. However, providing individually designed seats for specific customers requires dedicating a significant amount of management resources to each design, and the designs ultimately are not conducive to wider sales to other airlines.

The Venture seat catalogue-type ordering system was created to better meet specific customer needs. Customers use the system to customize the Venture seat to meet their specific needs by selecting from an array of design and specification options.



#### Collaborating with Boeing to Develop Highly Functional and Cost Competitive Products

We are collaborating with Boeing to design seats for the Boeing 787 that are optimized for efficient installation at the aircraft production site.

The seats are specifically designed to facilitate both high productivity in the manufacturing processes and the efficient use of materials. Designing the seats primarily to meet the requirements of the Boeing 787 served the dual purpose of maximizing functionality for the 787 while creating a foundation for reconfiguring and marketing the seats to a variety of airlines.

Aircraft seats are designed for passenger safety and must pass rigorous acceleration testing. Venture faced a tough test because



Acceleration testing

it was a completely new seat designed to be positioned in "reverse herringbone" outward-facing angles that require an innovative, three-point seatbelt structure. The culmination of a meticulous engineering effort using our vast collection of safety and design data, the seat quickly and smoothly passing all tests.

#### Venture seats selected by KLM, new variations under development



KLM Royal Dutch Airlines

We created the Venture seat to serve as a platform model with highly adaptable scalability for installation, design, and function. This flexibility allows us to adapt the seat to the specific needs of each customer. We introduced the Venture seat in 2017, and KLM Royal Dutch Airlines submitted an order for installation in its

upcoming Boeing 787-10 aircraft in April 2018. The first KLM aircraft with Venture seats is expected to debut in mid 2019.

We took the accomplishment of the Venture seat to the next level with the concept seat we unveiled at the Aircraft Interiors Expo 2018. The forward-facing, outward-angled seat positioning is such that passengers don't have any other passengers in their lines of sight while the layout also provides more space in front and a longer bed area than current reverse-herringbone layouts. The concept is already generating much interest from numerous airlines.

We will continue to develop and enhance the Venture seat technology to offer a variety of seat products so more of our airline customers can offer the highest level of in-cabin comfort to passengers.



The new concept seating module using our Venture system

#### **Highlight Features of Venture Seats**

### Efficient passenger space design



A symmetrical herringbone layout provides efficient use of limited passenger

## Feature 2 Comfort and privacy

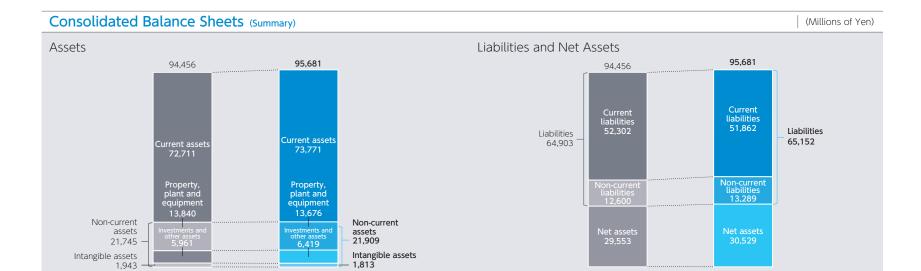
Optimized for comfort and privacy, each space has individual features like a fully flat bed and 18.5-inch monitor while all seats have direct aisle access.

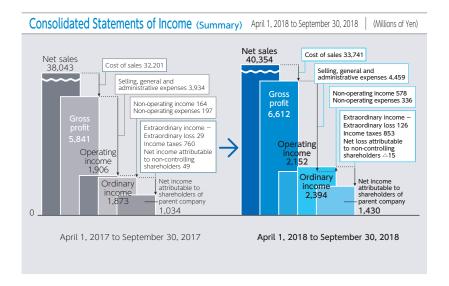


Feature 3 Lightweight and cost-efficient

The single-mold design using composite materials uses up to 45% fewer components than our former business class seats making the seats both lightweight and highly serviceable. The reduced weight promises improved fuel efficiency for additional savings.

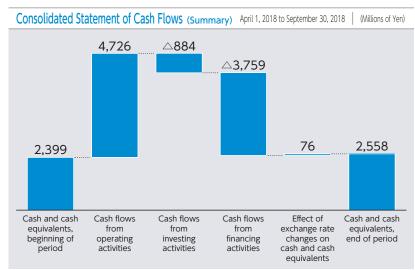
Consolidated Financial Information





As of September 30, 2018

As of March 31, 2018



As of September 30, 2018

As of March 31, 2018

1st Half Results by Segment



#### Aircraft Interiors Business

1st half results

Net sales \(\frac{\pmanutomath{427,530}}{23,083}\) million

Ordinary income \(\frac{\pmanutomath{43,083}}{3}\) million



\*FY 2016 and FY 2017 results reflect certain legacy contracts for seat products not included in Aircraft Seat Business.

#### Key developments

- Deliveries of galleys and lavatories for the current Boeing 777 slowed as the airline prepared to shift production to the 777X
- Lavatories delivered for Boeing 777X flight test
- Sales increased for passenger cabin modification kits and spare parts
- Ordinary income declined partly due to rises in initial costs for the launch of some programs

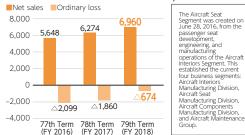
#### Aircraft Seat Business

1st half results

Net sales  $$\neq 6,960$$  million

Ordinary loss  $$\neq \triangle 674$$  million

Trend of 1st half net sales and ordinary loss (Millions of Yen)

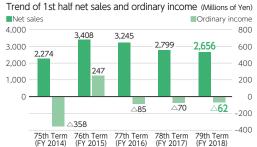


#### Key developments

- Development of first class seats for major airlines progressed
- Management focused on expanding orders for our standard seats
- Ordinary loss decreased from efforts to improve production efficiency

## **Aircraft Components Business**





#### Key developments

- Production and delivery volume increased for aircraft engine parts
- Sales declined due to a changed delivery period for heat exchangers and other defense-related parts
- Efforts to improve productivity decreased the ordinary loss

## Aircraft Maintenance Business





#### Key developments

- Efforts continued to increase aircraft safety and enhance maintenance quality
- Business unit returned to profitability
- Capital participation in MRO Japan Co., Ltd. of the ANA Group with the aim of broadening our business domain

JAMCO Group Corporate Social Responsibility

## **CSR** Initiatives

JAMCO is dedicated to maintaining and strengthening the trust it has earned from its stakeholders. The Company actively conducts CSR initiatives to fulfill the expectations of society and contribute to creating a sustainable society.

JAMCO established the CSR Committee in April 2017 and organized the CSR Promotion section of the Human Resource Department in April 2018 to further strengthen and broaden the Group's CSR framework. The Company issues an annual CSR Report disclosing management's approach to CSR and introducing initiatives to address CSR issues. The report serves to promote and strengthen our CSR activities and is a key conduit for providing full and open communication with our stakeholders.



#### 2018 CSR Report



JAMCO issued its 2018 CSR Report in July 2018.

Details about our CSR initiatives are also available on the CSR page of the corporate site.

JAMCO corporate site (CSR activity) https://www.jamco.co.jp/en/csr.html

#### Promoting Women in the Workplace

The JAMCO Group will contribute to the Group's sustainable growth and creation of a better society by promoting diversity, building workplace environments where employees with various backgrounds can play an active role.

We promote women's participation in the workplace, which includes actively recruiting and training female maintenance engineers.

The Aircraft Maintenance Group has several female technicians at its Aircraft Maintenance Centers, including one that became a certified First Class aircraft maintenance technician (Rotor Wing Aircraft) in July 2015 and another that became a First Class aircraft maintenance technician (Fixed Wing Aircraft/Turbine Engine) in April 2017.





A female technician at one of our Aircraft Maintenance Centers

#### Participation in the CONTRAIL Project

Since 2003, Jamco has been an active participant in CONTRAIL, which is a collaborative atmospheric observation project between industry, academia and government that aims to shed light on the mechanism of atmospheric changes that bring about global warming.

The CONTRAIL project uses Automatic Sampling Equipment (ASE) and the Continuous Carbon Dioxide Measuring Equipment (CME) attached to passenger aircraft to collect atmospheric observation data from all around the earth.

CONTRAIL has received several awards in recognition of the project's achievements. In 2017, the Japanese Ministry of the Environment recognized the CONTRAIL project with the Environment Minister's Award for Global Warming Prevention Activities in the International Contribution category.



Award ceremony for the 2017 Environment Minister's Award for Global Warming Prevention Activities

#### Jamco News



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# Start of Nightly Scheduled Maintenance of the IBEX Airlines Co., Ltd. CRJ700



Nighttime maintenance of the CRJ700

On March 26, 2018, JAMCO commenced nighttime scheduled maintenance work on the CRJ700 aircraft of IBEX Airlines, a regional airline in Japan. JAMCO and IBEX Airlines formed a partnership agreement in 2017 under which we provide daily after-service maintenance services on-site at the Sendai Airport.

We have received high plaudits

for the quality of our service and are fortifying our internal company operations with the aim of expanding our service capacity to cover multiple contracts simultaneously.

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### Exhibit at the Aircraft Interiors Expo 2018



New concept seats exhibited at the Expo

JAMCO featured its premium
Journey-Evo and Venture seats at
the Aircraft Interiors Expo 2018
held in Hamburg, Germany, over
three days from April 10 to 12. Our
Venture seats were in the limelight
throughout the show after we
announced on opening day that
KLM Royal Dutch Airlines had
selected them to furnish its new
aircraft. We also unveiled new

concept seats at the expo that generated buzz among visitors, who volunteered invaluable opinions and ideas that will aid us in expanding our seat business.

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# First Shipment of Lavatories for the Boeing 777X



Project accomplishment ceremony

On May 17, 2018, we delivered the first lavatory designed for use in the Boeing 777X, the aircraft maker's latest widebody jet.

JAMCO began supplying lavatories for the Boeing 767 in 1979, and we currently are the exclusive supplier of lavatories for the Boeing 747, 777, and 787. We have a strong alliance

with Boeing, the leading manufacturer of commercial jetliners, and we look forward to continuing to supply high quality lavatories and other airline interior products.

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## Capital Participation in MRO Japan Co., Ltd.

On September 28, 2018, JAMCO increased its capital participation in MRO Japan through a third-party allocation of shares.

Jamco aims to achieve a synergistic effect for its aircraft maintenance business through MRO (Maintenance, Repair & Overhaul) aircraft business development, targeting the world.

MRO Japan aims to harness the growing demand for aircraft maintenance in Japan and overseas to become Japan's preeminent aircraft maintenance service company. The company is headquartered at Naha Airport in Okinawa, placing it in prime position to provide maintenance support locally as well regionally across Southeast Asia.

#### Overview of Company After the Capital Increase

Head office location Capital and capital reserves Shareholder structure Naha City, Okinawa Prefecture
1 billion yen
ANA Holdings Inc. 45%
JAMCO Corporation 25%
Mitsubishi Heavy Industries, Ltd. 20%
Okinawa Development
Finance Corporation 2%
Bank of the Ryukyus, Ltd. 2%
Bank of Okinawa, Ltd. 2%
Okinawa Kaiho Bank, Ltd. 2%
Okinawa Kaiho Bank, Ltd. 2%

Corporate Profile/ Business Locations

#### **Corporate Profile**

Corporate Data	(As of September 30, 2018)
Corporate Name	JAMCO Corporation
Registered Office	6-11-25 Osawa, Mitaka-shi, Tokyo, Japan
Head Office	1-100 Takamatsu-cho, Tachikawa-shi, Tokyo, Japan
Date Established	March 15, 1949
Date Founded	September 1, 1955
Principal Business Activities	Aircraft Interiors Business Manufacturing galleys, lavatories and various galley insert products Aircraft Seats Business Manufacturing aircraft seats and seat consoles Aircraft Components Business Manufacturing heat exchangers, CFRP aircraft structure parts, commercial aircraft engine parts Aircraft Maintenance Business Maintenance and alteration of aircrafts, cabins and onboard accessories
Capital	¥5,359,893,000
Number of Employees	Consolidated: 3,183 Non-consolidated: 1,212

Directors and Executive Officers (As of June 27, 2018)				
Representative Director, President & CEO	Harutoshi Okita	Managing Executive Officer	Yasushige Aoki	
Representative Director & EVP	Katsuhiro Ogami	Managing Executive Officer	Toshihisa Kasuya	
Director & Senior Managing Executive Officer	Toshikazu Kimura	Managing Executive Officer	Kazuyoshi Ichihara	
Director & Senior Managing Executive Officer	Masamichi Kato	Managing Executive Officer	Kazuo Nishimiya	
Director & Managing Executive Officer	Kentaro Goto	Executive Officer	Yukio Ida	
Director & Managing Executive Officer	Tsutomu Tadokoro	Executive Officer	Hiroshi Uchijo	
Outside Director	Naoya Osaki	Executive Officer	Yukio Abe	
Outside Director	Toshihiko Noguchi	Executive Officer	Eiji Akiba	
Outside Director*	Shinichi Suzuki	Executive Officer	Akihiro Waki	
Outside Director*	Juichi Watanabe	Executive Officer	Yukio Kamiyama	
Audit & Supervisory Board Member	Noriyoshi Isogami			
Audit & Supervisory Board Member	Toshiharu Okura			
Outside Audit & Supervisory Board Member*	Kanji Kawamura			
Outside Audit & Supervisory Board Member*	Yoshitsugu Kisu			

Officers indicated by an asterisk (\*) are independent officers stipulated by the Tokyo Stock Exchange.

#### Business Locations (As of September 30, 2018)

#### List of Offices / Facilities, Subsidiaries and Affiliates Head Office JAMCO offices and facilities

Tachikawa-shi, Tokyo, Japan

Aircraft Interiors and Components Group

Aircraft Interiors Manufacturing Division Tachikawa-shi, Tokyo, Japan

Aircraft Seat Manufacturing Division Tachikawa-shi, Tokyo, Japan

Aircraft Components Manufacturing Division Chofu-shi, Tokyo, Japan

#### Aircraft Maintenance Group

Aircraft Maintenance Center Iwanuma-shi, Miyagi, Japan Miyazaki Maintenance Center Miyazaki-shi, Miyazaki, Japan

Accessory Maintenance Center Narita-shi, Chiba, Japan Ota-ku, Tokyo, Japan Chofu-shi, Tokyo, Japan



Niigata Branch Office Materials Distribution Facility Niigata JAMCO Corporation Nakajo JAMCO Corporation

JAMCO subsidiaries and affiliates

Head Office Aircraft Interiors Manufacturing Division Aircraft Seat Manufacturing Orange JAMCO Corporation

Tokushima JAMCO Corporation

Miyazaki Maintenance Center

Mivazaki JAMCO Corporation

Aircraft Maintenance Group Accessory Maintenance Center (Narita) JAMCO AEROTECH CO., LTD. Aircraft Maintenance Group

Accessory Maintenance Center (Chofu)

AEROMANUFACTURING CO., LTD.

Accessory Maintenance Center (Haneda)

Aircraft Maintenance Group

Aircraft Maintenance Center

Manufacturing Division

Aircraft Maintenance Group

Aircraft Components

JAMCO

■ Germany

JAMCO Corporation HAMBURG BRANCH

Japan JAMCO Corporation ■ Philippines

JAMCO PHILIPPINES, INC. Singapore

JAMCO SINGAPORE PTE LTD. JAMCO AERO DESIGN & ENGINEERING PTE LTD. SINGAPORE JAMCO SERVICES PTE LTD.

■ United States

JAMCO AMERICA, INC.

**Precautions** 



#### Share Data (As of September 30, 2018)

Number of Shares / Number of Shareholders / Listed Stock Exchanges		
Authorized	80,000,000 shares	
Issued	26,863,974 shares	
Shareholders	4,366	
Listed Stock exchanges	Tokyo Stock Exchange Section 1 (Code: 7408)	

Distribution of Shareholders		
By owner ship	Other corporations: 16,796,600 shares	62.52%
	Foreign corporations: 3,820,811 shares	14.22%
	■ Individuals and others: 3,668,616 shares	13.66%
	Banks and insurance companies: 2,347,400 shares	8.73%
	Financial instruments business operators: 191,747 shares	0.71%
	■ Treasury stock: 38,800 shares	0.14%

List of Major Shareholders (Top 10)			
Name of Shareholder	Shares Held (Thousands)	Ratio of Shareholding (%)	
ITOCHU Corporation	8,956	33.38	
ANA HOLDINGS INC.	5,373	20.03	
Showa Aircraft Industry Co., Ltd.	2,003	7.46	
GOLDMAN, SACHS & CO. REG	1,001	3.73	
JAMCO Employees' Stock Holding Association	392	1.46	
Japan Trustee Services Bank, Ltd. (Trust Account)	349	1.30	
BNYMSANV RE BNYMIL RE LF RUFFER PACIFIC FUND	300	1.11	
JP MORGAN CHASE BANK 385166	286	1.06	
JP MORGAN CHASE BANK 385632	239	0.89	
The Master Trust Bank of Japan, Ltd. (Trust Account)	237	0.88	

Note: The percentage of shares is calculated after deducting treasury stock (38,800 shares).

Shareholder Memo	
Fiscal year	April 1 through March 31 of the following year
Record date for year-end dividends	March 31
Record date for interim dividends	September 30
Annual general meeting of shareholders	Every June
Administrator of shareholder registry Account management institution of the special account	Mitsubishi UFJ Trust and Banking Corporation
Contact of the above institution	Stock Transfer Agency Division, Mitsubishi UFJ Trust and Banking Corporation, 1-1 Nikko-cho, Fuchu-shi, Tokyo, Japan Tel. 0120-232-711 (toll-free in Japan) Mailing address: Stock Transfer Agency Division, Mitsubishi UFJ Trust and Banking Corporation, P.O. Box 29, Shin-Tokyo Post Office, 137-8081 Japan
Method of public notices	The public notices of the Company shall be published via electronic media. URL for public notices: http://www.pronexus.co.jp/koukoku/7408/7408.html (However, where publication via electronic media is impossible due to an accident or other unavoidable circumstances, the Company's public notices shall be published in the Nikkei.)  Information on the Non-consolidated and Consolidated Financial Statements is available on the Company's corporate site (https://www.jamco.co.jp/).

1. With the introduction of electronic share certificates, various procedures, including changes in addresses of shareholders and purchase request, are in principle performed by account management institutions (securities companies, etc.) where shareholders have established accounts. Please contact the securities companies, etc. where you have accounts. Such procedures may not be handled by the administrator of the share registry (Mitsubishi UFJ Trust and Banking Corporation).

2. With regard to various procedures concerning shares recorded in the special account, please contact Mitsubishi UFJ Trust and Banking Corporation, the account management institution. Such procedures are also handled at each branch office of Mitsubishi UFJ Trust and Banking Corporation in Japan.

3. As for dividends receivable, please contact the main and branch offices of Mitsubishi UFJ Trust and Banking Corporation.

JAMCO Operations in Japan

## JAMCO on the Ground and in the Air



### JAMCO Aeromanufacturing

#### Features of Natori, Location of JAMCO

JAMCO Aeromanufacturing is located in Northeastern Japan surrounded by greenery in the small city of Natori, southeast of Sendai in Miyagi Prefecture. In its annual survey, the Toyo Keizai ranked Natori as the third best place to live in Japan in 2018. Home of the Sendai Airport and hailed as the gateway to Japan's northern region of Tohoku, the area is expecting increasing economic activity and is positioned to serve as a hub for international travel and trade.

#### **About JAMCO Aeromanufacturing**

JAMCO Aeromanufacturing manufactures carbon-fiber reinforced plastic (CFRP)



structure parts and aircraft engine parts and is the core company of the JAMCO Group's Aircraft Components Business.

The company's CFRP structure parts are used as the main structure pieces in the vertical stabilizers (tail fins) of all Airbus passenger aircrafts (except the Airbus A220 and A350) and upper deck floor beams of the double-decker Airbus A380. The sectional parts are made using JAMCO's patented advanced pultrusion (ADP) process for using prepreg material in the manufacture of CFRP profiles. Using a different process, Jamco also manufactures and supplies structural components for the cargo struts of the latest Airbus 350.

JAMCO Aeromanufacturing also specializes in the manufacture of various high precision, high quality aircraft engine parts. The company makes two of the key parts in CF-34 turbofan jet engines used in many regional passenger aircraft: the turbine shrouds that protect the engine's turbines and the cooling manifolds that provide thermal protection for the engines.

The aircraft industry is anticipating further growth as passenger demand

expands over the longer term. JAMCO Aeromanufacturing will continue to supply high quality products using its sophisticated processes and manufacturing technologies to provide safe and comfortable flights for airline passengers worldwide.



#### JAMCO Aeromanufacturing Co., Ltd.

Address 7-101-36 Medeshimadai, Natori-shi,

Miyagi Prefecture
Established January 2013
Lot size 41,621 square meters

(Land area) (58,800 square meters)
Factory floor area
Main products Aircraft engine parts

Aircraft carbon-fiber reinforced plastic (CFRP)

structure parts
Main equipment Autoclaves (2)

Molding process lines for CFRP

components (7)
Vacuum furnace (1)
Machining equipment (30)



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