JAL Group Safety Report

FY2020

Japan Airlines Co., Ltd.
J-AIR Co., Ltd.
Japan Transocean Air Co., Ltd.
Japan Air Commuter Co., Ltd.
Ryukyu Air Commuter Co., Ltd.
Hokkaido Air System Co., Ltd.
ZIPAIR Tokyo Co., Ltd.

JAPAN AIRLINES

The JAL Group Safety Report FY2020 is a safety report prepared by the seven airlines of the JAL Group in accordance with Article 111, Paragraph 6 of the Civil Aeronautics Act.

Preface

On behalf of the JAL Group, I would like to express my deepest gratitude to all our customers for your patronage and support.

Fiscal 2020 was dominated by the coronavirus pandemic and its severe impact on the global economy. It was a year of unprecedented change such as huge shifts in lifestyle and major changes in aviation, as seen by the sharp decline in passenger demand worldwide as well as the extreme reduction in JAL Group flight operations.

Under these circumstances, the Company implemented various initiatives to maintain safe operations. To eliminate safety risks arising from these changes, we conducted our business operations with greater caution than ever under the slogan, "3H ("HAJIMETE" <First time>, "HENKO" <Change>, "HISASHIBURI" <First time in a while>). "In addition, as flight reductions forced flight crews to work at substantially reduced frequency, we conducted supplementary training using flight simulators and virtual reality technology to maintain practical skills. Furthermore, Safety Education and other classroom education courses were made available online to provide all our employees with opportunities to learn safety anywhere, anytime and foster safety awareness.

In addition to these safety initiatives, we initiated measures to prevent the spread of the coronavirus and ensure peace of mind during travel. We heightened our hygiene and cleanliness standards, such as thorough cleaning and disinfection of airports and aircraft, mandatory mask, glove and face shield requirements for staff, and the introduction of touchless and automation technologies at airports, to ensure safety and security for all our customers.

With no end to the pandemic in sight and in the face of a crisis the world has never experienced before, the JAL Group is determined to overcome this difficult situation by solidifying its capabilities to fulfill its public transport responsibilities and building strong relationships with our valued customers.

I would appreciate your continued support of the JAL Group.

June 2021

Representative Director,
President and Executive Director
Japan Airlines Co., Ltd.

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Names and Abbreviations of JAL Group Airlines

Japan Airlines Co., Ltd.	: ····· JAL
J-AIR Co., Ltd.	: ·····J-AIR
Japan Transocean Air Co., Ltd.	: ····· JTA
Japan Air Commuter Co., Ltd	: ·····JAC
Ryukyu Air Commuter Co., Ltd	: ····· RAC
Hokkaido Air System Co., Ltd	: ····· HAC
ZIPAIR Tokyo Co., Ltd.	: ·····ZIP

1. Fundamental Safety Policy

In order to maintain and improve safety of air transport operations, the JAL Group has stipulated policies, systems, and methods for safety management in the Safety Management Manual(*) in accordance with the Civil Aeronautics Act of Japan.

(*) Air transport operators are required by the Civil Aeronautics Act to set forth matters concerning their business policy to ensure safe transportation in their Safety Management Manual and notify the Minister of Land, Infrastructure, Transport and Tourism to that effect.

Safety Charter

The JAL Group has established a Safety Charter in order to present our fundamental safety policy under the Corporate Policy in more concrete terms. The Safety Charter explicitly states, "Safety: The protection of lives," to ensure that decisions and actions are aimed at protecting lives with a shared awareness among all organizations that safety is our basic foundation of business continuity. All JAL Group staff carry a card printed with the Safety Charter and perform their daily duties as professionals in conformance to the Safety Charter.

Safety Charter

Safety: The protection of lives.
This is the commitment and basic foundation of business continuity for the JAL Group. We take to heart our mission and responsibility as safety professionals to ensure a safe operation on every flight with the best of our knowledge, skills and abilities.

To accomplish this, we will act according to the following principles.

- Stop immediately when safety concern arises.
- Comply with rules and strictly follow standard operating procedures.
- Always check and confirm; never rely on assumptions.
- Promptly communicate information without omission to ensure safety.
- Deal with problems quickly and appropriately without underestimation.

2. Review of Fiscal 2020

Response to Safety Risks Caused by the Spread of COVID-19

The spread of the coronavirus (COVID-19) caused significant flight reductions on a global scale. As a result, various changes in the operating environment such as fewer opportunities to perform flight duty and lower utilization of aircraft can increase the risk of human error and aircraft malfunction. For this reason, ICAO(*1), IATA(*2), national aviation authorities and civil organizations are sharing, throughout the aviation industry, information concerning various changes triggered by COVID-19, their potential impact on safety, and problems that occurred during flight. The JAL Group actively collected information of this kind, conducted risk assessments, created a checklist, and made inspections under the Safety Management System (SMS)(*3). To verify whether these changes are affecting safety indirectly and may continue in the long-term, we carefully monitored daily flight operations, conducted a detailed factorial analysis of events that occurred, and enforced appropriate measures. Furthermore, to prevent human error, every employee works under the slogan, "3H (Hajimete <First time>, Henko <Change>, Hisashiburi <First time in a while>)," while carefully checking for risks hidden in daily operations.
The frontline has also taken steps to prevent the transmission of COVID-19 to our customers and employees so that everyone can feel safer and more secure. The Company provides the JAL Domestic Flight PCR Test Service to give our customers a sense of security when traveling around Japan or on business trips, and also the JAL COVID-19 Cover, which covers expenses and offers assistance if customers are tested positive while traveling overseas.

(*1) ICAO; International Civil Aviation Organization
(*2) IATA; International Air Transport Association
(*3) SMS; An organized approach to managing safety, including the necessary organizational structures, accountabilities, policies, and procedures.

Safety initiatives on the production frontline to provide safety and security to all our customers

Each division has made continued efforts even amidst COVID-19 to ensure safe operations, prevent the spread of infection, and improve productivity by maintaining skills, nurturing human resources, and applying new technology.

○Operations Division

While the environment became complex due to a series of natural disasters and operational constraints stemming from the spread of COVID-19, the Operations Division, which oversees flight safety, strengthened teamwork around the clock, 365 days a year with all divisions related to aircraft operations. It paid close attention in particular to the ever-changing flight restrictions during the pandemic and continuously provided speedy and appropriate support to ensure safe and secure flight operations.

○Flight Operations Division

As pilots are being kept from flying for long stretches of time because of the pandemic, the Flight Operations Division made maximum use of flight simulators to provide necessary flight experiences and training in order to maintain skills. It also improved its education courses on new training examination methods and safety awareness. In addition, the division steadily recruited and trained pilot trainees to prepare for the full-scale resumption of business operations post COVID-19. Furthermore, it worked to improve safety by co-developing with WEATHERNEWS INC., a system that uses AI to quickly process data on turbulence and immediately notify nearby aircraft in flight.

○Cabin Attendants Division

The Cabin Attendants Division took hygiene and cleanliness to the next level in order to provide safe and secure services, such as wearing masks and gloves in the cabin and introducing enhanced cleaning procedures for lavatories while wearing face shields and gowns. In addition, due to fewer opportunities for cabin attendants to perform flight duty, the division worked to maintain and improve their knowledge and skills while minimizing the risk of infection by expanding online education and e-learning programs.

○Engineering and Maintenance Division

The Engineering and Maintenance Division worked on aircraft modifications and improved external aircraft inspections to prevent Parts Departing from Aircraft (PDA). Aircraft cabins were disinfected and seats were given antivirus and antibacterial coatings to prevent infection on board. Engineers made face shields and shield plates and provided them inside and outside the Company. Furthermore, the scope of aircraft types was expanded for producing electronic logbooks and maintenance records with the aim to improve work quality and work efficiency. The division became the first in the world to launch a project, in collaboration with aircraft manufacturers, for predicting tire wear and tear using big data in order to achieve efficient inventory management.

○Airport Operations Division

The Airport Operations Division is expanding the JAL SMART AIRPORT concept of smooth and stress-free travel through touchless and automation services using digital technology to domestic hub airports. In December, domestic check-in counters at Haneda Airport were fully renovated, and in March touchless panels were installed on self-service check-in kiosks for the first time in Japan. The division is also applying antivirus and antibacterial coatings on check-in counters and other high-touch areas of customers, starting from Haneda Airport. It participated in the pilot test of Face Express, which is a check-in procedure utilizing facial recognition technology, and conducted a pilot test of providing hospitable services utilizing facial recognition technology while wearing face masks at Kagoshima Airport in Kirishima City.

Administrative Dispositions and Administrative Guidance

The JAL Group did not receive any Administrative Dispositions (*1) or Administrative Guidance (*2) in FY2020.

(*1) Administrative Disposition; Issued to business operators when the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) deems it necessary to secure safe transportation. Article 112 (Business Improvement Order), Article 113 -2 - (3) (Rescission of permission for entrustment of management of business and order to improve management of entrusted business) and Article 119 (Suspension of Business and Cancellation of License) of the Civil Aeronautics Act fall under this category.
(*2) Administrative Guidance; Even in cases where administrative disposition does not apply, the MLIT requests business operators to improve their operations. A Business Improvement Advisory and Administrative Warning fall under this category.

Aircraft Accidents and Serious Incidents

(1) Aircraft Accidents and Serious Incidents

In FY2020, the JAL Group reported zero Aircraft Accidents (*1) and one Serious Incident (*2).
We apologize for causing inconvenience and concern to all those affected.

	2020	2019
Aircraft Accident	0 (0.000)	1 (0.003)
Serious Incident	1 (0.006)	3 (0.008)
Total	181,794	356,437

( ) : Number of incidents per 1,000 flights.

Serious Incident (1 case)

○Case of JAL Flight 904 returning to original point of departure after take-off (December 4, 2020)

On December 4, 2020, JAL Flight 904 (from Naha Airport to Tokyo International Airport) returned to Naha Airport due to left engine failure during takeoff climb. In the post-arrival inspection, damage to the left engine fan blades and engine cowl (covering) was confirmed.

This case fell under the category of "Situations listed in Article 166-4 of the Ordinance for Enforcement of the Civil Aeronautics Act (serious incident)" and was rated a serious incident by the Japan Civil Aviation Bureau (JCAB), MLIT on December 4.

While the cause of the accident is under investigation by the Japan Transport Safety Board (JTSB), the Company conducted detailed emergency visual and palpation inspections and a Nondestructive Inspection (NDI) (Fluorescent Penetrant Inspection(*3)) of all fan blades of a total 18 engines installed on nine BOEING 777 aircraft currently in operation (excluding the aircraft in question).

However, the Company suspended the operation of all domestic BOEING 777 aircraft when a U.S. aircraft experienced damage to the same engine type in February. We will continue to cooperate fully with the JTSB investigations into the cause of the incident.

(2) Aircraft Accident and Serious Incident Investigation Report

In FY2020, three Aircraft Accident and Serious Incident Investigation Reports were released.

Serious Incidents (3 cases)

○Case of JAL Flight 632 returning to original point of departure after take-off

(Date of occurrence: May 24, 2018, Date of publication: July 30, 2020)

On July 30, 2020, the JTSB, MLIT released an Aircraft Serious Incident Investigation Report. “It is highly probable that this serious incident was caused by the fractured blade #13 on HPT (high pressure turbine) stage 2 of No. 1 engine (left side), when the Aircraft was climbing, that damaged blades and stator vanes of aft stages, fragments of which collided with LPT (low pressure turbine) casing and generated a hole (crack). It is highly probable that the fractured blade #13 was caused by cracks that were generated on TA (Turning Around (branching and turning around of cooling air flowing inside blades) area and progressed thereafter. It is somewhat likely that cracks generated on TA area were caused by hot corrosion swelling (blister) generated on the coating layer of the blades and low-cycle fatigue initiating from the cracks.” (JTSB Aircraft Serious Incident Investigation Report)

After the Serious Incident, the Company implemented the following measures.

- Urgent inspections of all BOEING 767 engines were performed in order to confirm the condition of 2nd stage HPT blades and no damage was found. Further, repetitive inspections at every 200 flight cycles were performed.
- Replaced all old type 2nd stage HPT blades, which broke off in this case, with new type blades by the end of March 2020.

○Case of JTA Flight 212 experiencing runway incursion before landing

(Date of occurrence: July 21, 2019, Date of publication: January 21, 2021)

On January 21, 2021, the JTSB, MLIT released an Aircraft Serious Incident Investigation Report. “It is highly probable that this serious incident occurred because the other carrier’s aircraft entered the runway despite of being instructed to hold short of runway, when the JTA aircraft, which was cleared to land by the Tower, attempted to land at the same runway. Regarding the fact that the other carrier’s aircraft entered the runway, it is probable that when the other carrier aircraft’s captain received the ATC instruction, he mistook the Tower’s instruction to hold short of runway as the instruction to line up and wait, and his misunderstanding was not corrected. It is probable that the reason why the other carrier aircraft captain’s misunderstanding was not corrected is because the other carrier aircraft’s captain and the other carrier aircraft’s co-pilot did not cross-check the ATC clearance, as specified in the Company manual.” (JTSB Aircraft Serious Incident Investigation Report)

This report does not point out any problems with the JTA aircraft.

○Case of JAL Flight 2163 experiencing runway incursion before landing
(Date of occurrence: October 3, 2019 Date of publication: January 21, 2021)

On January 21, 2021, the JTSB, MLIT released an Aircraft Serious Incident Investigation Report. “In this serious incident, it is probable that the Japan Air Self-Defense Force aircraft made an incursion on the runway which the J-AIR aircraft with landing clearance was approaching on the final course, because the captain of the Japan Air Self-Defense Force aircraft, who was waiting on the taxiway in front of the runway, misunderstood the departure delay information provided by the air traffic controller as the take-off clearance, failed to listen to the controller’s corrective response by reporting the completion of pre-flight procedures immediately after making incorrect read-back, and failed to visually confirm the final approach course.” (JTSB Aircraft Serious Incident Investigation Report)

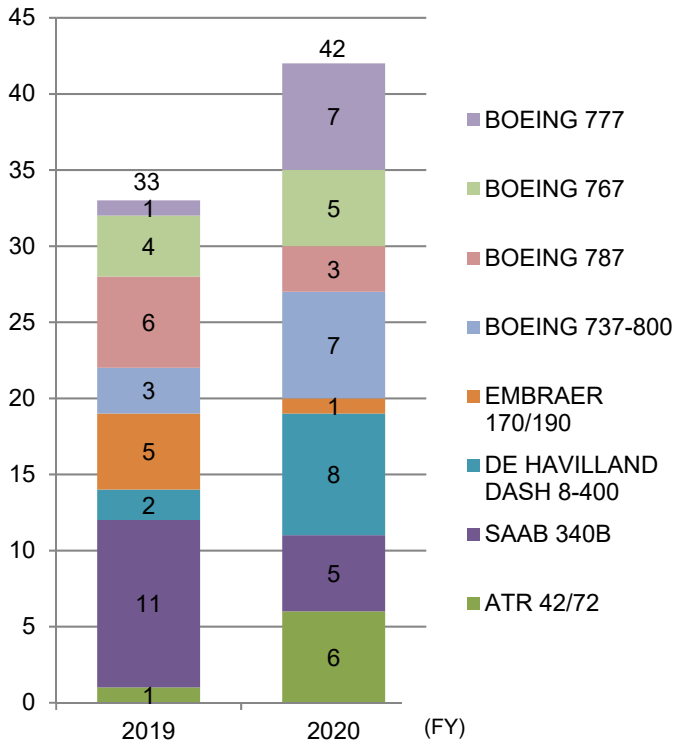
This report does not point out any problems with J-AIR.

(*1) Aircraft Accident;
A situation arising from the operation of an aircraft and resulting in fatal or serious injury, an aircraft crash, collision, or fire, damage to the aircraft during flight requiring major repair, or other situation classified as an aircraft accident by the MLIT.
(*2) Serious Incident;
An incident not amounting to an aircraft accident, but where a recognized danger of an accident occurring was present, such as runway excursion, an emergency evacuation or similar incident, fire or smoke on board, abnormal decompression, encounter with abnormal weather conditions, or other situation classified as a serious incident by the MLIT.
(*3) Fluorescent Penetrant Inspection;
An examination to detect small scratches that are invisible (hard to see) to the naked eye

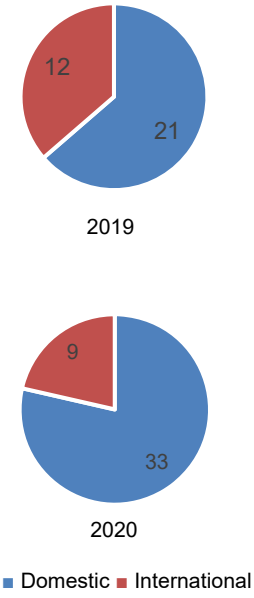
Irregular Operations

In FY2020, 42 irregular operations were reported (*), the breakdown being 37 cases of returning to the departure airport, three cases of diversion, and two cases of runway closure.
Irregular operations of the BOEING 787 declined due to active approaches to aircraft modifications aimed at improving quality.
On the other hand, there were increased problems with the anti-icing system on ATR aircraft, to which we responded by working with the aircraft manufacturer to introduce improved parts and conduct regular inspection.
Irregular operations of the BOEING 777, BOEING 737-800, and DE HAVILLAND DASH 8-400 CARGO COMBI (Q400) increased mainly due to aircraft problems. We strived to prevent recurrence through quick investigations into the cause of each incident and expansion of countermeasures to other aircraft, replacement and improvement of parts, and enhanced inspections.
From FY2021, we will delve deeper into our measures such as improving on failure prediction by utilizing big data collected from aircraft.

■Incidents by aircraft type



■Incidents by domestic and international flight



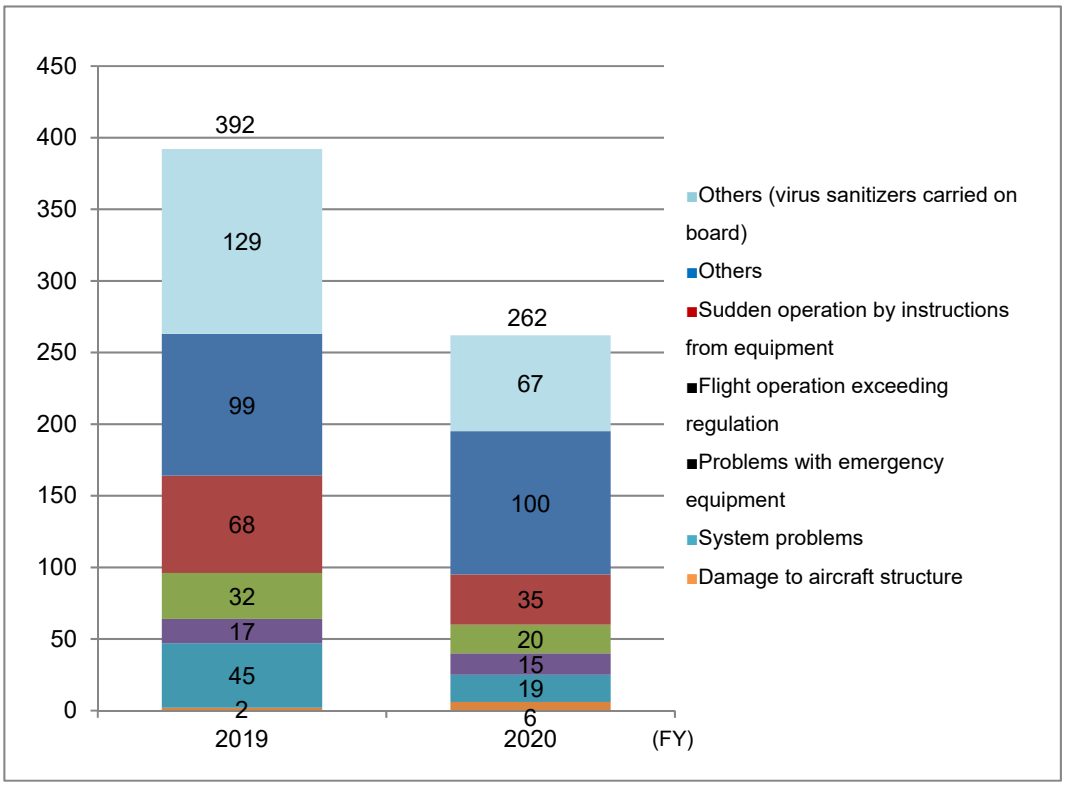
(*) Irregular Operations;
A situation in which partial malfunction of an aircraft's multiple systems occur for example, and pilots respond according to the manual and return to the airport to ensure safety, resulting in a change in schedule such as the destination (excluding bird strike, lightning strike, etc.). In general, it is not a situation that immediately affects safety of operations.

Safety Events

(1) Occurrences

In FY2020, 262 safety events (*) occurred, a decline of 130 cases from FY2019. The number of cases of “Dangerous goods” in “Others” declined significantly due to a decrease of virus sanitizers carried on board (FY2019:129, FY2020:67). For details, see "Main Examples and Measures" on the page 13.

■Number of safety events



(*) Safety Events (mandatory occurrence report);
Article 111-4 of the Civil Aeronautics Act and Article 221-2-3 and 4 of the Ordinance for Enforcement of the Civil Aeronautics Act mandate reporting to the MLIT (This report uses the term Safety Events), and the following situations are applicable. Accidents specified in each item of Article 76 (1) of the Civil Aeronautics Act and situations (serious incident) in Article 76 (2) of the Act do not fall under this category. Generally speaking, they do not immediately lead to an aircraft accident.

Classification of Safety Problems and Examples

①Damage to the aircraft structure	[Example] Structural problems found during regular maintenance
②System problems	[Example] Engine trouble, communications/electric system trouble
③Problems with emergency equipment	[Example] Malfunction of fire and smoke detectors
④Flight operation exceeding regulation	[Example] Operations in exceedance of fixed speed limits
⑤Sudden operation by instructions from equipment	[Example] Operation based on instructions from the Traffic alert and Collision Avoidance System (TCAS)
⑥Others	[Example] Regulations, Parts Departing from Aircraft (PDA), transport of dangerous goods

(2) Breakdown

		2020								2019 Total
		JAL	J-AIR	JTA	JAC	RAC	HAC	ZIP	Total	
Damage to aircraft structure		**5**	**0**	**0**	**1**	**0**	**0**	**0**	**6**	**2**
Damage sustained (except bird strike and lighting)		0	0	0	1	0	0	0	1	**1**
Major repair		5	0	0	0	0	0	0	5	**1**
System problems		**3**	**1**	**6**	**5**	**3**	**1**	**0**	**19**	**45**
Breakdown	Engine	2	0	0	3	1	0	0	6	9
	O2 supplement	0	0	0	0	0	0	0	0	0
	Navigation system	0	0	3	0	0	0	0	3	4
	Landing gear	0	1	0	1	1	1	0	4	2
	Fuel system	0	0	0	1	0	0	0	1	0
	Others	1	0	3	0	1	0	0	5	30
Problems with emergency equipment		**5**	**2**	**2**	**0**	**5**	**1**	**0**	**15**	**17**
Flight operation exceeding regulation		**12**	**1**	**1**	**5**	**0**	**0**	**1**	**20**	**32**
Sudden operation by instructions from equipment		**21**	**5**	**4**	**2**	**1**	**2**	**0**	**35**	**68**
Breakdown	Activation of ACAS	21	4	3	1	1	1	0	31	57
	Activation of GPWS	0	0	1	1	0	1	0	3	7
	Others	0	1	0	0	0	0	0	1	4
Others		**116**	**16**	**9**	**8**	**10**	**3**	**5**	**167**	**228**
Breakdown	Operations Manual	11	0	2	2	0	0	5	20	37
	Maintenance Manual	40	0	2	5	9	0	0	56	13
	Objects falling off airplanes	1	0	0	0	0	0	0	1	4
	Dangerous goods (excluding virus sanitizers)	12	1	2	0	0	0	0	15	39
	Dangerous goods (virus sanitizers carried onboard)	46	14	3	1	0	3	0	67	129
	Others	6	1	0	0	1	0	0	8	6
Total		**162**	**25**	**22**	**21**	**19**	**7**	**6**	**262**	**392**

(3) Main Examples and Measures ( ) indicates the number of cases in FY2019.

【Damage to aircraft structure】 6 cases (2 cases)

There were five cases of aircraft repair (BOEING 767:2, BOEING 777:1, BOEING 737-800:2) for corrosion and cracks found during regular maintenance or while parked on the ground. There was also one case (ATR 72), in which the tail bumper (anti-tail strike absorber) hit the runway because the nose was pulled up higher than usual at landing.

【System problems】 19 cases (45 cases)

There were 19 cases of an aircraft system problem. Details are provided below.

Engine 6 cases (9 cases)

There were five cases of engine damage. Regarding engine failure, one thrust reverser system malfunction occurred on both the BOEING 777 and BOEING 787. In addition, there were three cases of ATR aircraft, including one case of malfunction due to the effect of weather, one case of the right propeller coming into contact with the runway due to an unstable airframe because of crosswinds during landing roll, and one case of engine malfunction due to work malfunction. In addition to this, there was one case of ground turn back of Q400 due to insufficient engine rotation caused by a malfunction of the electrical connector. In each case, there was no tendency for a specific event to be the cause of the failure, so we took maintenance measures such as replacing the part that caused the failure and checked the operation.

Oxygen supply 0 cases (0 cases)

There were no problems with the oxygen supply system.

Navigation system 3 cases (4 cases)

There were three cases of problems with the navigation system display on the BOEING 737-800, which were all solved during flight. They are considered to be temporary problems and the system was confirmed to be in sound condition after arrival. However, one case was considered to be a component problem, and the component was replaced from the viewpoint of preventive maintenance.

Landing Gear 4 cases (2 cases)

Due to a problem with the main landing gear control lever, the main landing gear could not be retracted and the aircraft returned to the departure airport in two cases (SAAB340B: 1, ERJ170: 1). In addition, there were two cases of landing gear malfunction (ATR: 1, Q400: 1). In each case, the defective parts were fixed or replaced, and no other malfunctions were found.

Fuel system 1 case (0 cases)

During pre-flight refueling, a fuse in the electric system of an ATR was found to have blown out. The probable cause was lightning strike of the previous flight. The problem was solved by replacing the part.

Others 5 cases (30 cases)

Five other system problems occurred. The number of malfunction message cases related to the Traffic alert and Collision Avoidance System (TCAS) (*1) on the BOEING 737-800 decreased (FY2019:13, FY2020:1). These were caused by faulty software, but with the establishment of operation methods to prevent recurrence, the number of similar malfunctions decreased. As for other cases, there was no tendency for a specific event to occur frequently, and maintenance measures, such as replacing the parts that caused the events, were taken to confirm the soundness of the system through operational checks.

【Problems with emergency equipment】 15 cases (17 cases)

There were 15 cases of problems with equipment that activate in an emergency. In each case, there was no tendency of specific situations occurring frequently, and measures were taken such as replacing defective parts and inspecting aircraft.

【Flight operation exceeding regulation】 20 cases (32 cases)

There were two cases of "Flight operation exceeding regulation" and eight cases of altitude deviation from ATC instructions. Two of the eight cases were caused by rapid weather changes but the altitude was immediately corrected through emergency operation. In addition, five ATR aircraft had altitude indicator problems, but this was caused by incorrect data from the terrain data provider. The problem was solved by correcting the data. There were also two cases of flight course deviation caused by incorrect data entry and three cases of temporary 'speeding.' In response, we checked the safety of the aircraft and disseminated the incidents internally to raise awareness.

【Sudden operation by instructions from equipment】 35 cases (68 cases)

There were 31 cases requiring operation according to the Resolution Advisory (RA) of TCAS. The TCAS may activate depending on the position and speed of other aircraft even when operating normally according to ATC instructions. The device is designed so that appropriate operation by pilots in accordance with instructions from TCAS will not cause safety events. In each case, the pilots performed appropriate operation in accordance with TCAS instructions.

There were three cases in which the Ground Proximity Warning System (GPWS) (*2) was activated. The GPWS may activate depending on the relationship between the flight path and terrain features. It is designed so that appropriate operation by pilots in accordance with instructions from GPWS will not cause safety events. In each case, the pilots performed appropriate operation in accordance with GPWS instructions.

There was also one case of component problem, but the component was replaced and normal operation was confirmed.

【Others】 167 cases (228 cases)

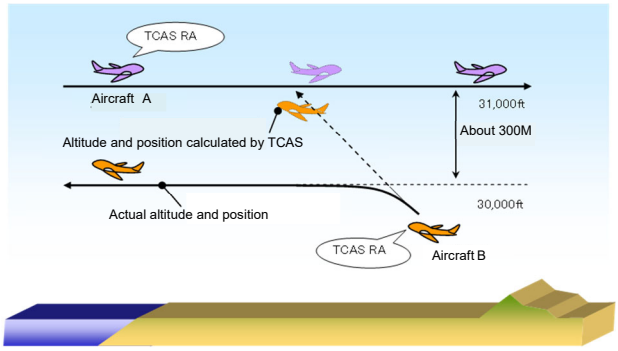
There was a total of 167 problems classified in “Others.” Of these, 20 were related to the Operations Manual and 56 related to the Maintenance Manual, of which 17 were caused by a lack of check items due to problems with the same manual for the BOEING 737-800, 11 concerning maintenance intervals, and 18 concerning inspection and maintenance. In each case, we reconfirmed that there were no problems, and took measures such as disseminating information, calling everyone's attention, and reviewing manuals.

In FY2019, there were 168 cases involving transport of dangerous goods including lithium-ion batteries, coolants, insecticides, virus sanitizers, and disinfectants, but decreased to 82 cases in FY2020, attributable to a decrease in virus sanitizers carried on board (FY2019:129, FY2020:67). In these cases, we took measures such as disseminating and raising awareness of these cases, reviewing manuals, and posting information on dangerous goods that are restricted in carry-on baggage on the JAL website to alert customers.

In addition, there was one case of Parts Departing from Aircraft (PDA). We are taking action to prevent recurrence by utilizing information from other companies and manufacturers.

(*1) Traffic alert and Collision Avoidance System (TCAS);
To prevent mid-air collision between aircraft, the TCAS automatically instructs pilots to take precautions (resolution advisory:RA) to avoid a collision when aircraft flying in the vicinity are judged to be closer than a specified distance. All JAL Group aircraft are equipped with TCAS.

(Example of TCAS activation in normal operations)
Aircraft A is cruising at an altitude of 31,000 feet (about 9,300 meters) and Aircraft B is expected to climb to 30,000 feet (about 9,000 meters) and then to level flight, so there is no risk of collision between the two aircraft. However, TCAS cannot recognize that Aircraft B is scheduled to level flight, so it issues an evasion instruction on safety to both aircraft to eliminate the possibility that Aircraft B will continue to climb and approach Aircraft A.



(*2) Ground Proximity Warning System(GPWS);A device that gives a warning when an aircraft approaches the ground or sea surface.
E-GPWS (Enhanced GPWS) is a developed model that has memorized the terrain of almost the whole world, airport locations and obstacles. All JAL Group aircraft are equipped with E-GPWS.

Safety Targets

We established JAL Group safety targets in accordance with the FY2017 to FY2020 Medium Term Management Plan and made efforts to achieve them.

Safety Target

Flight safety is the basis of business continuity of the JAL Group and our social responsibility. As a leading company of safety in the transport section, we will accumulate safety layers and maintain flight safety.

Achievement Outcome of Numerical Targets (Maintain Flight Safety)

Zero aircraft accidents and zero serious incidents

In FY2020, we had no aircraft accidents, but one serious incident occurred. As a result, we did not achieve this target.
Please refer to page 8 “Aircraft Accidents and Serious Incidents” for more information.

Action Targets (Accumulate Safety Layers)

In FY2020, we implemented nine initiatives in three areas as action targets.

Evolve into the world's most advanced Safety Management System

We will continue to strengthen our Safety Management System (SMS) by improving risk management and error analysis. We will also work on eradication of safety interference by alcohol consumption, further promotion of measures to prevent Parts Departing from Aircraft (PDA) and initiatives to ensure customers' ease of mind to provide greater safety and security to all our customers.

Risk Management Using an Integrated Safety Database

We worked to get a better grasp of safety conditions by visualizing safety data in an integrated safety database. We also established Safety Performance Indicators (*) based on ICAO guidelines and started trial operation. Further, we identified problems to address when visualizing data and introducing analysis tools and built an operating system.

(*) Safety Performance Indicator (SPI); An indicator of various safety data. By monitoring SPIs, we gain a broad and speedy understanding of growing safety risks.

Improve error analysis and enforce measures based on human factors

We conducted education on interviewing methods of persons involved in human error for safety management departments and frontline managers. We also held online workshops and human factor education on the human error analysis method, HFACS (*) to strengthen our error analysis capabilities.

(*) Human Factors Analysis Classification System; A method of preventing the occurrence of human errors through the analysis of not only unsafe behavior but also potential causes of events, and correction of procedures, work environments, and organizational factors.

Evolve into the world's most advanced Safety Management System

We will continue to strengthen our Safety Management System (SMS) by improving risk management and error analysis. We will also work on eradication of safety interference by alcohol consumption, further promotion of measures to prevent Parts Departing from Aircraft (PDA) and initiatives to ensure customers' ease of mind to provide greater safety and security to all our customers.

Eradication of safety interference by alcohol consumption

We worked to raise awareness of alcohol and inspected the alcohol test system in order to instill a strict collective norm on alcohol tests and alcohol consumption.

Further promotion of measures to prevent Parts Departing from Aircraft (PDA)

To prevent incidents of PDA, we proactively enforced preventive measures through early enforcement and expansion to similar parts on other aircraft types. Further, to grasp signs of PDA in advance, we strengthened monitoring and inspections using a PDA Sign Map.

Initiatives to ensure customers' ease of mind

To prevent burns to passengers on board, we started to lower the temperature of hot drinks. To respond to disruptive behavior (unruly passengers), we established judgement criteria and procedures for frontlines and strengthened the management system after the occurrence of incidents. To prevent mistakes in serving allergen free meals, we developed a data management system and visualized data to prevent recurrence effectively.

Evolve into the world's most advanced Security Management System

We will steadily operate the Security Management System introduced to the JAL Group and be fully prepared for the Olympic and Paralympic Games Tokyo 2020 postponed to 2021.

Reliable operation of the Security Management System

To maintain high standards of Security Management System operation, we monitored the situation through security audits and made improvements based on risk assessments. We also gathered security information in coordination with IATA and external data organizations and conducted analysis to improve our security system.

Cultivate every employee's awareness of aviation security

To increase security awareness and cultivate sensitivity to security of every employee so that they can take initial action and make reports appropriately in a security event, we provided education on detecting suspicious persons and objects. We worked continuously to foster security awareness through campaigns and information, and asked staff to self-check security measures.

Pass on lessons learned from past accidents

We will continue to promote Safety Awareness Education based on the Three Actuals and Emergency Evacuation Training. As the number of employees (actual persons) who experienced the flight 123 accident continues to decrease, we will create an environment in which employees can easily view valuable experiences and messages to prevent the accident from fading from our memory.

Conduct Safety Awareness Education based on the Three Actuals (*)

We conducted safety awareness education to ensure that lessons learned from past accidents are passed on and that staff maintain a high level of safety awareness. The spread of COVID-19 made it difficult to conduct education “at the actual place,” so we held an online education program to learn about Mt. Osutaka then and now and to think about the accident.

(*) The "Three Actuals" principle; A concept advocated by Mr. Yotaro Hatamura of the Safety Advisory Group that the true nature of things can be understood by visiting to the actual place (the accident site), looking at the actual object (aircraft wreckage, personal belongings of the victims), and listening to the story from the actual people (who experienced the accident).

Please refer to page 47 “Safety Education” for details of each seminar.

Conduct Emergency Evacuation Training

As it became difficult to conduct training at training facilities due to the spread of COVID-19, we conducted training using Virtual Reality (VR) technology in various locations. We also held classroom training online and achieved the targeted number of participants.

Main Safety Promotion Activities

(1) Responses to the Business Improvement Order in 2019

In response to the three incidents in which alcohol was detected on pilots before duty, the Business Improvement Order concerning the assurance of air transport safety was issued on October 8, 2019. The Company took corrective action continuously, such as conducting more stringent pre-flight alcohol breath tests, changing employee mindset through education and dialogue with executive officers, and introducing support programs such as counseling. For all employees including pilots, we set up a No Alcohol Day and held lectures on alcoholism by specialists to prevent recurrence with enhanced awareness.
There have been no cases of alcohol test failure since the issuance of the Business Improvement Order.

○More stringent alcohol tests

- Introduced a testing system using facial recognition technology to JAL and JTA Flight Operations divisions aimed at building a more reliable testing system
  (to be expanded to other JAL Group airlines)

Alcohol test before duty

○Review of educational methods and mindset change of pilots

Continuing from FY2019, we implemented the following to change the mindset of pilots

- Direct dialogue between executive officers in charge of other divisions and all pilots
- Direct dialogue between management of Flight Operations and all pilots
- Education to gain knowledge on alcohol (for all employees)

○Introduction of counseling and other support programs

- Personal-development programs by external specialized agencies for employees with drinking concerns
- Introduction of a support program by an independent organization for those seeking counseling

○New approaches

- Conducted an alcohol awareness campaign in October to reaffirm the sense of urgency of the alcohol-related incidents and prevent it from declining (reflected on the drinking problem, held workplace discussions and set up a No Alcohol Day for each employee to refrain from drinking and think about the issue)
- Held lectures on alcoholism by external experts for managers

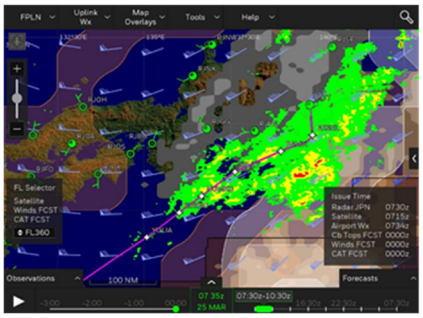
Promotion poster

In addition, based on a report from the internal Verification Committee, which was established to clarify and solve problems inherent in the organization, we made continuous efforts based on the following themes; instill awareness of Safety First in all our employees, develop a problem-solving system and culture in our business, and ensure safe workplaces throughout the Group. Specifically, we conducted JAL Group Safety Education, cross assignments, JAL Philosophy (*) workshops on safety, and risk management training, renewed the intranet, reviewed staff numbers in each organization, operated meetings of the Operations Division and Group Risk Management Council, and provided the Safety Consultation Center.

(*) JAL Philosophy; Principles on the awareness, values, and attitude expected of JAL Group employees.

(2) Measures to Prevent Customer Injuries Caused by Turbulence during Flight

JAL uses digital technology to collect and analyze safety information and establish measures. We also equipped some aircraft with a system to collect real-time information on weather and turbulence en route.
Up till now, pilots obtained information on weather and turbulence when checking the flight plan on the ground and through in-flight communication using written information. With the introduction of a cockpit Wi-Fi system, they can obtain the latest weather images during flight with a weather information app, which is far more effective than before, and avoid turbulence and ensure the passenger's safety.



Display using weather information app

(3) Strengthening Measures to Prevent Parts Departing from Aircraft (PDA)

To prevent PDA, the JAL Group accelerated implementation of recurrence prevention measures and expanded the measures across all types of aircraft, resulting in fewer incidents of heavy parts departing from aircraft in FY2020 compared to FY2019. About a year has passed since new flight paths above the Tokyo metropolitan area began operation. Given public concern, we strengthened measures for not only aircraft but also engine parts, enforced measures to prevent placards from falling off aircraft, and strengthened inspections using hazard maps during regular, departure and arrival maintenance. The JAL Group will continue to work together to eliminate incidents of this kind.

Aircraft inspection

(4) Introduction of Fatigue Risk Management (FRM) for Cabin Attendants

The JAL Group has been conducting Fatigue Risk Management of pilots as part of risk management since FY2017 to prevent fatigue from jet lag and other reasons. To further enhance safety, the program was expanded to include cabin attendants in October 2020. We also introduced a program to collect fatigue information, analyze causal factors, evaluate risks, and develop mitigation measures, and to increase understanding of the program, employees in charge of fatigue risk management, such as crew schedulers and Operations Division staff, and management were given special education.

(5) Strengthening Disaster Prevention Management

In recent years, as the frequency and intensification of natural disasters have become a threat to safe transportation, transportation infrastructure operators are required to improve their capabilities to respond to natural disasters, such as mitigating and preventing the spread of damage, maintaining business activities, and achieving speedy recovery. Under these circumstances, the JAL Group established JAL Group Disaster Response Regulations to strengthen preparedness for disaster prevention and mitigation and build a system for responding to contingencies.

(6) Strengthening the Safety Audit System

The SMS requires efforts to solve day-to-day safety issues, that is, safety promotion activities, and audits from a third-party perspective to verify whether these activities are being implemented appropriately.

To ensure the independence of the safety promotion function and auditing function and to strengthen the system for conducting fair and impartial audits, the Safety Audit Department was established in the Corporate Safety and Security Division in April 2020. The Safety Audit Department is responsible for further improving and strengthening internal audits toward achieving global standards.

In FY2020, we conducted a fundamental review of the internal audit system and auditing standards according to international standards, and confirmed through internal audits that our safety promotion activities are appropriately conducted.

3. Strategies for Fiscal 2021

In FY2021, we will build on our safety and security mechanisms, focusing on the utilization of digital technology and information, nurturing safety personnel, and responding to changes in the external environment in accordance with the new JAL Group Medium Term Management Plan for FY2021 to FY2025. Amidst major changes surrounding the Company, all employees will act with an awareness that safety is the foundation for business continuity of the JAL Group and will strive to realize a safe and secure society.

Vision

Accumulate safety layers and realize a safe and secure society as the leading company of safety

Numerical Targets

Zero aircraft accidents and zero serious incidents

Action Targets

1. Use digital technology, expand data collection, deepen analysis, and thoroughly enforce measures

2. Nurture human resources who think and act on the fundamental basis of safety

3. Be prepared for changes in the environment affecting aviation in coordination with internal and external parties

In FY2020, we will initiate 16 measures linked to the following three action targets to achieve the vision of what the JAL Group intends to be.

1. Use digital technology, expand data collection, deepen analysis, and thoroughly enforce measures

We will proactively apply new digital technology to safety measures to speed up data collection and improve analytical skills. Moreover, we will collect and apply wide-ranging safety information to our safety measures. We will also actively participate in technological studies by manufacturers to improve our technical capabilities and strengthen measures.

Use digital technology to collect and analyze safety information and establish measures

•Share the latest weather information, including turbulence en route

We will expand the system for automatic information sharing of turbulence en route in real time, avoid the impact of aircraft shaking from turbulence, and protect the safety of our customers and employees.

•Strengthening predictive maintenance

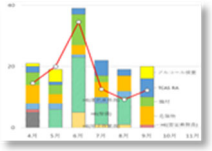
We will strengthen predictive maintenance using flight data including engine data and new technologies, and improve aircraft quality.

•Promote data-based fatigue risk management (FRM)

We will create indicators from fatigue risk data of pilots, quantitatively analyze the data, introduce fatigue assessment software to assess fatigue by flight pattern, and thereby reduce problems caused by fatigue risk.

•Detect risks by expanding Safety Performance Indicators (SPI) and deepening analysis of safety information

We will grasp wide-ranging information quickly by creating indicators and sharing safety information. We will also control safety risks which we could not detect up till now through multilateral analysis of wide-ranging information with analytical techniques.



Enforce proactive and comprehensive measures through active participation in technological studies by manufacturers and expanded data collection including cases at other companies

•Strengthen measures to prevent Parts Departing from Aircraft (PDA)

Strengthen technical measures and quality assurance systems (effective inspection and check methods) to prevent PDA.

PHOTOGRAPHY BY SACHIE ABIKO

•Assess cases at other companies and strengthen measures

We will collect a wider range of information on unsafe events at other companies, conduct risk assessment of cases at other companies, and enforce measures to proactively prevent incidents.

•Detect potential risks through improved internal audits

We will detect potential hazards hidden in daily operations by strengthening auditing standards, checking compliance on a wider scale, and evaluating the effectiveness of established mechanisms.

•Penetrate human factors and deepen analysis methods

In addition to penetration of human error analysis and interviewing methods, we will store error analysis results in a database and conduct statistical analysis, leading to more effective measures. We will also conduct research on different approaches to safety (Safety-II(*)).

(*) Safety-II; The concept that everyday performance (functions) must respond flexibly to changes in current conditions in order to maintain safety. Unlike the conventional idea of reducing the number of human errors (Safety-I), from the Safety-II perspective, safety can be increased by increasing the number of successful outcomes.

2. Nurture human resources who think and act on the fundamental basis of safety

Nearly all of the employees who experienced the JAL Flight 123 accident will reach retirement age in a few years. By passing on valuable experiences and thoughts on safety of people who experienced the accident ("the actual people") to the next generation, we will nurture human resources who will always act on the fundamental basis of safety First. We will also draw on lessons learned from the alcohol consumption issue, which resulted in two Business Improvement Orders, and instill a strict collective norm on alcohol consumption to eliminate inappropriate incidents.

Apply lessons learned from accidents

•Review education to raise safety awareness

We will review education based on the Three Actuals according to milestones in the employee's career path, improve our education program to encourage voluntary participation, and thereby nurture human resources who can think and act on their own.

•Nurture human resources to pass on lessons learned in each workplace

We will nurture human resources to pass on lessons learned through participation and sharing of activities (e.g. climb Mt. Osutaka, run the Safety Promotion Center) by staff from a wide range of workplaces.

Apply lessons learned from past problems

•Continuously conduct promotions and education

We will continuously conduct promotions and education on alcohol awareness and knowledge to instill a strict collective norm on alcohol consumption.

•Create a pilot support program

We will create a framework for pilots to share their worries and concerns in a confidential environment and provide personalized support to eradicate alcohol-related problems.

3. Be prepared for changes in the environment affecting aviation in coordination with internal and external parties

In order to protect our customers and employees from the increasingly diverse threats of terrorism and other threats, we will take measures by deepening cooperation with external organizations. Because ensuring safety is essential to the sound development of air mobility, we will work to build a safety foundation. In addition, we will ensure the safety and security of our customers and employees from the increasingly severe disasters that have occurred in recent years, and be prepared in advance to minimize damage and achieve the early recovery of the operational function.

Diversifying threats of terrorism and other events

•Introduce advanced safety inspection equipment

We will mitigate security risks by introducing advanced security inspection equipment in coordination with the public and private sectors.

•Promote security risk management activities with the industry working as one

We will expand collection of external security risk data and take measures in coordination with the authorities and other companies to reduce security incidents.

Respond to new safety problems in a changing environment such as the development of next generation air mobility

•Build a safety foundation for the drone business

We will participate in the development of a safety foundation in the fields of drones and flying cars and establish a Safety Management System (SMS) in the Group's new business domain.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•Strengthen disaster prevention and business continuity management in the event of a disaster

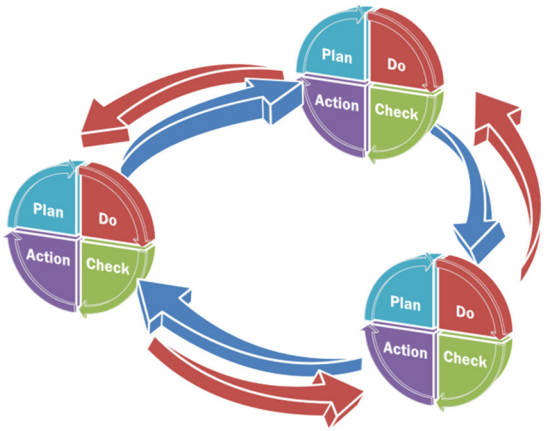
We will be prepared to reduce damages and quickly recover operations in the event of a disaster such as an earthquake.

4. Safety Management

Safety Management System

The JAL Group has established a Safety Management System (SMS), a systematic approach advocated by ICAO that includes the organizational structure, responsibility systems, policies, and operational procedures which are necessary for managing safety.
To maintain high safety standards, management, the Corporate Safety and Security Division, and each division implement and organically link their PDCA cycles regarding safety to achieve functional safety management and continuous system enhancements.

Divisions
The SMS is implemented at the divisional level and status reports on operation and improvements are presented to management and the Corporate Safety and Security Division. Each division makes necessary improvements based on results of the PDCA cycle and instructions from management and the Corporate Safety and Security Division.

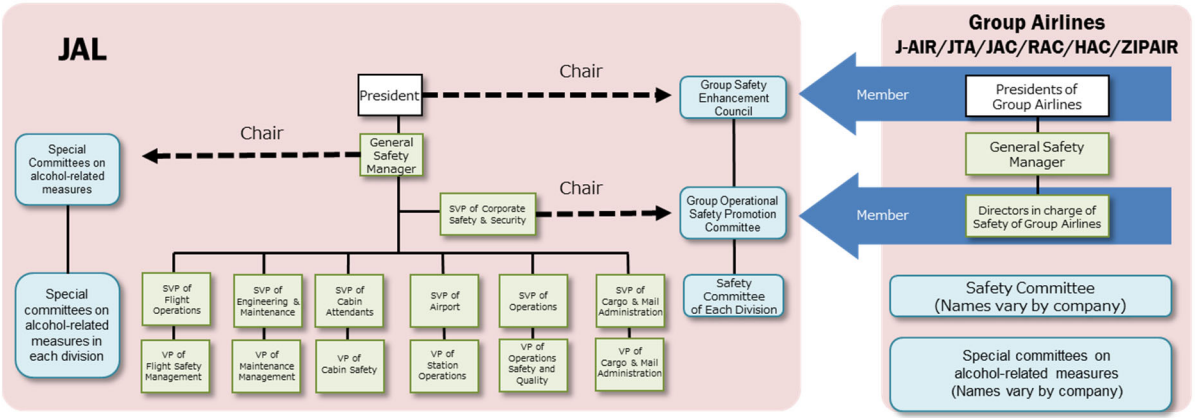


Management
Management receives reports at the Group Safety Enhancement Council on safety target achievement outcomes, safety audit results, progress of safety measures, serious accidents and safety events, and preventive and recurrence preventive measures, and decides and give instructions on necessary actions to be taken.

Corporate Safety and Security Division
The Corporate Safety and Security Division promotes the SMS at the Group level and facilitates improvements based on safety management results, instructions from managements, and reports from divisions. It provides status reports on system operation and improvements to management, identifies issues facing each division, and gives instructions to correct the situation.

JAL Group Safety Management Organizational Structure

To maintain a uniform and high level of safety throughout the Company, each Group airline including JAL implements the SMS in accordance with shared policies confirmed by the Group Safety Enhancement Council. The Group Operational Safety Promotion Committee is a subcommittee for maintaining and strengthening safety coordination between divisions and Group airlines.
For more information about each committee, please refer to “Safety Management Organizational Structure of Each Group Airline” on page 36.



Safety Management Organizational Chart

General Safety Manager

In accordance with Article 103-2 of the Civil Aeronautics Act, each JAL Group airline appoints the General Safety Manager, who has the responsibility and authority to oversee safety management, make important management decisions on safety policies and safety investments, and report important safety matters to the President. The General Safety Manager is appointed by the President of each company, and the President assumes final responsibility for safety.

The General Safety Manager of each JAL Group airline is as follows.

(April 1, 2020 – March 31, 2021)

Company	General Safety Manager	
Japan Airlines	Representative Director, President and Executive Officer	Yuji Akasaka
J-AIR	Managing Director	Kotaro Kurono
Japan Transocean Air	Director, Managing Executive Officer	Yoshinobu Oshiro
Japan Air Commuter	Director	Shinobu Tomita
Ryukyu Air Commuter	Managing Director	Toshinobu Komuro
Hokkaido Air System	Executive Officer	Satoshi Yoshida
ZIPAIR Tokyo	Director	Kenichi Yoshizawa

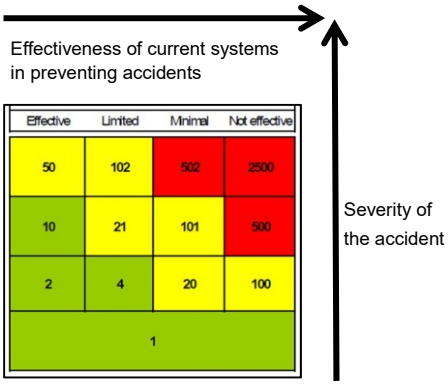
Risk Assessment and Management

The JAL Group conducts risk management according to the following steps when establishing safety measures and responding to accidents and events.

Main Activities

○Event Risk Classification (ERC)

Risk assessments are implemented based on the severity and frequency of events, for which recurrence prevention measures are established. In FY2014, the Corporate Safety and Security Division introduced a risk assessment method called ERC, which classifies risks to understand the likelihood of the event escalating into an accident outcome and the effectiveness of barriers between the event and the most credible accident scenario, with the aim of achieving a more proactive approach to preventing irreversible accidents. We also monitor trends in concentration and frequency of events by identifying low frequency and high-risk occurrences over a certain period.



Risk assessment matrix

○Integrated Safety Information Database

All safety incidents occurring in the JAL Group are managed and quickly shared using a group-shared database. In addition to risk assessments by the department where the risk occurred, the Corporate Safety and Security Division assesses all incidents through ERC to quickly detect potential risks.

(*) Hazard; Any source of danger or potential danger which may lead to an aircraft accident, serious incident or other adverse events.

Safety Assurance

(1) Safety Audit

The JAL Group conducts internal audits regularly in accordance with requirements of the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), and confirms that safety management is in place and is continuously enhanced. Furthermore, IOSA (*) -registered airlines, Japan Airlines, Japan Transocean Air, and J-AIR, undergo regular internal audits based on IATA requirements to verify conformance to IATA standards (IOSA standards).

(*) IOSA (IATA Operation Safety Audit); An international safety audit program established by IATA to confirm that safety management by the airline is functioning effectively.

(2) Safety Assessment

The JAL Group summarizes underlying issues in order to assess the effectiveness of safety management functions and to make necessary improvements. Specifically, the Corporate Safety and Security Division, and the Flight Operations, Maintenance, Cabin Attendants, Airport Operations, Operations, and Cargo and Mail Divisions of Japan Airlines, and safety promotion organizations of Group airlines work together all year round to collect, analyze and assess wide-ranging information and identify issues. Information includes safety target achievement outcomes, progress of safety measures, business plans, safety awareness of employees, and initiatives based on advice from the Safety Advisory Group. Emphasis is placed on identifying issues that require strong management involvement, such as issues concerning safety awareness and the safety culture, which are difficult to grasp through internal audits. Issues are reflected in divisional and Group company safety policies for the following year and medium- to long-term initiatives.

Direct Communication between Employees and Management

Top management and executive officers of production divisions, i.e. Flight Operations, Maintenance, Cabin Attendants, Airport Operations, Operations, Cargo and Mail, actively visit frontlines and personally communicate with frontline staff. During the Semiannual Safety Campaign and Year-end and New Year Safety Inspection, executive officers of general managing departments, i.e. General Affairs, Accounting, Human Resources, also visit airports in Japan and overseas and production frontlines to show management's strong commitment to safety, encourage frontline staff, and listen to their comments.

In FY2020, management was unable to visit workplaces as frequently as before amidst COVID-19 to prevent the spread of infection. However, the officers were able to communicate with more employees than before including locally-hired staff overseas through online meetings. During the Year-end and New Year Safety Inspection, they strived to identify issues and communication risks on the frontline, under the theme, "Protect the Fortress of Safety."

Directors visited frontlines during the Semiannual Safety Campaign

Training and Examinations

To assure stable safety and quality standards, the following training and education programs are provided to pilots, maintenance engineers, cabin attendants, and dispatchers.

(1) Pilots

Pilots undergo various training and examinations and gain flight experience for over ten years to be promoted from trainee to co-pilot and captain. Even after becoming a co-pilot or captain, they are required by law to undergo training and examinations on a regular basis every year. Using a flight simulator, they receive training and take examinations in not only maneuvering but also responding to abnormal and emergency situations.
Previously, training and examinations focused on individual maneuvering skills (technical skills), such as accuracy in manual operation and maneuvering in case of engine failure. Recent training and examinations also emphasize content relating to modern aircraft operations. For example, pilots undergo practical training and examinations to acquire non-technical skills, in which the captain and co-pilot manage flight safely as a team based on an accurate situational awareness of trouble and changes during flight, and through the Competency(*) Based Training and Assessment (CBTA) program to gain skills to assure safety in any situation.


Flight simulator training

JAL has established a system for data-based training enhancements by storing training and examination data using IT.
Amidst COVID-19, we provided online training of certain lectures and continued training with sufficient infection control measures in place such as ventilation and disinfection.

(*) Competency; The concept of combining skills, knowledge, and attitude as behavioral indicators necessary for duties of cockpit crews.

(2) Maintenance Engineers

New employee training

After joining the company, maintenance engineers undergo education and training in a well-planned manner, acquire various qualifications including internal, Japanese and European qualifications, and continuously gain advanced knowledge and skills. While obtaining qualifications, maintenance engineers learn not only new technologies installed on state-of-the-art aircraft but also technological principles and changes to gain the ability to pursue and think over questions and problems. To deepen understanding and acquire skills for providing clearly understandable explanations, we introduced active learning, which is a learning method based on discussions and interactive communication, with the aim to improve fundamental skills. To achieve these objectives even during COVID-19, we introduced new training courses using Virtual Reality (VR) technology and online training. However, to fully demonstrate one's knowledge and skills, maintenance engineers need to have outstanding human qualities and personalities. In particular, all JAL Group maintenance engineers are expected to possess and maintain a strong sense of responsibility and mission for safety and quality through the following education and training.

- Training on human factors (Maintenance Resource Management (MRM) training: Training to improve communication and teamwork for prevention of problems and errors and to improve the ability to respond to them)
- Quality assurance training (Training to deepen understanding of quality assurance of aircraft maintenance and further raise awareness)
- Safety Forum (Education to reflect on the JAL Flight 123 accident and reaffirm the importance of maintenance for protecting the customers' precious lives)
- Education by grade (Education to nurture human resources aimed at clarifying and acquiring the role and abilities (*) required of each grade, from new hires to young and mid-level employees, group managers, managers, and senior management)

(*) Abilities; Situational awareness, communication, teamwork, leadership, etc.

(3) Cabin Attendants

Annual emergency training

Cabin attendants learn basic duties required of them as safety personnel through a practical training program so that they can think and act autonomously.
During regular emergency rescue training, they are trained on how to respond to an emergency landing (ditching), fire, sudden decompression, how to operate evacuation exit doors, and handle unruly and disruptive behaviors that pose threats to the safety of a person or the aircraft. In this training, all cabin attendants work to improve their ability to handle emergency situations through effective communication and building good relationships with pilots and other cabin attendants in responding to emergencies.
In addition, they receive cabin safety education on a regular basis to gain a correct understanding of safety procedures and relevant laws and regulations described in manuals.
We continued training even during the pandemic by limiting the number of participants and preventing infection.

(4) Dispatchers

Practical training

After joining the company, dispatchers undergo education and training on a wide range of subjects relating to aircraft, including aeronautical meteorology, aviation regulations, aircraft systems, and Air Traffic Control (ATC), and must pass competence tests for aircraft dispatchers, which is a national qualification. Afterwards, they must further increase their knowledge and skills through hands-on experience and training and pass the Company's practical and oral examinations in order to work as a JAL Group dispatcher. Even after passing these examinations, they must sit for examinations at regular intervals to check whether they have maintained knowledge and skills required of them.
Dispatchers also receive regular training, brush-up training, training when a new aircraft type is introduced, and training aboard a flight simulator to learn the pilot's perspective. In FY2020, examinations and certain education courses were conducted online to prevent the spread of COVID-19, and audio-visual materials, chat, and online tests were introduced for more effective training. Given major changes in the operating environment, dispatchers need to respond to various operation risks such as unprecedented natural disasters caused by climate change and earthquakes. To make quick decisions and proactively prevent human error, we also introduced education courses to improve communication skills, resilience (*) -based education, and a course to discuss in-flight events and improve decision-making skills. Through training, examinations, and daily operations, dispatchers support safe aircraft operations, while acquiring and improving their knowledge and skills on a wide range of subjects

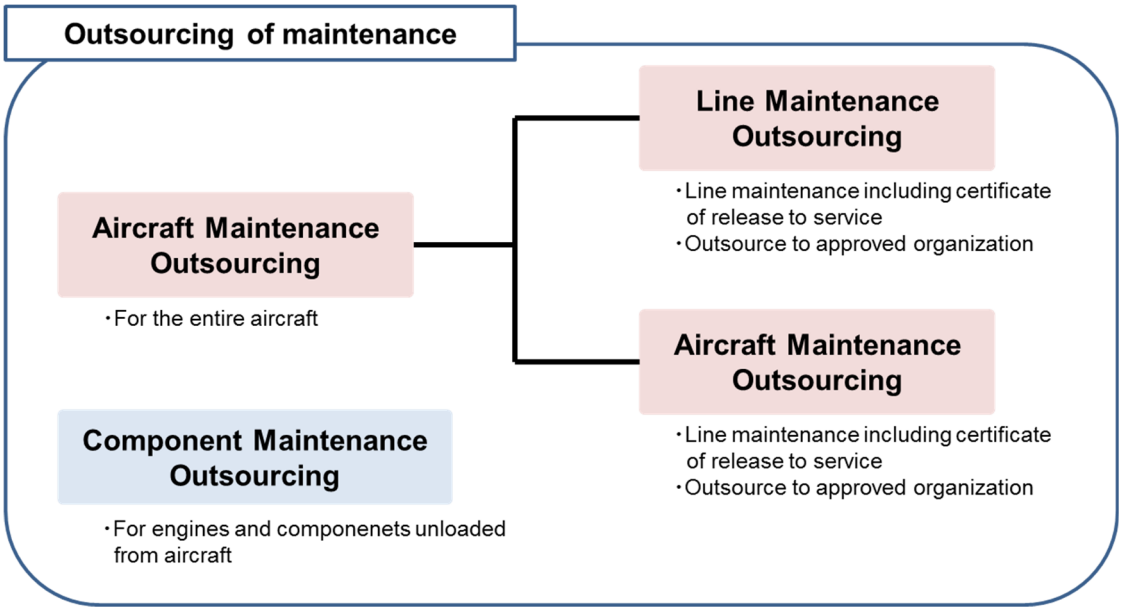
(*) Resilience; Flexibility of an individual or a team in responding to unexpected changes in the situation and recovering the original state.

Outsourcing of Aircraft Maintenance

(1) Outsourcing of Maintenance Work

The JAL Group partially outsources maintenance work to other JAL Group companies and companies outside the Group.

①Details of outsourcing

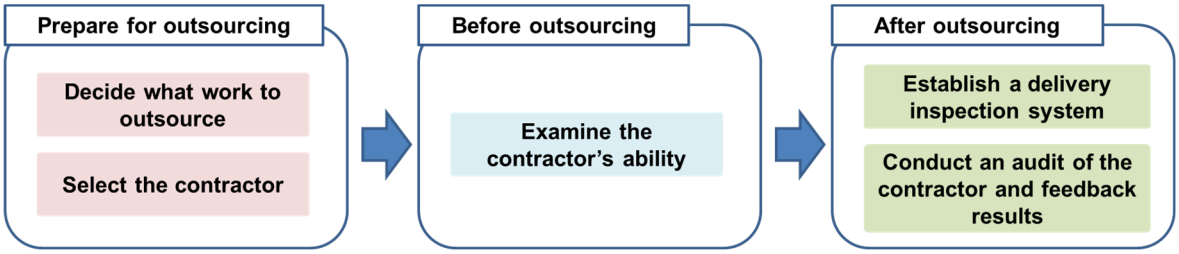


②Main contractors

Contractors (Aircraft Maintenance)		Contractors (Component Maintenance)
Line Maintenance	Aircraft Maintenance	
・Japan Transocean Air ・Japan Air Commuter ・Lufthansa Technik ・United Airlines ・American Airlines ・Air Canada ・Hong Kong Aircraft Engineering ・ST Engineering Aerospace Services ・KLM Royal Dutch Airlines	・Japan Transocean Air ・ST Engineering Aerospace Services ・Taikoo (Xiamen) Aircraft Engineering ・ST Aerospace (Guangzhou) Aviation Services ・Boeing ・Airbus	・All Nippon Airways ・General Electric ・Eagle Services Asia ・Mitsubishi Heavy Industries Aero Engines ・Jamco ・Domestic and international contractors and manufacturers such as SR Technics

③Management of outsourced work

When outsourcing aircraft maintenance, we select a contractor with experience as a service provider that is approved by the MLIT and examine whether they satisfy standards of the Company. Even after maintenance is outsourced, we conduct a delivery inspection of each maintenance job to inspect quality and audit the contractor regularly or as needed to confirm that they have maintained their maintenance standards.



(2) Outsourcing of Aircraft Maintenance Management

Pursuant to Article 113 Clause 2 of the Civil Aeronautics Act concerning the outsourcing of aircraft maintenance management (*1), the JAL Group partially outsources maintenance and maintenance management of JAL Group-owned aircraft to JAL Engineering and Japan Air Commuter. Maintenance services are provided according to the same safety standards of the respective company.

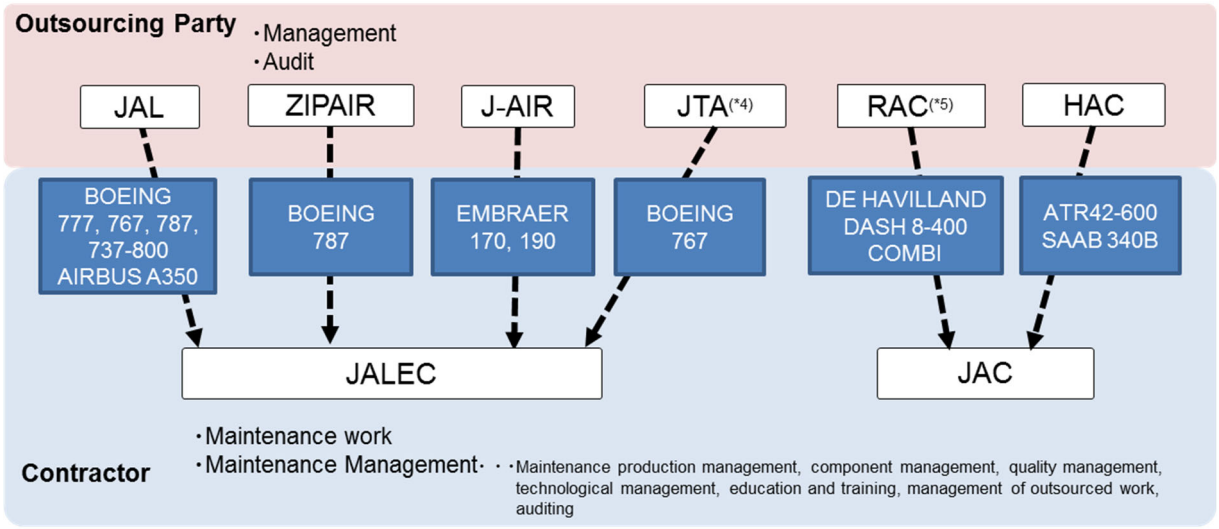
(*1) Outsourcing of aircraft maintenance management;
To outsource comprehensive management of aircraft maintenance including the authority to direct and supervise maintenance work.
All maintenance work and management of maintenance work (production management, component management, technological management, education and training, management of outsourcing, auditing) of aircraft outsourced to the contractor is performed according to the business plan of the outsourcing party.

Outsourcing Party	Contractor	Aircraft
Japan Airlines	JAL Engineering	BOEING 777・BOEING 767・BOEING 787・BOEING 737-800・AIRBUS A350
ZIPAIR Tokyo		BOEING 787
J-AIR		EMBRAER 170・EMBRAER 190
Japan Transocean Air(*2)		BOEING 767
Ryukyu Air Commuter(*3)	Japan Air Commuter	DE HAVILLAND DASH 8-400 COMBI
Hokkaido Air System		SAAB 340B・ATR42-600

(*2) Until March 27, 2021
(*3) Until September 30, 2020

When maintenance management is outsourced to a JAL Group company, the person responsible for management of the outsourcing party supervises everyday work and conducts a quality audit regularly (once a year). The contractor also assigns a person responsible for management, who closely exchanges information with the outsourcing party and ensures that maintenance work and maintenance management are performed appropriately. In this way, the JAL Group airlines coordinate to improve safety and quality even when maintenance management is outsourced.


Maintenance work by JAL Engineering



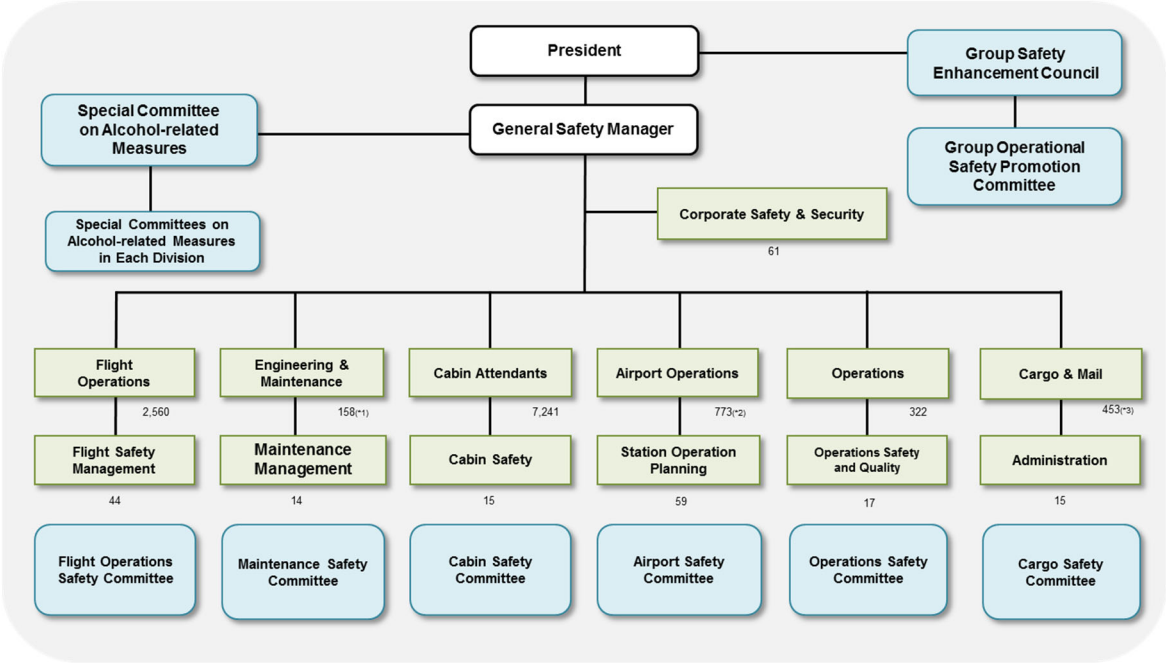
(*4) Until March 27, 2021
(*5) Until September 30, 2020

Safety Management Organizational Structure of Each Group Airline

Organizations and employees: as of March 2021 (excluding employees on leave)

(1) Japan Airlines

①Safety management organizational structure



(*1) The Maintenance Division has 4,356 employees including JAL Engineering employees. (Refer to page 33 for details of Outsourcing of Aircraft Maintenance.)
(*2) The Airport Operations Division has 9,464 employees including employees of 11 JAL Group companies such as JAL Sky and JAL Ground Service.
(*3) The Cargo and Mail Division has 1,407 employees including employees of six Group companies such as JAL Cargo Service.

②Number of pilots, maintenance engineers, qualified maintenance engineers, cabin attendants and dispatchers

	Number	Organization	Remarks
Pilots	2,224	Flight Operations	
Maintenance engineers	127(*4)	Engineering & Maintenance	Includes 103 qualified maintenance engineers (*5)
Cabin attendants	7,190	Cabin Attendants	
Dispatchers	90(*6)	Operations	

(*4) There are 3,133 employees engaged in maintenance including JAL Engineering employees, of which 1,725 are qualified maintenance engineers.
(*5) National qualifications of maintenance engineers are First Class Aircraft Maintenance Technician, First Class Aircraft Line Maintenance Technician and Aircraft Overhaul Technician.
(*6) There are 90 dispatchers including employees of JAL SKY.

③Safety management organizations

○Corporate Safety and Security Division

The Corporate Safety and Security Division is responsible for overseeing safety enhancement of Japan Airlines and the JAL Group. Its main roles are;

- To gather and provide safety information to the President and the General Safety Manager
- To establish, and plan and supervise the promotion of safety management policies and safety targets
- To coordinate safety management within the JAL Group
- To investigate accidents and serious incidents and establish measures
- To plan, establish, and coordinate safety and security training
- To conduct safety and security audits
- To investigate and conduct research on human factors

○Flight Operations, Maintenance, Cabin Attendants, Airport Operations, Operations, Cargo and Mail Divisions

Executive officers of production divisions chair the safety committee of their respective division, make overall judgment and decisions on operations affecting safety under their command, and report to the President and the General Safety Manager of the Company.
Each production division has its own safety management department (Flight Safety Management, Maintenance Management, Cabin Safety, Station Operation Planning, Operations Safety and Quality, Cargo and Mail Administration). Its main roles are;

- To establish safety policies and measures of the division
- To monitor the SMS of the division on a daily basis
- To raise safety awareness and conduct training and education within the division

○General Affairs Division

The General Affairs Division has established Disaster Handling Regulations to mitigate and prevent the spread of damage, maintain business activities, and achieve quick recovery of operations in the event of a disaster. It provides disaster prevention and response measures to ensure the safety of our employees, passengers, visitors, and directors, and preserve JAL Group assets in the event of a natural disaster such as fires, explosions, wind, flood and snow damage, earthquakes and tsunami triggered by an earthquake, volcanic eruptions, and other abnormal phenomena.
In addition, the Aircraft Accident Handling Manual clearly states the main role of the Senior Vice President of General Affairs.

- To plan and establish the policy, system, and measures for handling accidents and incidents of the JAL Group
- To advise the President on improvements to the accident and incident handling system
- To respond according to the initiation level of the accident and incident handling system under the President’s command
- To assume the position of Emergency Handling Team Leader when the Head Office Command Office is set up

④Safety Committees

Flight safety is achieved through the safety activities of each function in the Company, and mutual cooperation and coordination are a must. Therefore, the JAL Group has established various safety committees to grasp the status of daily operations and make necessary improvements based on information of occurrences in coordination with each function and organization.

○Group Safety Enhancement Council

The Group Safety Enhancement Council has been established to ensure aviation safety and promote safety management in accordance with the JAL Group Corporate Policy. It is composed of the President (Chair), the General Safety Manager, executive officers appointed by the President, and Presidents of Group airlines. Its main roles are;

- To establish important policies on safety management
- To grasp status and regularly review safety management
- To decide safety measures for daily operations
- To discuss important matters raised by the Group Operational Safety Promotion Committee

○Group Operational Safety Promotion Committee

The Group Operational Safety Promotion Committee, a sub-committee of the Group Safety Enhancement Council, has been established to improve safe air transport and safety of the JAL Group by maintaining and strengthening coordination for safety between divisions and Group airlines. It is composed of the Vice President of JAL Corporate Safety and Security (Chair), Vice Presidents of JAL safety management departments appointed by the Chair, and the General Safety Manager or executive officer in charge of safety of each Group airline. Its main roles are;

- To establish the basic policy and targets for flight safety
- To provide recommendations and advice on preventive measures based on analysis of serious hazards
- To grasp the status of activities of each production division and provide advice and guidance
- To provide staff with guidance on safety activities and discuss matters to raise safety awareness

○Special Committee on Alcohol-related Measures

The Special Committee on Alcohol-related Measures has been established to conduct alcohol risk management of pilots, cabin attendants, maintenance engineers, dispatchers, and drivers in the airport. It is composed of the General Safety Manager of JAL (Chair), Senior Vice President of Corporate Safety and Security, and executive officers of Flight Operations, Cabin Attendants, Engineering and Maintenance, Airport Operations, Operations, and Cargo and Mail, and other members. Its main roles are;

- To establish the policy on alcohol risks
- To make decisions and give instructions on alcohol risks
- To monitor and regularly review measures, and give instructions on necessary improvements
- To raise awareness of alcohol risks and provide education

○Special Committees on Alcohol-related Measures in Each Division

The Special Committees on Alcohol-related Measures in each division, which are sub-committees of the above Special Committee on Alcohol-related Measures, have been established to gather and analyze information and monitor measures established in each production division. It is chaired by the executive officer of each division and composed of the safety managing department of the division, related departments, and the Corporate Safety and Security. Its main roles are;

- To analyze incidents of alcohol detection and prevent recurrence
- To analyze the tendency of alcohol breath tests (within standards), and establish and disseminate necessary measures
- To implement alcohol risk measures as an organization

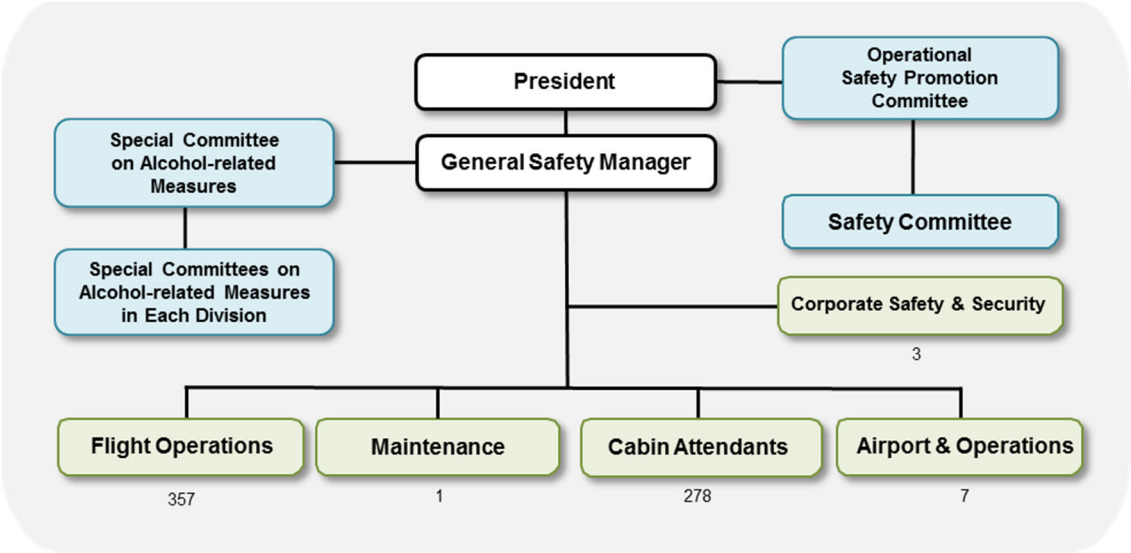
○Safety Committee of Each Division

(Flight Operations Safety Committee, Maintenance Safety Committee, Cabin Safety Committee, Airport Safety Committee, Operations Safety Committee, and Cargo Safety Committee)

These committees have been established to strengthen coordination for safety and decide safety policies within the production division.

(2) J-AIR

①Safety management organizational structure



②Number of pilots, cabin attendants and dispatchers

	Number	Organization	Remarks
Pilots	300	Flight Operations	
Cabin attendants	275	Cabin Attendants	
Dispatchers	36	Airport and Operations	Shared with JAL

(*) From April 2016、maintenance management has been outsourced to JAL Engineering.

③Safety management organization

The Safety Promotion Department is responsible for safety management of the Company.

④Safety Committees

○Operational Safety Promotion Committee

The committee is composed of the President (Chair), the General Safety Manager, full-time directors, and the executive officer in charge of safety management. It drafts, plans, coordinates, and provides recommendations and advice on aviation safety.
The President and the executive officer in charge of safety attend safety meetings of Japan Airlines, where they work closely together and share information, and disseminate the information to all employees.

○Safety Committee

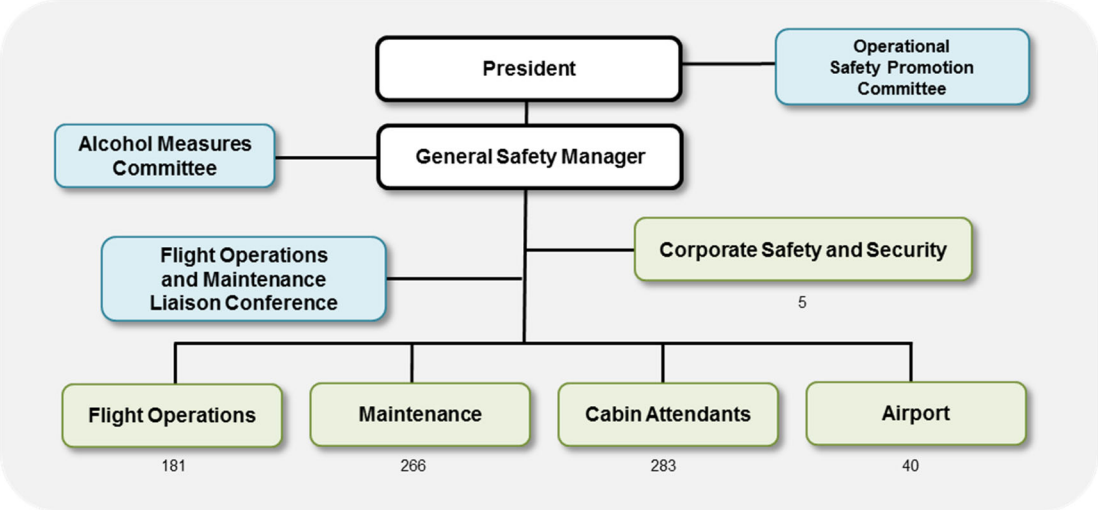
A sub-committee of the Operational Safety Promotion Committee, the committee is composed of employees of each division. It establishes and promotes safety enhancement measures through coordination between divisions.

○Special Committee on Alcohol-related Measures

The committee is operated under the responsibility and authority of the General Safety Manager in order to systematically and organizationally prevent alcohol-related incidents as part of efforts to rebuild alcohol-related measures.

(3) Japan Transocean Air

①Safety management organizational structure



②Number of pilots, qualified maintenance engineers, cabin attendants and dispatchers

	Number	Organization	Remarks
Pilots	144	Flight Operations	
Maintenance engineers	167	Maintenance	Of these, 116 employees are qualified for maintenance engineer
Cabin attendants	268	Cabin Attendants	
Dispatchers	16	Airport	Operations Control

③Safety management organization

The Safety Promotion Department is responsible for safety management of the Company.

④Safety Committees

○Operational Safety Promotion Committee

Chaired by the President, the committee is composed of the General Safety Manager, full-time directors, and the executive officer in charge of safety management. It plans, coordinates and provides advice on all matters relating to safe aircraft operations and aviation security matters from the Company's perspective, and promotes overall safety measures.
The President and officers in charge of safety attend safety meetings of Japan Airlines, where they work closely together and share information, and disseminate the information to all employees.

○Flight Operations and Maintenance Liaison Conference

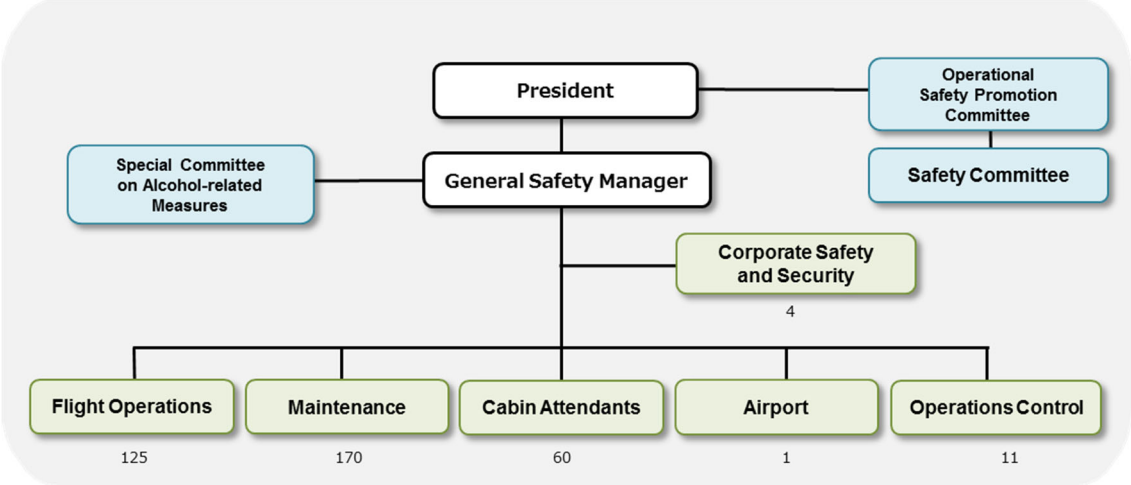
Chaired by an officer appointed by the President and composed of officers in charge of Flight Operations and Maintenance, the committee shares information, promotes communication and mutual understanding, and strengthens coordination between the two divisions to contribute to aviation safety.

○Alcohol Measures Committee

The committee is operated under the responsibility and authority of the General Safety Manager in order to systematically and organizationally prevent alcohol-related incidents as part of efforts to rebuild alcohol-related measures.

(4) Japan Air Commuter

①Safety management organizational structure



② Number of pilots, maintenance engineers, qualified maintenance engineers, cabin attendants and dispatchers

	Number	Organization	Remarks
Pilots	91	Flight Operations	
Maintenance engineers	111	Maintenance	Of these, 89 employees are qualified for maintenance engineer
Cabin attendants	60	Cabin Attendants	
Dispatchers	9	Operations Control	

③Safety Management Organization

The Safety Promotion Department is responsible for safety management of the Company.

④Safety Committees

○Operational Safety Promotion Committee

Chaired by the President and composed of the General Safety Manager, full-time directors, and leaders of organizations engaged in safety, the committee plans, coordinates, and provides recommendations and advice on aviation safety.
The President and the executive officer in charge of safety attend safety meetings of Japan Airlines, where they work closely together and share information, and disseminate the information to all employees.

○Safety Committee

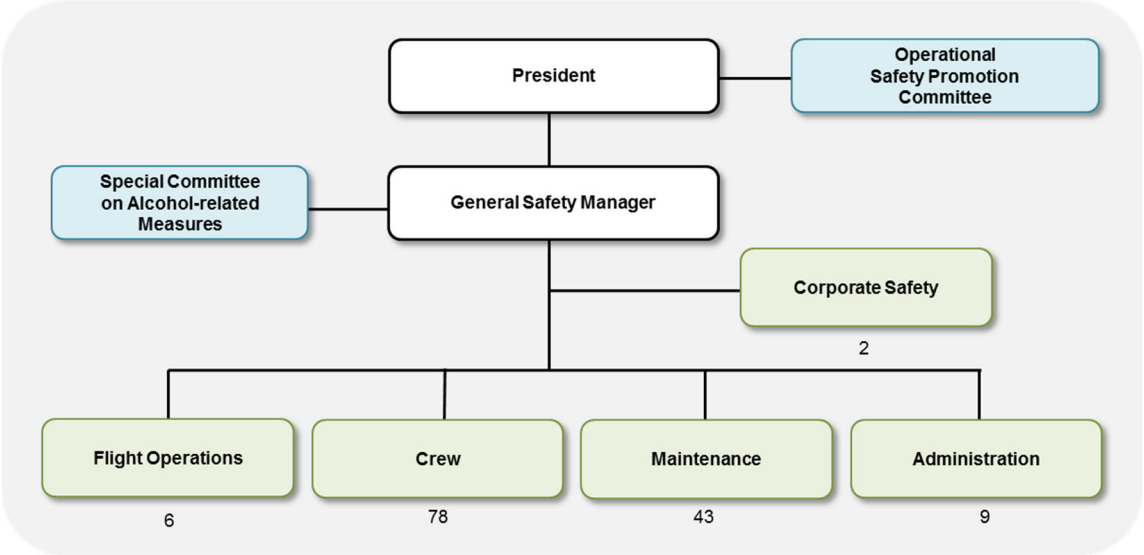
A sub-committee of the Operational Safety Promotion Committee, the committee is composed of employees of each division. It promotes communication between divisions, and drafts, coordinates and promotes safety enhancement measures.

○Special Committee on Alcohol-related Measures

The committee is operated under the responsibility and authority of the General Safety Manager in order to systematically and organizationally prevent alcohol-related incidents as part of efforts to rebuild alcohol-related measures.

(5) Ryukyu Air Commuter

①Safety management organizational structure



② Number of pilots, maintenance engineers, qualified maintenance engineers, cabin attendants and dispatchers

	Number	Organization	Remarks
Pilots	43	Crew	
Maintenance engineers	23	Maintenance	Of these, 14 employees are qualified for maintenance engineer
Cabin attendants	25	Crew	
Dispatchers	15	Flight Operations	Shared with JTA

③Safety Management Organization

The Safety Promotion Department is responsible for safety management of the Company.

④Safety Committees

○Operational Safety Promotion Committee

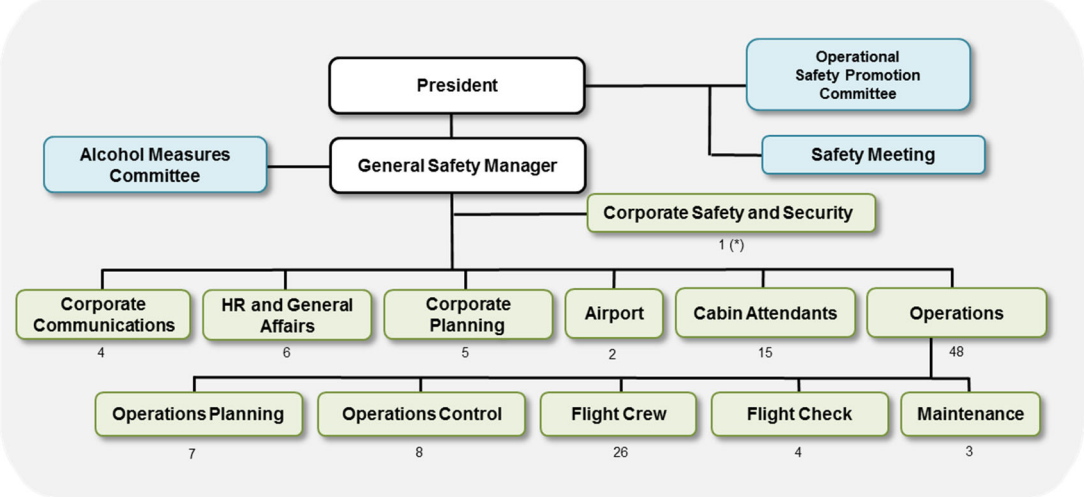
Chaired by the President, the committee is composed of the General Safety Manager, full-time directors, and members appointed by the President. It drafts, coordinates, and provides recommendations and advice on aviation safety.
The President and officers in charge of safety attend safety meetings of Japan Airlines and Japan Transocean Air, where they work closely together and share information, and disseminate the information to all employees.

○Special Committee on Alcohol-related Measures

The committee is operated under the responsibility and authority of the General Safety Manager in order to systematically and organizationally prevent alcohol-related incidents as part of efforts to rebuild alcohol-related measures.

(6) Hokkaido Air System

①Safety management organizational structure



(*) The Senior Vice President of Safety Promotion is the General Safety Manager.

② Number of pilots, maintenance engineers, qualified maintenance engineers, cabin attendants and dispatchers

	Number	Organization	Remarks
Pilots	29	Flight Crew	
Cabin attendants	15	Cabin Attendants	
Dispatchers	7	Operations Control	

(*) Since November 2007, duties of the General Safety Manager have been delegated to JAC.

③Safety Management Organization

The Safety Promotion Department is responsible for safety management of the Company.

④Safety Committees

○Operational Safety Promotion Committee

Chaired by the President, the committee is composed of executive officers from all divisions, and members appointed by executive officers. It plans, drafts, coordinates, and provides recommendations and advice on aviation safety.
The President and the executive officer in charge of safety attend safety meetings of Japan Airlines, where they work closely together and share information, and disseminate the information to all employees.

○Safety Meeting

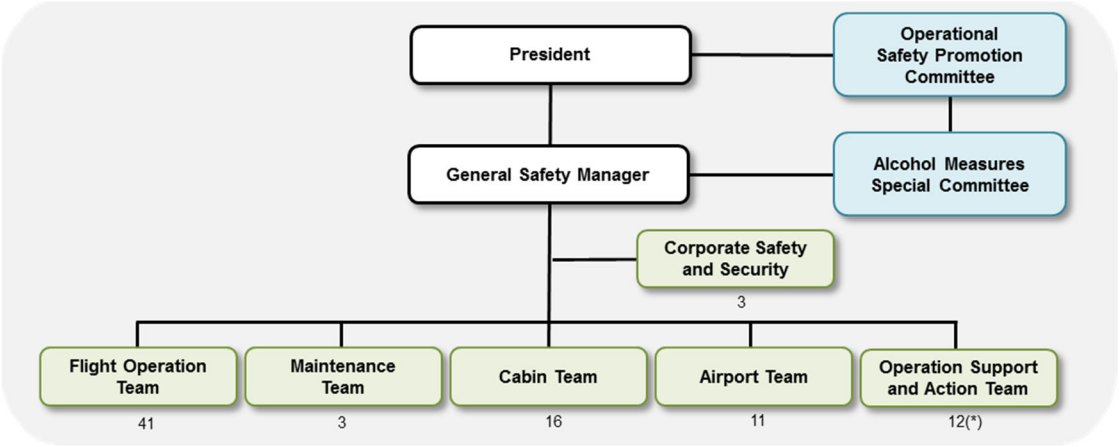
The committee is composed of the Safety Promotion Department and staff in charge of safety of frontline divisions. It has been established to drive the SMS from the frontline perspective.

○Alcohol Measures Committee

The committee is operated under the responsibility and authority of the General Safety Manager in order to systematically and organizationally prevent alcohol-related incidents as part of efforts to rebuild alcohol-related measures.

(7) ZIPAIR Tokyo

①Safety management organizational structure



(*) OSAT;Operation Support and Action Team

② Number of pilots, maintenance engineers, qualified maintenance engineers, cabin attendants and dispatchers

	Number	Organization	Remarks
Pilots	48	Flight Operation Team	
Cabin attendants	112	Cabin Team	
Dispatchers	35	Flight Operation Team	Shared with JAL

(*)Since December 2019, maintenance management has been outsourced to JAL Engineering.

③Safety Management Organization

The Safety Promotion Department is responsible for safety management of the Company.

④Safety Committees

○Operational Safety Promotion Committee

Chaired by the President, the committee is composed of all full-time directors including the General Safety Manager, the executive officer in charge of safety management, and the Vice Presidents of General Affairs, and Planning and Marketing. It plans, drafts, coordinates, and provides recommendations and advice on aviation safety and aviation security.

The President and the executive officer in charge of safety attend safety meetings of Japan Airlines, where they work closely together and share information, and disseminate the information to all employees.

○Alcohol Measures Special Committee

The committee is operated under the responsibility and authority of the General Safety Manager in order to systematically and organizationally prevent alcohol-related incidents as part of efforts to rebuild alcohol-related measures.

5. Cultivating a Safety Culture

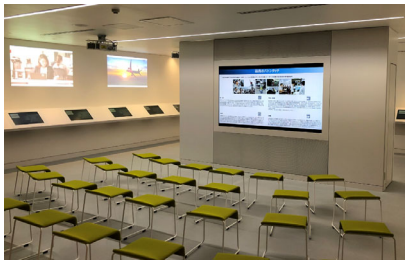
Safety Promotion Center

On August 12, 1985, JAL Flight 123 crashed on the ridge of Mt. Osutaka and 520 precious lives were lost. Facing the tragedy brought about by the accident, the suffering and sorrow of the bereaved, and public distrust in air safety, we vowed that such an accident would never happen again.

In response to recommendations from the Safety Advisory Group and wishes of the bereaved to exhibit aircraft debris of the accident and never again have such a tragic accident, the Safety Promotion Center was opened in April 2006 to prevent lessons from being forgotten and to reaffirm the importance of flight safety. In December 2013, the Safety Promotion Center was relocated to Haneda New Maintenance Center, where the display area was expanded, larger video monitors were installed, and the exhibit of aircraft debris was partially changed. Further, in 2020, JAL introduced digital signage in the archives room, containing information on JAL Group safety initiatives and aircraft accidents around the world. A special area for holding special exhibits and learning about other accidents was created to deliver in-depth safety learning.

In FY2020, tours for the public were suspended due to the spread of COVID-19, but we continued to provide Safety Education and tours for our employees. We have had 270,000 visitors from both inside and outside the Company over the 15 years since the center was opened. We will continue to use the Safety Promotion Center as the “foundation of safety” so that JAL Group employees keep in mind that we are entrusted with the precious lives of our customers in our work and to provide safe air travel that earns the trust of society.





Voice of an employee-guide of the Safety Promotion Center

Tomoaki Aiba
Corporate Safety and Security, Japan Airlines

The Safety Promotion Center is a safety education facility, which was established to meet the wishes of the bereaved to exhibit the “actual items,” that is, aircraft debris, personal belongings and last letters of the victims, never forget the lessons learned from the tragic accident, and reaffirm the importance of flight safety. As the years go by, there are fewer people who know about the situation at the time of the accident, that is, the “actual people.” I was born in the year of the accident and belong to the generation of people who do not know about the accident. But by listening to stories of the “actual people” and senior staff, reading records of the accident, and gaining a correct understanding, I can empathize with the bereaved. It is very important for all employees to face the accident by standing on Mt. Osutaka where the accident occurred (the “actual place”). I will do my best to serve as a guide so that every employee can think deeply and continuously about the preciousness of life.

The Safety Promotion Center is open to the public. (Tours are suspended to prevent the spread of COVID-19. (as of March 31, 2021))
For details, please visit the JAL website. (https://www.jal.com/en/flight/center/)

Safety Education

In order to maintain safety, which is the basic foundation for business continuity of the JAL Group, we provide employees with knowledge, skills and abilities necessary for daily operations and education to nurture employees with a high level of safety awareness.

(1) JAL Group Safety Education

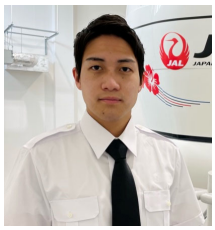
All JAL Group employees undertake Safety Education to learn about on-the-job safety associated with their duties and to foster awareness that safety is our basic foundation of business continuity. The aim of JAL Group Safety Education in FY2019 was to reaffirm the serious effects of alcohol consumption on safety and the crisis facing the Company. We took steps to raise safety awareness by setting up opportunities to think deeply on our conduct regarding the underlying problems identified by the internal Verification Committee.
JAL Group Safety Education in FY2020 was held jointly with JAL Philosophy workshops with the aim to think more intensely based on the JAL Philosophy and apply the Safety Charter in our work. Through individual work and group discussions, we aimed to foster a culture of “pointing out and reporting” and accumulating our safety layers.
As it was difficult to hold classroom lectures amidst COVID-19, we switched to online education, which enabled active discussion with staff in Japan and overseas whom we rarely have the chance to meet. This contributed to further raising safety awareness throughout the JAL Group.

(2) JAL Group Safety Seminar for New Employees

The JAL Group provides safety awareness education for new employees aimed at knowing, feeling and thinking about the Flight 123 accident and thinking deeply about what we need to do individually as persons concerned. Participants visit the Safety Promotion Center, climb the Osutaka ridge to pray for the souls of the deceased, watch video interviews of people who experienced the accident, and create their own safety pledge to put their thoughts into action and accumulate our safety layers.
In FY2020, we suspended the climb up the Osutaka ridge to prevent the spread of COVID-19, but instead focused on an online program. All new employees who have taken the seminar online will climb the Osutaka ridge next fiscal year onwards.


A scene of a memorial climb

Voice of a participant of the Safety Seminar for New Employees


Riku Shimizu
Pilot Training Department
Japan Air Commuter

I was not born at the time the Flight 123 accident, but my heart ached when I watched the video of the aircraft wreckage after the accident, read the last messages of the victims written on board, and learned of their feelings. As a JAL Group employee, I took this accident seriously, pondered on the lessons learned, and felt that we should never let such an accident happen again. I reaffirmed the preciousness of human lives and the importance of safety and vowed to raise awareness that we are entrusted with the precious lives of many people in our work and take responsibility for each action I take.

(3) JAL Group Safety Seminar for New Managers

A scene of the online seminar

The JAL Group provides safety awareness education for new managers to renew awareness of the relationship between the responsibility of leading staff as an organizational manager and safety.
By reviewing past accidents and studying the Principle of the Three Actuals, participants think about the relationship between their duties, the organization and safety from the standpoint of a manager and create their own safety pledge with the aim to foster and penetrate safety awareness.

(4) Safety Promotion Seminar

Safety Promotion Seminars are held for JAL Group employees and staff of contractors.
Staff participate voluntarily in this seminar, which provides an opportunity to raise safety awareness through a tour of the Safety Promotion Center and a climb up the Osutaka ridge.
In FY2020, the seminar was suspended to prevent the spread of COVID-19, but it will be resumed depending on the future situation.

A scene of a memorial climb

(5) JAL Group Emergency Evacuation Training

Based on lessons learned from the aircraft accident at New Chitose Airport in February 2016, we have conducted emergency evacuation training for all JAL Group employees since November 2016 to provide knowledge expected of all airline staff and raise safety awareness.
Training is composed of a classroom lecture on actions and responses in an emergency and practical training at the Emergency Rescue Training Center, such as sliding down an evacuation slide and learning the proper usage of life vests and oxygen masks.
In FY2020, a new training method using Virtual Reality (VR) technology and online training were introduced to provide an environment where employees can participate even under COVID-19 restrictions.

Sliding down the emergency evacuation slide

Learning the brace position

Learning how to operate doors in an emergency

Initiatives to Cultivate a Safety Culture

(1) Safety Talks ～ Stories to Pass On to Future Generations ～

As of the end of March 2021, more than 97% of all JAL Group employees had joined the Company after the Flight 123 accident. Based on recommendations of the Safety Advisory Group, we have held "Safety Talks: Stories to Pass On to Future Generations" since 2005 for employees to learn about past accidents through stories delivered by people who experienced the accident and apply lessons learned to future activities. In FY2020, we invited two persons to deliver talks; a local resident who assisted at the crash site and an employee at Haneda Airport who served customers that day and the following day.

(2) Communication Leader Meetings (CLM)

Employees from various divisions assemble from all over Japan to participate in CLM activities to promote voluntary and autonomous activities, foster an open corporate culture, and strengthen the frontline's capabilities.

In FY2020, activities were restricted due to the spread of COVID-19, but we returned to the starting point of this activity by holding online meetings on the theme “communication.” Colleagues with various occupations from different workplaces held discussions, worked autonomously to solve tangible and latent issues in the JAL Group, and briefed management of their activities. The members learned the importance of communication, returned to their workplaces, and are working actively as communication leaders.

(3) Awards for Employees

The JAL Group presents certificates of commendation to employees to foster a culture of praise and enhance safety awareness. In the "Fortress of Safety" category of JAL Awards, employees are awarded, for example, for proactively preventing occurrences affecting safe operation by acting in accordance with the Safety Charter or analyzing and reporting irregularities and contributing significantly to sharing knowledge and proactively preventing recurrence.

Presentation of the letter of appreciation
by the Senior Vice President
of Corporate Safety and Security Division

In addition to the above awards, the Senior Vice President of Corporate Safety and Security personally presents a letter of appreciation to employees for discovering abnormal situations and proactively preventing trouble.

6. Third-Party Assessment

Transportation Safety Management Assessment

In FY2020, Japan Airlines undertook a Transportation Safety Management Assessment (*1) conducted by the Minister's Secretariat of the Ministry of Land, Infrastructure, Transport and Tourism (MLIT). We received assessment, advice and expectations (*2) as below and will plan out responses to their advice and expectations.

(*1) Transportation Safety Management Assessment;
An assessment of all transportation modes (air, rail, marine, vehicles) conducted by the Minister's Secretariat of the MLIT to check the Safety Management System (SMS) of the company, and identify and advise improvements.
(*2) The assessment, advice and expectations;

【Assessment】
- Excellent points
- Points of originality and ingenuity
- Matters being tackled earnestly

【Advice】
- Matters to be further promoted to improve effectiveness
- Matters where improvement can be made
- Matters requiring continuous efforts for further improvement

【Expectation】
- Matters where further improvement in safety management can be expected, though not of an advisory level

(1) Japan Airlines (November 2020)

【Assesment】
- Top management plays a leading role in maintaining and improving the SMS.
  -Ensures communication through active dissemination of information to all employees.
  -Maintains safety awareness based on accurate risk assessment of COVID-19.
- Has continuously enhanced and strengthened safety initiatives.
  -Reorganized the Corporate Safety and Security Division (separated and integrated the four functions; planning, audit, education, research).
  -Accurately identifies issues and improvement measures, and plans and implements measures to solve issues.

【Advice】
- Improve internal audits centered on appropriateness of the Safety Management Manual and IATA standards. Start research and studies on measures for more effective internal audits, such as research on other companies and reexamining the system and effects of internal audits, e.g. an audit to check responses to risks, an audit to solve ways of responding to risks.

【Expectation】
- Regarding the Business Improvement Order for alcohol-related incidents, continue efforts to achieve mutual trust between management and frontlines
- Regarding the Business Improvement Order for alcohol-related incidents, provide correct knowledge on alcohol consumption and ways to prevent recurrence, and penetrate awareness.
- Regarding training on handling of aircraft accidents, provide knowledge and skills to employees, and consider measures to gain the shared understanding and cooperation of users.
- Regarding essential lessons to pass on to the next generation, prepare transmissible records and educational materials for continuous review.

(2) J-AIR, Japan Transocean Airlines, Japan Air Commuter, Ryukyu Air Commuter, Hokkaido Air System, ZIPAIR Tokyo

Through the FY2020 confirmation sheet regarding the current status of the SMS, the airlines provide status reports every fiscal year on top management and the General Safety Manager, who are the key persons for ensuring safety, and efforts to improve the SMS.

Safety Audit by the Authorities

In FY2020, the JAL Group airlines undertook a total of 57(*1) safety audits by the Japan Civil Aviation Bureau (JCAB), MLIT(*2). We analyzed the causal factors of the findings, which were assessed as inappropriate or requiring improvement, drafted measures for each item, and took corrective action such as the following;

- Appropriately established a management system for auditing contractors
- Appropriately established a management system for providing education and training on management of contractors
- Appropriately established reporting procedures of events which affect safety
- Appropriately established a risk assessment system for events which affect safety
- Appropriately established an education and training system on Aircraft Accident Handling Regulations

(*1) En route audits are not included
(*2) On-site Safety Audits by the Japan Civil Aviation Bureau (JCAB), MLIT;
An audit in which JCAB enters Head Office departments, bases of Flight Operations and Maintenance, training facilities, etc. to check the SMS of an airline and duties performed by each division such as Flight Operations and Maintenance.

Outside Directors and Outside Audit and Supervisory Board Members

The JAL Group has three Independent Outside Directors and three Independent Outside Audit and Supervisory Board Members, who provide objective advice and suggestions at Board meetings and other meetings on responses to the external environment and issues facing the Company.
At the Meeting of Independent Outside Directors to Exchange Opinions (*) held in FY2020, the members provided insight and precautions on the impact of the coronavirus on business and safety and security measures during the pandemic. They also checked the content, effectiveness, and progress of measures by each division to address the alcohol-related incidents. In particular, they raised the importance of instilling and passing on a safety culture so that these measures do not become a mere formality, collecting comments from the frontline, and providing mental care for every employee.
We will continue to apply their objective views to our initiatives for realizing the sustainable growth of the Company in an era of high volatility and uncertainty.

(*) Sponsored by the Lead Independent Outside Director and composed of Outside Directors and Outside Audit and Supervisory Board Members

Outside Director	Concurrent Positions
Eizo Kobayashi	Outside Director of OMRON Corporation Outside Director of Japan Exchange Group, Inc.
Masatoshi Ito	Chairman of Ajinomoto Co., Inc. Chairman of Japan Advertisers Association Outside Director of NEC Corporation
Sonoko Hatchoji	Outside Director of Daicel Corporation Outside Director of Maruha Nichiro Corporation
Outside Audit and Supervisory Board Member	**Concurrent Positions**
Osamu Kamo	Chief Lawyer of Ginza Law Office Outside Auditor of AZEARTH Corporation
Shinsuke Kubo	Managing Partner of Kyoei Accounting Office. Outside Auditor of KAWASAKI KISEN KAISHA, Ltd.
Joji Okada	Member of Financial Services Agency Governor (Outside) of Japan Exchange Regulation

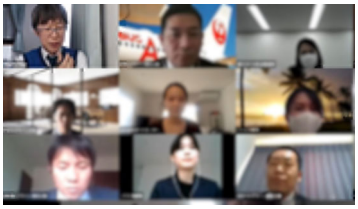
(as of March 31, 2021)

Safety Advisory Group

In August 2005, JAL requested five experts with extensive knowledge and experience in human factors, analysis of failures and defects, organizational management and culture, and safety to provide the Company with objective advice and recommendations. This external panel of experts, called the Safety Advisory Group, promptly compiled safety recommendations and submitted a report titled "Recommendations for Corporate Revitalization as a Company with High Safety Standards" in December 2005 and "New Recommendations to Protect the Fortress of Safety" in December 2009. (Both recommendations can be viewed on the JAL website.)
We have received advice annually. Especially, on the issuance of the second Business Improvement Order in 2019, the Safety Advisory Group pointed out that the root cause may be laxness in the safety culture (corporate structure and climate) of organizations and employees. We asked the experts to hold hearings and informal meetings with pilots and analyze records of hearings with individuals involved in the alcohol-related incidents. In March 2020, we received a proposal titled "Organizational and Awareness Reform using Lessons Learned from Alcohol-related Incidents."
Based on their recommendations, in FY2020 we worked to instill a collective norm on alcohol consumption such as setting up an Alcohol Awareness Month. The Flight Operations Division delved deeper into measures to raise awareness of safety and business ethics (conducting tours of the Safety Promotion Center by pilots acting as guides), and measures to increase job satisfaction and motivation (Happiness Challenge Project).
The Safety Advisory Group members visited 12 workplaces and talked mainly with frontline staff such as staff at airports outside Japan and Group companies. Later, a feedback meeting was held with JAL Group management in March, where we received valuable advice and recommendations on safety issues and precautions including problems arising from changes in society triggered by the pandemic.
The JAL Group will continue to utilize the advice and recommendations of the Safety Advisory Group in group management and safety initiatives.


Feedback Meeting


Workplace visit by Kunio Yanagida


Workplace visit by Shigeru Haga

Members of Safety Advisory Group	
Kunio Yanagida (Chair)	Non-fiction writer, critic
Yotaro Hatamura	Professor Emeritus at The University of Tokyo, Representative of Hatamura Institute for the Advancement of Technology Ltd Fields of expertise include nano and micro machining, production machining science, healthcare engineering, the science of failure, the science of danger, and the science of creativity.
Shinichi Kamata	Professor Emeritus at National Defense Academy of Japan Fields of expertise include organizational theory and business administration.
Shigeru Haga	Senior Technology Advisor at Research Institute for Social Safety, Professor Emeritus at Rikkyo University Fields of expertise include traffic psychology, industrial psychology and ergonomics
Akinori Komatsubara	Professor at Faculty of Science and Engineering of Waseda University Fields of expertise include human life engineering

IATA Operational Safety Audit (IOSA)

IOSA is an international safety audit program to verify that safety management by airlines is functioning effectively. All IATA member airlines are required to undertake the audit every two years, and non-member airlines can undergo an audit voluntarily.
In the JAL Group, JAL has been an IOSA registered airline since 2004, JTA since 2010, and J-AIR since 2016.
The next renewal audit is scheduled for 2022.


Certificate
of Registration
Japan Airlines Co., Ltd.
IOSA

IOSA Certificate (JAL)

7. Data

JAL Group Passenger Traffic Data

(1) International

Combined international traffic data of the JAL Group (JAL and ZIP)

	2020								2019
	Total Flights	Total Passengers	YoY (%)	RPK (000's)	Y.o.Y(%)	ASK (000's)	YoY (%)	L/F(%)	L/F(%)
America	2,716	102,264	6.8	970,615	6.8	5,733,408	34.6	16.9	85.9
Europe	1,388	45,196	6.0	410,605	6.1	2,627,110	32.9	15.6	84.7
Southeast Asia	3,654	163,721	4.8	681,248	5.2	3,323,537	19.6	20.5	83.5
Oceania	152	4,089	1.8	31,981	1.7	222,241	10.4	14.4	85.6
Hawaii/Guam	118	6,245	0.6	38,389	0.6	153,055	1.5	25.1	86.5
Korea	154	1,647	0.3	2,008	0.3	52,673	0.4	3.8	80.7
China	328	36,646	2.7	68,821	2.7	142,866	4.3	48.2	77.0
Total	8,510	359,808	4.0	2,203,666	4.8	12,254,891	22.1	18.0	84.5

Key
RPK= Revenue Passenger Kilometers
ASK= Available Seat Kilometers
L/F= Load Factor=RPK÷ASK
Note:
*Data includes sales by other airline partners on JAL operated flights.
*Starting FY2020, International Financial Reporting Standards (IFRS) will be applied, in which award tickets will being counted as revenue tickets. As a result, the figures listed above (Passengers, RPK, LF) will include passengers traveling with an award ticket.
*Starting FY2020, tickets sold as codeshare flights operated by a partner carrier will not be included in the data.
* YoY results show figures in direct comparison to the previous year. However, award tickets are excluded in FY2019 results.

(2) Domestic

Combined domestic traffic data of the JAL Group (JAL, J-AIR, JTA, JAC, RAC, HAC)

			2020						2019
			Total Flights	Total Passengers	YoY (%)	Number of available seats	YoY (%)	L/F(%)	L/F(%)
TOKYO(HANEDA)	-	OSAKA(ITAMI)	7,201	1,060,386	38.7	1,921,699	60.2	55.2	85.8
TOKYO(HANEDA)	-	OSAKA(KANSAI)	610	31,484	11.0	99,486	28.0	31.6	80.4
TOKYO(HANEDA)	-	SAPPORO(NEW CHITOSE)	6,828	1,058,578	32.7	2,055,984	52.1	51.5	82.0
TOKYO(HANEDA)	-	NAGOYA(CHUBU)	845	34,049	20.4	128,915	55.7	26.4	72.0
TOKYO(HANEDA)	-	FUKUOKA	7,469	1,098,505	33.9	2,249,845	56.4	48.8	81.2
TOKYO(HANEDA)	-	OKINAWA(NAHA)	6,348	1,103,672	41.4	2,218,044	70.1	49.8	84.3
TOKYO(HANEDA)	-	MEMANBETSU	1,210	91,735	29.4	195,552	47.6	46.9	76.0
TOKYO(HANEDA)	-	ASAHIKAWA	1,580	147,518	28.1	294,998	42.7	50.0	76.2
TOKYO(HANEDA)	-	KUSHIRO	1,122	93,160	32.8	201,197	52.0	46.3	73.5
TOKYO(HANEDA)	-	OBIHIRO	1,461	122,989	29.7	254,061	44.9	48.4	73.1
TOKYO(HANEDA)	-	HAKODATE	1,312	122,068	32.8	237,214	49.2	51.5	77.3
TOKYO(HANEDA)	-	AOMORI	1,813	127,449	22.6	283,452	40.0	45.0	79.7
TOKYO(HANEDA)	-	MISAWA	1,228	59,905	25.6	151,534	51.2	39.5	79.0
TOKYO(HANEDA)	-	AKITA	919	50,818	15.8	132,393	28.8	38.4	69.7
TOKYO(HANEDA)	-	YAMAGATA	594	15,735	15.3	56,430	41.8	27.9	76.3
TOKYO(HANEDA)	-	KOMATSU	1,786	158,193	23.9	307,952	36.7	51.4	78.8
TOKYO(HANEDA)	-	NANKI-SHIRAHAMA	1,501	84,197	48.0	202,921	81.9	41.5	70.7
TOKYO(HANEDA)	-	OKAYAMA	1,639	114,358	25.9	267,831	46.1	42.7	76.1
TOKYO(HANEDA)	-	IZUMO	1,955	166,141	28.1	329,749	45.3	50.4	81.2
TOKYO(HANEDA)	-	HIROSHIMA	2,626	219,804	28.6	478,871	43.6	45.9	70.0
TOKYO(HANEDA)	-	YAMAGUCHIUBE	1,229	64,904	20.1	200,016	43.1	32.4	69.5

			2020						2019
			Total Flights	Total Passengers	YoY (%)	Number of available seats	YoY (%)	L/F(%)	L/F(%)
TOKYO(HANEDA)	-	TOKUSHIMA	1,962	158,673	20.7	344,533	30.4	46.1	67.6
TOKYO(HANEDA)	-	TAKAMATSU	1,949	150,965	23.7	338,847	38.4	44.6	72.3
TOKYO(HANEDA)	-	KOCHI	1,899	121,386	28.7	293,622	50.2	41.3	72.3
TOKYO(HANEDA)	-	MATSUYAMA	1,989	131,473	24.7	302,886	43.2	43.4	75.8
TOKYO(HANEDA)	-	KITAKYUSHU	1,160	67,106	17.9	188,729	32.8	35.6	65.2
TOKYO(HANEDA)	-	OITA	1,949	151,146	25.9	328,749	41.9	46.0	74.3
TOKYO(HANEDA)	-	NAGASAKI	1,970	156,573	24.9	338,229	40.6	46.3	75.5
TOKYO(HANEDA)	-	KUMAMOTO	2,697	230,742	26.7	524,872	42.3	44.0	69.6
TOKYO(HANEDA)	-	MIYAZAKI	1,817	107,949	25.5	276,594	43.2	39.0	66.0
TOKYO(HANEDA)	-	KAGOSHIMA	2,859	263,790	28.8	583,266	46.0	45.2	72.2
TOKYO(HANEDA)	-	AMAMI-OSHIMA	628	40,786	41.7	86,434	73.8	47.2	83.5
TOKYO(HANEDA)	-	MIYAKO	604	62,234	61.0	100,236	85.4	62.1	86.9
TOKYO(HANEDA)	-	ISHIGAKI	1,068	101,305	48.4	180,732	74.4	56.1	86.1
TOKYO(HANEDA)	-	KUMEJIMA	127	4,689	30.4	14,025	88.5	33.4	97.3
TOKYO(NARITA)	-	OSAKA(ITAMI)	28	533	0.3	3,655	1.4	14.6	80.9
TOKYO(NARITA)	-	SAPPORO(NEW CHITOSE)	35	1,195	1.8	6,114	6.0	19.5	64.1
TOKYO(NARITA)	-	NAGOYA(CHUBU)	98	2,381	1.3	27,154	10.8	8.8	73.9
OSAKA(ITAMI)	-	SAPPORO(NEW CHITOSE)	2,161	188,646	44.1	320,376	62.7	58.9	83.8
OSAKA(ITAMI)	-	FUKUOKA	1,957	100,064	47.9	169,890	67.8	58.9	83.3
OSAKA(ITAMI)	-	OKINAWA(NAHA)	1,368	232,136	42.5	547,853	76.5	42.4	76.2
OSAKA(ITAMI)	-	MEMANBETSU	78	3,696	66.9	6,042	97.5	61.2	89.2
OSAKA(ITAMI)	-	ASAHIKAWA	62	3,666	44.1	10,188	110.3	36.0	89.9
OSAKA(ITAMI)	-	HAKODATE	298	17,050	31.3	28,158	41.5	60.6	80.3
OSAKA(ITAMI)	-	AOMORI	1,299	58,880	39.2	120,575	60.7	48.8	75.5
OSAKA(ITAMI)	-	MISAWA	394	14,598	34.8	37,430	63.4	39.0	71.0
OSAKA(ITAMI)	-	AKITA	985	34,270	28.0	87,989	44.3	38.9	61.5
OSAKA(ITAMI)	-	HANAMAKI	1,307	47,067	30.0	100,168	47.2	47.0	74.0
OSAKA(ITAMI)	-	YAMAGATA	968	31,043	27.4	73,986	46.1	42.0	70.6
OSAKA(ITAMI)	-	SENDAI	2,919	126,881	35.7	268,618	51.3	47.2	67.9
OSAKA(ITAMI)	-	NIIGATA	1,290	46,963	29.6	113,392	43.5	41.4	61.0
OSAKA(ITAMI)	-	MATSUMOTO	62	1,006	26.5	4,712	102.5	21.3	82.7
OSAKA(ITAMI)	-	TAJIMA	1,055	15,530	38.4	50,640	83.8	30.7	66.9
OSAKA(ITAMI)	-	IZUMO	1,228	43,838	28.0	97,698	45.2	44.9	72.5
OSAKA(ITAMI)	-	OKI	448	9,222	24.6	35,290	61.0	26.1	64.9
OSAKA(ITAMI)	-	MATSUYAMA	776	20,756	21.7	59,774	36.6	34.7	58.5
OSAKA(ITAMI)	-	OITA	1,072	37,785	32.1	83,144	51.1	45.4	72.3
OSAKA(ITAMI)	-	NAGASAKI	1,358	61,099	33.5	124,906	47.4	48.9	69.1
OSAKA(ITAMI)	-	KUMAMOTO	846	30,993	26.3	68,546	39.8	45.2	68.4
OSAKA(ITAMI)	-	MIYAZAKI	1,579	63,953	28.7	143,970	42.8	44.4	66.3
OSAKA(ITAMI)	-	KAGOSHIMA	2,887	128,064	39.7	260,447	57.1	49.2	70.8
OSAKA(ITAMI)	-	TANEGASHIMA	66	1,103	30.3	5,054	90.5	21.8	65.2
OSAKA(ITAMI)	-	YAKUSHIMA	608	15,731	63.4	29,184	90.8	53.9	77.2
OSAKA(ITAMI)	-	AMAMI-OSHIMA	664	37,180	39.5	71,814	56.0	51.8	73.3
OSAKA(ITAMI)	-	TOKUNOSHIMA	8	153	44.3	760	200.0	20.1	90.8
OSAKA(KANSAI)	-	SAPPORO(NEW CHITOSE)	751	52,992	19.6	123,348	35.2	43.0	77.0
OSAKA(KANSAI)	-	OKINAWA(NAHA)	1,277	76,187	28.2	210,540	58.6	36.2	75.1
OSAKA(KANSAI)	-	ISHIGAKI	491	38,708	44.8	81,015	70.3	47.8	75.0
SAPPORO(NEW CHITOSE)	-	MEMANBETSU	1,870	74,339	63.2	142,506	90.1	52.2	74.3
SAPPORO(NEW CHITOSE)	-	AOMORI	985	34,626	32.4	75,076	46.2	46.1	65.9
SAPPORO(NEW CHITOSE)	-	AKITA	387	9,660	16.8	29,412	27.8	32.8	54.3
SAPPORO(NEW CHITOSE)	-	HANAMAKI	808	24,150	26.1	61,408	39.4	39.3	59.3
SAPPORO(NEW CHITOSE)	-	SENDAI	1,727	75,630	33.6	136,038	41.9	55.6	69.2
SAPPORO(NEW CHITOSE)	-	NIIGATA	543	15,734	22.9	41,287	38.4	38.1	63.9
SAPPORO(NEW CHITOSE)	-	HIROSHIMA	507	31,767	37.9	87,382	74.1	36.4	71.0
SAPPORO(NEW CHITOSE)	-	IZUMO	36	1,556	29.0	4,830	86.1	32.2	95.8
SAPPORO(NEW CHITOSE)	-	TOKUSHIMA	26	1,253	34.7	3,578	83.4	35.0	84.1
SAPPORO(OKADAMA)	-	RISHIRI	692	14,680	70.2	26,232	99.6	56.0	79.4
SAPPORO(OKADAMA)	-	MEMANBETSU	134	1,953	---	4,848	---	40.3	---

			2020						2019
			Total Flights	Total Passengers	YoY (%)	Number of available seats	YoY (%)	L/F(%)	L/F(%)
SAPPORO(OKADAMA)	-	KUSHIRO	2,213	50,091	70.5	85,200	92.3	58.8	77.0
SAPPORO(OKADAMA)	-	HAKODATE	3,211	76,204	67.1	132,384	94.1	57.6	80.7
SAPPORO(OKADAMA)	-	MISAWA	348	5,269	27.5	13,764	52.3	38.3	72.9
HAKODATE	-	OKUSHIRI	624	7,457	65.9	22,632	98.7	32.9	49.4
NAGOYA(CHUBU)	-	SAPPORO(NEW CHITOSE)	1,677	129,160	32.6	275,382	51.8	46.9	74.5
NAGOYA(CHUBU)	-	OKINAWA(NAHA)	1,805	124,197	34.7	297,660	63.2	41.7	76.1
NAGOYA(CHUBU)	-	KUSHIRO	26	1,357	36.7	4,248	99.0	31.9	86.1
NAGOYA(CHUBU)	-	OBIHIRO	36	1,627	35.0	5,772	102.9	28.2	82.9
NAGOYA(CHUBU)	-	MIYAKO	8	585	---	1,320	---	44.3	---
NAGOYA(CHUBU)	-	ISHIGAKI	8	794	---	1,320	---	60.2	---
FUKUOKA	-	SAPPORO(NEW CHITOSE)	930	82,499	42.3	152,557	64.0	54.1	81.9
FUKUOKA	-	OKINAWA(NAHA)	2,528	202,184	37.5	417,120	58.9	48.5	76.1
FUKUOKA	-	HANAMAKI	330	9,939	27.8	25,080	46.8	39.6	66.8
FUKUOKA	-	SENDAI	896	39,163	39.1	84,417	61.8	46.4	73.4
FUKUOKA	-	IZUMO	1,013	15,955	38.2	50,304	81.4	31.7	67.5
FUKUOKA	-	TOKUSHIMA	619	15,535	25.0	47,082	44.2	33.0	58.4
FUKUOKA	-	KOCHI	634	19,758	26.9	48,222	44.4	41.0	67.7
FUKUOKA	-	MATSUYAMA	1,396	53,378	36.6	106,134	49.7	50.3	68.4
FUKUOKA	-	MIYAZAKI	2,393	88,389	29.8	181,982	48.6	48.6	79.4
FUKUOKA	-	KAGOSHIMA	626	10,199	52.1	30,804	100.0	33.1	63.5
FUKUOKA	-	YAKUSHIMA	463	11,713	57.4	22,224	70.8	52.7	65.0
FUKUOKA	-	AMAMI-OSHIMA	621	24,666	61.9	47,196	87.6	52.3	74.0
OKINAWA(NAHA)	-	KOMATSU	422	18,481	23.0	69,630	58.5	26.5	67.6
OKINAWA(NAHA)	-	OKAYAMA	486	19,670	20.5	79,860	64.9	24.6	77.9
OKINAWA(NAHA)	-	MIYAKO	4,776	356,560	47.7	702,605	72.2	50.7	76.7
OKINAWA(NAHA)	-	ISHIGAKI	3,938	268,956	49.5	579,580	68.7	46.4	64.4
OKINAWA(NAHA)	-	KITADAITO	352	11,321	85.8	17,600	98.0	64.3	73.5
OKINAWA(NAHA)	-	MINAMIDAITO	978	26,408	73.5	48,900	93.5	54.0	68.6
OKINAWA(NAHA)	-	YORON	721	16,931	50.0	36,050	84.3	47.0	79.2
OKINAWA(NAHA)	-	KUMEJIMA	3,962	130,088	53.3	243,820	70.9	53.4	71.0
OKINAWA(NAHA)	-	AMAMI-OSHIMA	368	6,168	30.3	18,400	53.6	33.5	59.3
OKINAWA(NAHA)	-	YONAGUNI	702	17,602	70.8	35,100	100.9	50.1	71.5
OKINAWA(NAHA)	-	OKINOERABU	673	12,682	53.3	32,304	97.3	39.3	71.7
IZUMO	-	OKI	666	14,466	67.6	32,976	110.3	43.9	71.6
KAGOSHIMA	-	MATSUYAMA	378	4,557	33.1	21,192	77.6	21.5	50.4
KAGOSHIMA	-	TANEGASHIMA	1,647	36,840	50.3	98,972	84.2	37.2	62.2
KAGOSHIMA	-	YAKUSHIMA	2,157	65,702	64.5	135,084	81.7	48.6	61.6
KAGOSHIMA	-	KIKAIJIMA	881	16,754	43.1	42,288	68.4	39.6	62.8
KAGOSHIMA	-	AMAMI-OSHIMA	3,352	128,231	61.3	230,978	64.6	55.5	58.5
KAGOSHIMA	-	TOKUNOSHIMA	2,099	69,824	50.0	136,800	67.0	51.0	68.4
KAGOSHIMA	-	OKINOERABU	1,346	39,040	54.2	83,022	74.2	47.0	64.4
KAGOSHIMA	-	YORON	659	14,410	47.5	44,502	94.6	32.4	64.4
AMAMI-OSHIMA	-	KIKAIJIMA	1,597	30,096	65.1	76,656	81.0	39.3	48.9
AMAMI-OSHIMA	-	TOKUNOSHIMA	1,332	27,116	64.8	63,936	98.6	42.4	64.6
AMAMI-OSHIMA	-	YORON	661	6,168	65.3	31,728	102.5	19.4	30.5
OKINOERABU	-	TOKUNOSHIMA	670	12,415	66.8	32,160	99.1	38.6	57.3
MIYAKO	-	ISHIGAKI	1,102	30,046	49.4	55,100	78.0	54.5	86.0
MIYAKO	-	TARAMA	1,012	24,573	53.3	50,600	73.2	48.6	66.7
ISHIGAKI	-	YONAGUNI	1,501	44,205	58.5	75,050	72.7	58.9	73.2
KITADAITO	-	MINAMIDAITO	349	10,687	92.2	17,450	101.2	61.2	67.3
Total			173,284	12,033,298	35.9	25,300,072	52.2	47.6	75.8

Key
L/F=Load Factor=RPK÷ASK

Note:
1. Excluding charter flights and codeshare flights

JAL Group Fleet and Aircraft

BOEING 777

Number of Aircraft: 37
Operator: JAL
Number of Seats: 236~500
Service Entry: CY1996
Average Age: 17.1
Average Yearly FH: 3,312
Average Yearly FC: 1,033

BOEING 767

Number of Aircraft: 31
Operator: JAL
Number of Seats: 199~261
Service Entry: CY 1985
Average Age: 14.1
Average Yearly FH: 2,961
Average Yearly FC: 1,133

BOEING 787

Number of Aircraft: 49
Operator: JAL, ZIP
Number of Seats: 161~290
Service Entry: CY 2012
Average Aircraft Age: 5.1
Average Yearly FH: 3,800
Average Yearly FC: 611

BOEING 737-800

Number of Aircraft: 61
Operator: JAL, JTA
Number of Seats: 144~165
Service Entry: CY 2006
Average Aircraft Age: 9.6
Average Yearly FH: 2,367
Average Yearly FC: 1,789

AIRBUS A350

Number of Aircraft: 8
Operator: JAL
Number of Seats: 369~391
Service Entry: CY 2019
Average Aircraft Age: 1.2
Average Yearly FH: 1,494
Average Yearly FC: 985

EMBRAER 190

Number of Aircraft: 14
Operator: J-AIR
Number of Seats: 95
Service Entry: CY 2016
Average Aircraft Age: 3.8
Average Yearly FH: 1,356
Average Yearly FC: 1,247

EMBRAER 170

Number of Aircraft: 18
Operator: J-AIR
Number of Seats: 76
Service Entry: CY 2008
Average Aircraft Age: 9.2
Average Yearly FH: 1,193
Average Yearly FC: 1,475

ATR 72-600

Number of Aircraft: 2
Operator: JAC
Number of Seats: 70
Service Entry: CY 2018
Average Aircraft Age: 2.2
Average Yearly FH: 1,694
Average Yearly FC: 1,801

ATR 42-600

Number of Aircraft: 8
Operator: JAC, HAC
Number of Seats: 48
Service Entry: CY 2017
Average Aircraft Age: 2.8
Average Yearly FH: 1,652
Average Yearly FC: 2,068

DE HAVILLAND DASH 8-400 CARGO COMBI

Number of Aircraft: 5
Operator: RAC
Number of Seats: 50
Service Entry: CY 2016
Average Aircraft Age: 4.3
Average Yearly FH: 1,741
Average Yearly FC: 2,423

SAAB 340B

Number of Aircraft: 3
Operator: HAC
Number of Seats: 36
Service Entry: CY 1992
Average Aircraft Age:22.7
Average Yearly FH: 2,149
Average Yearly FC: 3,016

*About Average Aircraft Age
Aircraft can be used almost permanently if they are properly maintained according to their age. High aircraft age does not directly affect safety. All JAL Group aircraft are properly maintained with the maintenance program recommended by the manufacturer and approved by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), and maintained in good quality.
*About Average Yearly FH (Flight Hour) and Average Yearly FC (Flight Cycle)
Figures are derived by dividing flight hours and flight cycles per year by the number of aircraft as of March 31, 2021.

– About This Report –

The JAL Group Safety Report FY2020 is a safety report prepared by the seven airlines of the JAL Group in accordance with Article 111, Paragraph 6 of the Civil Aeronautics Act.

【Period Covered by this Report】
April 1, 2020 to March 31, 2021. Some items are related to matters occurring before or after this period.

【Scope of This Report】
This report covers the seven JAL Group airlines listed on the front cover. However, some topics are limited to Japan Airlines. Information on safety initiatives of each company can be viewed on the following websites.

Company (abbreviation)	URL
Japan Airlines (JAL)	http://www.jal.com/en/flight/
J-AIR (J-AIR)	http://www.jair.co.jp/about/safety.html (in Japanese only)
Japan Transocean Airlines (JTA)	https://jta-okinawa.com/safety/ (in Japanese only)
Japan Air Commuter (JAC)	http://www.jac.co.jp/company_info/safety.html (in Japanese only)
Ryukyu Air Commuter (RAC)	https://rac-okinawa.com/safety/ (in Japanese only)
Hokkaido Air System (HAC)	https://www.info.hac-air.co.jp/wp-content/uploads/2019/04/hacsafetyreport201904.pdf (in Japanese only)
ZIPAIR Tokyo (ZIP)	http://www.zipairtokyo.com/ja/safety/(in Japanese only)

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Japan Airlines Co., Ltd.
J-AIR Co., Ltd.
Japan Transocean Air Co., Ltd.
Japan Air Commuter Co., Ltd.
Ryukyu Air Commuter Co., Ltd.
Hokkaido Air System Co., Ltd.
ZIPAIR Tokyo Co., Ltd.