

**To Our Shareholders** 

# The 80th Term Interim Business Report

April 1, 2019 ▶ September 30, 2019

### Greeting



### **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.

### **Apology for the Quality-related Incidents**

We conducted a thorough, Group-wide investigation after the discovery of an incident of improper inspection procedures at a factory producing our aircraft interiors and aircraft seat products. Following the findings that additional improper quality-related incidents occurred at a certified facility of the Aircraft Interiors Business, the Company received a Business Improvement Advisory from the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) on August 20, and immediately formulated and launched procedures to rectify the situation. On November 12, we submitted an action report to MLIT including the findings of our investigation of the causes and circumstances for the incidents along with preventive measures.

The JAMCO Group sincerely apologizes for any inconvenience and concern caused to our stakeholders.

We have implemented specific measures to prevent recurrence of the quality issues that were the subject of the Group-wide investigation and have also fortified measures to prevent improper activities in the future at all facilities, including non-certified facilities and related companies. In addition, we are radically revising our safety management and business execution systems and are implementing a companywide effort to rebuild our company culture fully dedicated to quality and compliance. The Jamco Group is committed to making every effort to regain stakeholder trust.

### Overview of 1st Half FY2019 Performance

The passenger airline industry is characterized by ongoing intensifying competition from low-cost carriers (LCCs) 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 entering into LCC business.

Aircraft manufacturers are facing some concern of an impact from the grounding of the Boeing 737 Max aircraft. However, we anticipate an ongoing brisk market for aircraft in the medium and long term supported by the high number of backorders at both Boeing and Airbus, plans to increase production of some models, and development of new models with greater fuel efficiency.

Under these conditions, the results in the first half of fiscal year 2019 were consolidated net sales of ¥40,554 million (up ¥200 million from the same period in the previous fiscal year), operating income of ¥784 million (down ¥1,368 million), ordinary income of ¥384 million (down ¥2,010 million) and net income attributable to shareholders of parent company of ¥73 million (down ¥1,357 million).

#### **Future Outlook**

The Company's consolidated earnings forecast for the fiscal year ending March 31, 2020, includes the decline in sales in the first half as shipments of some products were delayed while management responded to the quality incidents. Shipments of the affected products will recommence in the third quarter and we expect sales to come in slightly above the target for consolidated sales issued on May 10, 2019.

Profits will be impacted by the additional costs associated with the quality incidents, increased labor and shipping costs associated with making up for the delayed deliveries, and costs to transfer production to other sites due to interruptions in production operations. Profits will also be affected by the losses incurred in the first half and an increased provision for loss on construction contracts due to higher costs for some programs. Based on these factors, the Company is lowering its forecast for consolidated earnings for the full year.

The foreign exchange rate assumption for the third quarter forward is ¥105 to the U.S. dollar.

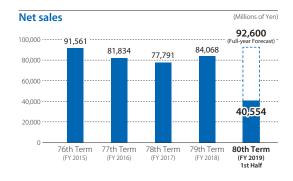
As per the initial plan, the Company did not distribute interim dividends. While the year-end dividend distribution is subject to the earnings results at the end of the fiscal year, the Company has temporarily adjusted the year-end dividend distribution from the initial ¥25 per share to ¥20 per share in line with the downward revision to the consolidated results forecast.

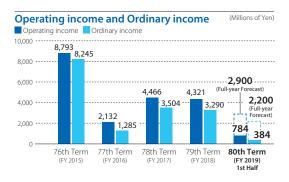
We appreciate the understanding of our shareholders.

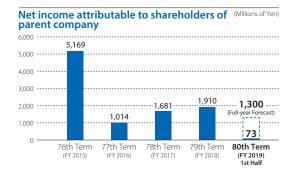
### Harutoshi Okita

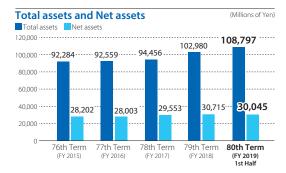
President & CEO

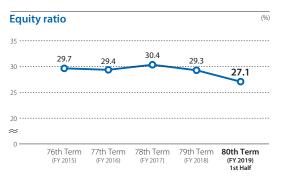
### **Financial Highlights**

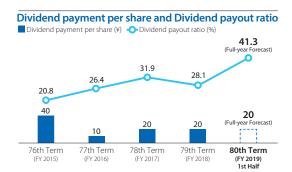












# Carbon fiber reinforced structural materials

### for safe and comfortable air travel

JAMCO Aeromanufacturing in the Aircraft Components Business produces and supplies aircraft structural parts made of carbon fiber reinforced material specifically engineered for aircraft.

Manufactured using JAMCO's patented ADvanced Pultrusion (ADP) process, the carbon fiber reinforced structural materials are highly valued for use as primary structural parts in aircraft.



### What is carbon fiber reinforced plastic?

Carbon fiber reinforced plastic (CFRP) is a material with higher tensile strength than steel but just one-fifth the weight and also offering superb design flexibility enabling it to be engineered for a wide range of applications.

JAMCO uses CFRP to manufacture reinforced structural parts with these attributes.

### The unique advanced pultrusion manufacturing process

Advanced pultrusion (ADP) is JAMCO's patented, continuous molding process using thermoset prepregs to manufacture CFRP profiles. Thermoset prepregs are composite sheets of carbon fiber or other substances impregnated with resin that hardens when heated.

A key feature is that it is a fully automated and

continuous process that theoretically enables a product of unlimited length. The process also features a shorter manufacturing time and lower manufacturing costs than other conventional methods. CFRP parts also offer superior internal integrity, stiffness and directional strength properties.

While offering the manufacturing convenience of being a continuous molded product, JAMCO's CFRP profiles produced using the ADP process are highly evaluated for their practical application for aircraft primary structures.

### JAMCO's carbon fiber reinforced structural parts

Carbon fiber reinforced structural parts produced by the ADP manufacturing process are used as the stringers and stiffeners in the primary structures of the vertical tails in Airbus aircraft. JAMCO has also been the sole supplier of structural parts for the upper deck floor beams of the double-decker Airbus A380 since 2003

For the state-of-the-art Airbus A350, the Company supplies cargo struts produced by the hand lay-up process. This molding process involves placing prepregs by hand in a mold then into a high-pressure heating device called an autoclave to form the parts.



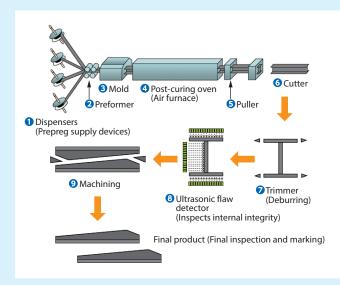
An autoclave

### **Future outlook**

JAMCO is also focusing on carbon fiber reinforced structure materials using thermoplastic resin which offers different attributes than materials made with thermosetting resin. Thermoplasticity means the plastic softens when heated and hardens when cooled. The ability to soften and reshape differentiates it from thermosetting resin, which remains hard. Thermoplasticity thus has the advantage of flexibility even after it has been molded, thereby overcoming the ADP process's disadvantage of restricted application to the production of straight and uniform profiles. Thermoplastic resin also hardens faster than thermosetting resin, giving it the versatility to meet customer orders that require quick production rates. We will continue making every effort to be the pioneer in establishing processes to produce elongated thermoplastic carbon fiber reinforced structural materials.

Carbon fiber reinforced structural materials are also attracting attention for potential uses in other industries and we are advancing R&D to develop applications and flexibly respond to needs in fields beyond aviation.

### **The Advanced Pultrusion Manufacturing Process**

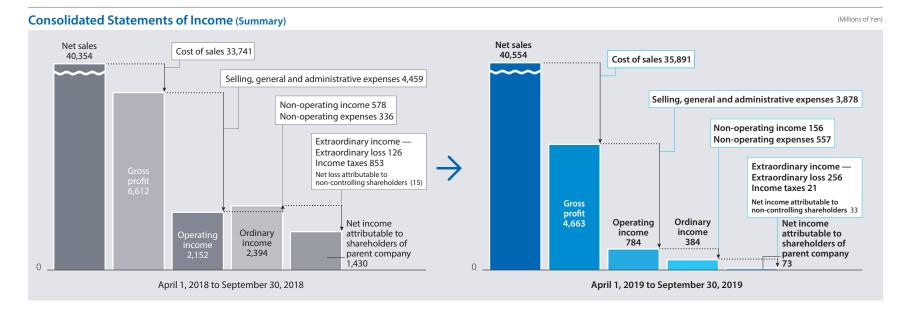


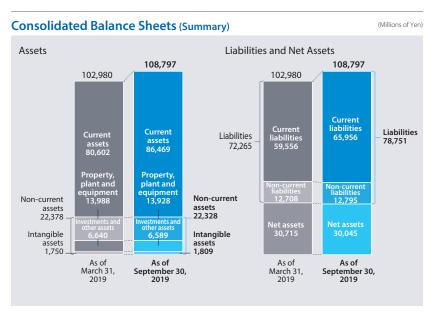


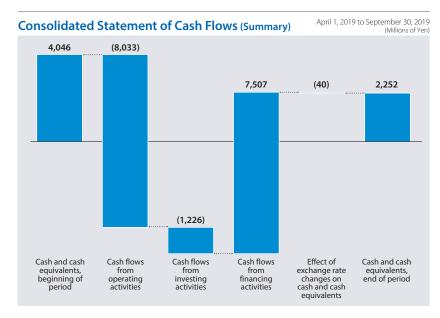
- 1 Prepreg sheets are layered into rolls and set in dispensers.
- 2 Prepreg from multiple rolls are layered, and **preformers** form them into cross sections.
- 3 Profiles are cured by heat and pressure as they pass through the **mold**.
- 4 Passing the profiles through a **post-curing oven** completes the curing.
- **5** Pullers incrementally pull the entire profile.
- **6** Cutters cut the profiles into specified lengths.
- 7 A **trimmer** deburrs the profile edges.
- 3 An ultrasonic flaw detector inspects the internal integrity of the profiles.
- Profiles are machined to specified dimensions.
  (Molding and cutting profiles into H-shaped cross sections improves production efficiency.)

Advanced Pultrusion

### **Consolidated Financial Information**

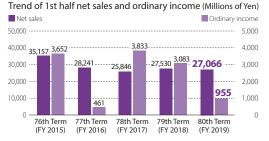






### **Aircraft Interiors Business**





<sup>\*</sup>Current income for FY 2015 includes income from the Aircraft Seat Business.

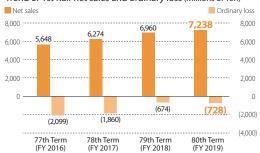
#### **Key developments**

- Some product deliveries were temporarily delayed while responding to the improper quality inspection incidents
- Foreign exchange loss and increases in labor and delivery costs to make up for the delivery delays eroded ordinary income

### **Aircraft Seat Business**



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

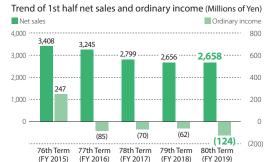


#### Key developments

- Increased ordinary loss due to production halt at Miyazaki JAMCO Corporation owing to quality incidents, associated additional costs from transferring production to other sites and foreign exchange loss
- Debut of Venture business class seats on KLM Royal Dutch Airlines' Boeing 787 aircraft

### **Aircraft Components Business**



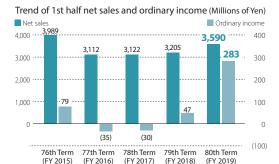


### **Key developments**

- Initiatives implemented to improve productivity
- Internal manufacturing of interior products and seat components advanced with the application of our metal processing technology
- Ordinary loss grew due to delayed shipments of some highly profitable programs and foreign exchange loss

### **Aircraft Maintenance Business**





### Key developments

- Continued efforts to ensure flight safety and quality improvement
- Strong sales on solid aircraft maintenance needs from airlines
- Expanded aircraft
  maintenance services for
  airlines as signified by the
  opening of the Itami Branch



## Orange JAMCO Corporation celebrates 20 years

promoting diversity in the work place and providing opportunities for people with disabilities

Orange JAMCO Corporation celebrated its 20th anniversary on September 1, 2019.

Established in 1999 with the aim of providing people with disabilities opportunities to work and achieve self-sufficiency, Orange JAMCO is the third oldest special subsidiary company\* in the Tama region of Western Tokyo. The company has grown from its 11 original employees to 34 employees currently.

The company's employees are primarily individuals with mental or intellectual disabilities and include some illustrious individuals. One employee represents Japan in intellectual disability futsal and another is on the Tokyo intellectual disability softball team.

Every summer and autumn, the company hosts interns from schools for special needs students in the Tama area, many of whom go on to become regular employees. Once they become employees, Orange JAMCO managers meet regularly with the new employees, their guardians, and the person in charge from the local job support centers to share information. The discussions help the company understand the employees' abilities and needs so their work assignments can be catered to their individual capabilities and potential.

After two decades, Orange JAMCO continues seeking to create comfortable work environments

### **Orange JAMCO Corporation**

Address 1-100 Takamatsu-cho, Tachikawa-shi, Tokyo

190-0011, Japan

Established September 1999

**Business Line** Logistics and facility maintenance services

(Special subsidiary company for people with disabilities)

Capital 10 million yen

### JAMCO Group Employment Percentage of People with Disabilities

At Establishment 1.88%

(Legal employment percentage: 1.80%)

March 2019 2.85%

(Legal employment percentage: 2.20%)

designed with a priority on supporting the safety needs and the individual mental and physical health of its employees. \*A special subsidiary company is a business entity established to provide and promote steady employment to people with disabilities.

### **Employee Interview**

What are your daily duties at the company? My work covers a wide range of jobs including cleaning the floors, restocking supplies, delivering internal company mail, and transporting galleys. Sometimes we use a heavy-duty cart for items that can weigh as much as 200 kilograms. We need to be physically strong and work as a team. I've also recently taken on a new job doing computer data entry.

### What are the hardest and the most enjoyable parts of your job?

It took quite a while to get used to the physical part of my daily work. The best part of the job is the open atmosphere we have where everyone teaches and helps each other. The company also puts together events like barbecues and chartered bus trips, and we enjoy spending time together outside of the company as well. These activities have helped me understand how important it is to maintain social connections with many people.

### What are your aspirations?

When I first joined the company, there were many things that I didn't understand. But the trainers and other employees helped me a lot. I want to be able to do the same and support team members who need assistance.

I'd like to contribute to the team by helping coworkers not only with their work concerns but also with personal matters.



Transporting a product at Orange JAMCO Corporation

## JAMCO News

### Exhibit at Aircraft Interiors EXPO 2019

JAMCO presented an exhibit at the Aircraft Interiors EXPO 2019 in Hamburg, Germany from April 2-4, 2019. The exhibit included our Venture and Wing premium class seats along with our latest Quest concept seat model.

Quest's highlight feature is an electric tilt mechanism for the video monitor enabling comfortable viewing even when the seat is extended fully flat. Tilting the screen also provides the benefit of maximizing passenger legroom.

The exhibit attracted much attention from airline representatives and aircraft manufacturers. We received many valuable opinions and ideas during the EXPO which we plan to study for future product development.





The new concept Quest seat

### New Itami Branch Starts Night Maintenance Services

JAMCO's Itami Branch launched an operation at Osaka International Airport (Itami) on April 1, 2019, providing nighttime maintenance services for the Bombardier DHC8-Q400 of ANA Wings Co., Ltd.

JAMCO has been advancing a plan to accept a larger volume of airline company orders for aircraft maintenance. As part of this plan, the Company launched an operation at the start of the fiscal year for contracted regular and irregular maintenance, such as defect repair, at the Osaka International Airport. The nighttime services are offered from 6:30 p.m. to 8:00 a.m., 365 days a year.

JAMCO is expanding its operation at the Itami Branch by offering a thorough menu of maintenance services while continuing to place top priority on flight safety and quality services.



A Bombardier DHC8-O400

### Aircraft Maintenance Center at Sendai Airport Hosts Heavy Maintenance Tour

JAMCO and IBEX Airlines Co., Ltd., hosted the companies' first joint observation tour of the heavy maintenance\* operations at the Aircraft Maintenance Center at Sendai Airport on July 6, 2019.

Some 146 participants from among the Company's and IBEX's employees, families, and local residents got a first-hand look at disassembled aircraft and detached engines. Elementary school students joined a special IBEX class about the aviation industry.

The tour reminded us of the importance of aircraft maintenance and our deep sense of responsibility to keep IBEX aircraft in continuous operation.

\*Heavy maintenance is the aircraft maintenance that takes place when an aircraft logs 6,000 hours of flight.



The observation tour at the Aircraft Maintenance Center

### Safety Award Received from the Civil Aviation College

JAMCO received a Safety Award from the Civil Aviation College, an independent administrative institution, on July 1, 2019.

The Civil Aviation College recognized JAMCO for discovering a part failure that was not part of the standard maintenance work the Company provides for the school's training aircraft at its Sendai campus. The Safety Award was presented to the Company for the discovery of a malfunction which prevented a potentially serious accident.

This was the first time in the roughly 60 years since the Company began its aircraft maintenance operations in 1960 that it has received such recognition of the quality of its services. This award will be a source of pride as we continue earning the trust of our customers by maintaining the highest quality and operating in full compliance with regulations.

### **Corporate Profile and Business Locations**

### **Corporate Profile**

Corporate Data (As of September 30, 2019)				
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			
	<ul> <li>Aircraft Interiors Business         Manufacturing galleys, lavatories and various galley insert products     </li> </ul>			
Did at all Distance	<ul> <li>Aircraft Seat Business</li> <li>Manufacturing aircraft seats and seat consoles</li> </ul>			
Principal Business Activities	<ul> <li>Aircraft Components Business         Manufacturing heat exchangers, CFRP aircraft structure parts and commercial aircraft engine parts     </li> </ul>			
	<ul> <li>Aircraft Maintenance Business</li> <li>Maintenance and alteration of aircraft, cabins and onboard accessories</li> </ul>			
Capital	¥5,359,893,000			
Number of Employees	Consolidated: 3,427 Non-consolidated: 1,231			

### Directors and Executive Officers (As of September 30, 2019)

	Representative Director, President & CEO	Harutoshi Okita	Managing Executive Officer	Yasushige Aoki	
	Representative Director & EVP	Katsuhiro Ogami	Managing Executive Officer	Toshihisa Kasuya	
	Director & Senior Managing	3	Managing Executive Officer	Kazuyoshi Ichihara	
Executive Officer		Toshikazu Kimura	Managing Executive Officer	Kazuo Nishimiya	
	Director & Senior Managing Executive Officer	Masamichi Kato	Executive Officer	Yukio Ida	
	Director & Managing Executive Officer	Kentaro Goto	Executive Officer	Hiroshi Uchijo	
	Director & Managing Executive Officer	Tsutomu Tadokoro	Executive Officer	Yukio Abe	
	Outside Director	Hiroshi Fujikawa	Executive Officer	Akihiro Waki	
	Outside Director	Toshihiko Noguchi	Executive Officer	Yukio Kamiyama	
	Outside Director*	Shinichi Suzuki	Executive Officer	Naoya Osaki	
	Outside Director*	Juichi Watanabe	Executive Officer	Naoya Osaki	
	Audit & Supervisory Board Member	Noriyoshi Isogami			
	Audit & Supervisory Board Member	Noboru Kaburaki			
	Outside Audit & Supervisory Board Member*	Hitoshi Takahashi			
	Outside Audit & Supervisory Board Member*	Koichiro Watanabe			
	Actorisk (*) indicatos independent officers stipulated by the Toleya Stock Eychanga				

Asterisk (\*) indicates independent officers stipulated by the Tokyo Stock Exchange.

#### **Business Locations**

### List of Offices, Facilities, Subsidiaries and Affiliates (As of September 30, 2019)



### **Share Data and Shareholder Memo**

### Share Data (As of September 30, 2019)

### Number of Shares, Number of Shareholders and Listed Stock Exchange

Authorized	80,000,000 shares
Issued	26,863,974 shares
Shareholders	4,726
Listed Stock Exchange	Tokyo Stock Exchange, First Section (Code: 7408)

#### **Distribution of Shareholders** Other corporations: 16,803,500 shares 62.55% Individuals and others: 3,958,326 shares 14.73% Foreign corporations: 3,280,028 shares 12.21% By ownership Banks and insurance companies: 2.389.800 shares 8.90% Financial instruments business operators: 393,388 shares 1.46% Treasury stock: 38,932 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	960	3.57
JAMCO Employees' Stock Holding Association	382	1.42
The Master Trust Bank of Japan, Ltd. (Trust Account)	347	1.29
JP MORGAN CHASE BANK 385166	315	1.17
BNYMSANV RE BNYMIL RE LF RUFFER PACIFIC FUND	300	1.11
Japan Trustee Services Bank, Ltd. (Trust Account)	291	1.08
Mitsubishi Corporation	221	0.82

Note: The percentage of shares is calculated after deducting treasury stock (38,932 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: https://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/).	

- Precautions 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.

### **Accessories Maintenance Center (Narita) of Aircraft Maintenance Group**



#### **Accessories Maintenance Center (Narita)**

#### Address:

26 Shin-izumi, Narita-shi, Chiba Prefecture, Japan (In Nogedaira Kogyo Danchi)

**Establishment of the Nogedaira Factory:** July 1982

#### Lot size:

8,358.60 square meters

Factory floor area: 8,867.3 square meters

#### Main operations:

Aircraft equipment repair and renovation

#### Main equipm

Four maintenance buildings, building with a machine room, nitrogen generator

### What kind of work is conducted at the Accessories Maintenance Center in Narita?

We primarily do maintenance and repair work, overhaul aircraft wheel and braking systems, and provide after-sales services, such as for JAMCO galley inserts. We also provide maintenance services for a wide range of equipment including rescue hoists, auxiliary systems, and emergency evacuation slides for domestic airlines.

The Accessories Maintenance Center's Wheel and Brake Overhaul Center provides commissioned services for major domestic airlines and government agencies. Our highly specialized factory is unrivaled for its state-of-the-art equipment and the world's largest capacity with the ability to service over 18,000 wheels and 2,000 brake systems a year. As one of Japan's top dedicated aircraft maintenance, repair & overhaul (MRO) facilities, we will continue providing services to domestic airlines to help ensure flight safety.

### How are aircraft wheels overhauled?

The main purpose of the overhaul is to replace worn tires, but we also inspect for cracks in the aluminum alloy wheels.

We do two types of maintenance—light maintenance, like visual inspections and replacing faulty parts, and heavy maintenance, entailing peeling off the paint for detailed inspections and then repainting. Both types of maintenance are mandatory, non-destructive inspections\* and must be performed to the specific, technical standards set by the wheel makers and domestic airlines depending on the number of takeoffs and landings of the aircraft.

\*Non-destructive inspections apply electric current, ultrasound or other techniques to measure defects and corrosion without damaging the objects.



