

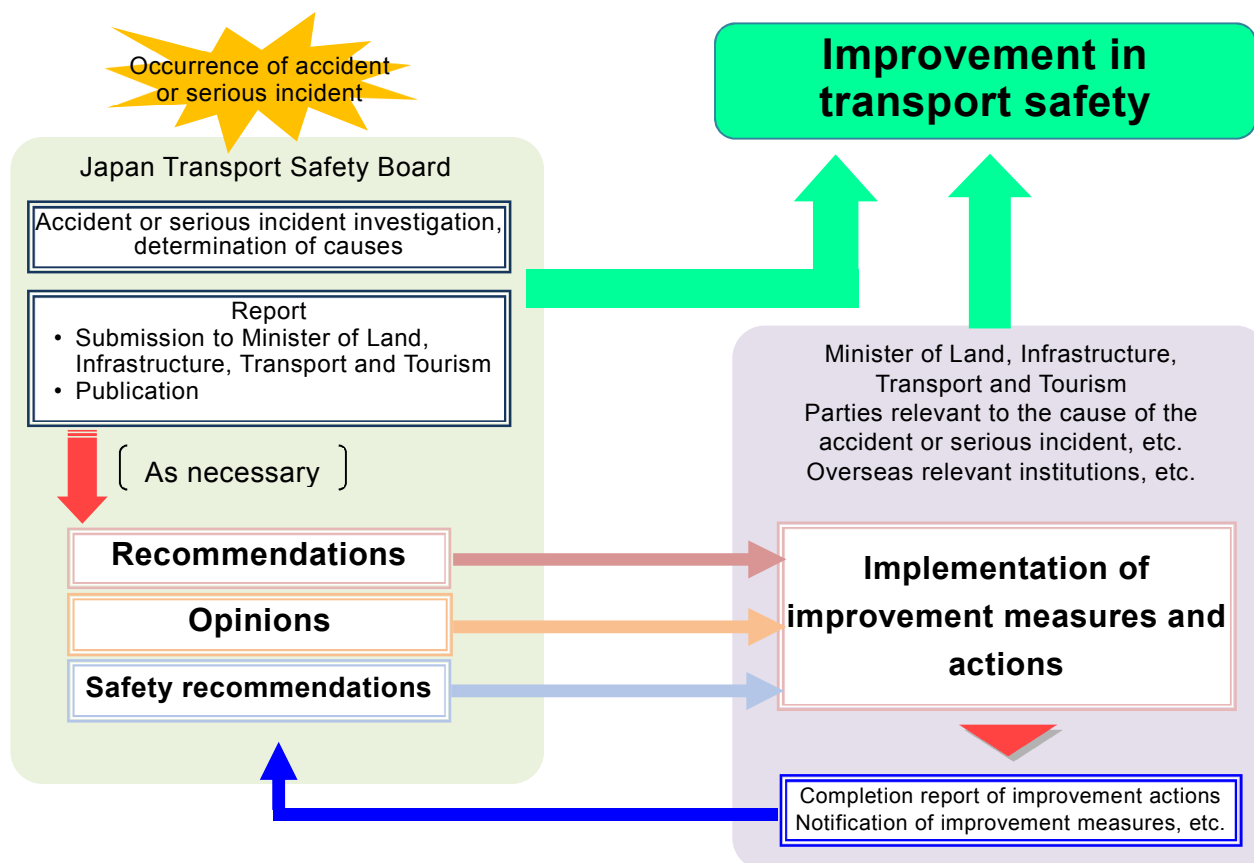
Chapter 1 Summary of recommendations and opinions issued in 2017

In order to fulfill the objectives of the law specified in Article 1 of the Act for Establishment of the Japan Transport Safety Board (hereinafter referred to as “Establishment Act”), the Japan Transport Safety Board has been established as an external bureau of the Ministry of Land, Infrastructure, Transport and Tourism based on the regulations of Paragraph 2, Article 3 of the National Government Organization Act (Article 3 of the Establishment Act). Its duty is to accurately conduct investigations identifying the causes of aircraft, railway, and marine accidents and serious incidents, as well as the causes of damage occurring due to those accidents and serious incidents, while also requesting required measures and actions to be taken by the Minister of Land, Infrastructure, Transport and Tourism or parties relevant to the causes of accidents or serious incidents, based on the results of its investigations (Article 4 of the Establishment Act).

Specifically, the Japan Transport Safety Board has the ability to give recommendations to the Minister of Land, Infrastructure, Transport and Tourism or parties relevant to the causes of accidents or serious incidents, regarding measures that should be taken for the prevention of accidents or serious incidents, or for reducing their damage, based on the results of its accident investigations. The Minister of Land, Infrastructure, Transport and Tourism must provide notifications to the Japan Transport Safety Board on measures that have been taken based on its recommendations, and if parties relevant to the causes of accidents or serious incidents do not take measures in response to recommendations that have been given, the Japan Transport Safety Board has the ability to publicly disclose that fact (Articles 26 and 27 of the Establishment Act).

In addition to actions based on individual accident investigation results, if it is recognized to be necessary at an interim stage of investigations or from investigation results of multiple past accidents, the Japan Transport Safety Board has the ability to state its opinions to the Minister of Land, Infrastructure, Transport and Tourism or the directors of related government institutions regarding measures that should be taken to prevent accidents or serious incidents and to reduce their damage (Article 28 of the Establishment Act).

In the cases of aircraft and marine accidents and serious incidents, the Japan Transport Safety Board may provide recommendations (safety recommendations) on measures that should be taken quickly in order to improve safety, to related overseas institutions or parties as necessary in any stage of accident investigations, based on international treaties.



The recommendations and safety recommendations issued by the Japan Transport Safety Board in 2017 are summarized as follows.

There were no opinions issued.

1 Recommendations

(1) Aircraft Accident involving a privately owned PIPER PA-46-350P, registered JA4060

(Recommendations on July 18, 2017)

Summary of the Accident

On Sunday, July 26, 2015, at around 10:58 Japan Standard Time (JST: UTC + 9 hrs: unless otherwise stated, all times are indicated in JST using the 24-hour clock), a privately owned Piper PA-46-350P, registered JA4060, crashed into a private house at Fujimi Town in Chofu City, right after its takeoff from Runway 17 of Chofu Airport. There were five people on board, consisting of a captain and four passengers. The captain and one passenger died and three passengers were seriously injured. In addition, one resident died and two residents had minor injuries.

The aircraft was destroyed and a fire broke out. The house where the aircraft had crashed into were consumed in a fire and neighboring houses sustained damage due to the fire and other factors.

Probable Causes

It is highly probable that this accident occurred as the speed of the Aircraft decreased during takeoff and climb, which led the Aircraft to stall and crashed into a residential area near Chofu Airport.

It is highly probable that decreased speed was caused by the weight of the Aircraft exceeding the maximum takeoff weight, takeoff at low speed, and continued excessive nose-up attitude.

As for the fact that the Captain made the flight with the weight of the Aircraft exceeding the maximum takeoff weight, it is not possible to determine whether or not the Captain was aware of the weight of the Aircraft exceeded the maximum takeoff weight prior to the flight of the accident because the Captain is dead. However, it is somewhat likely that the Captain had insufficient understanding of the risks of making flights under such situation and safety awareness of observing relevant laws and regulations.

It is somewhat likely that taking off at low speed occurred because the Captain decided to take a procedure to take off at such a speed; or because the Captain reacted and took off due to the approach of the Aircraft to the runway threshold.

It is somewhat likely that excessive nose-up attitude was continued in the state that nose-up tended to occur because the position of the C.G. of the Aircraft was close to the aft limit, or the Captain maintained the nose-up attitude as he prioritized climbing over speed.

Adding to these factors, exceeding maximum takeoff weight, takeoff at low speed and continued excessive nose-up attitude, as the result of analysis using mathematical models, it is somewhat likely that the decreased speed was caused by the decreased engine power of the Aircraft; however, as there was no evidence of showing the engine malfunction, it was not possible to determine this.

Recommendations to the Minister of Land, Infrastructure, Transport and Tourism

In this accident, small private aircraft crashed into a residential area and caused injury to residents as well as damages to houses, however the Aircraft was flying with exceeding the maximum takeoff weight and without satisfying the requirements for performance prescribed in the flight manual, and over the past five years, there have been two fatal accidents involving small private aircraft affected by inappropriate weight and position of the center of gravity of the aircraft ((1) Mooney M20C, JA3788, which crashed when landing at Yao Airport in March 2016, and (2) Cessna 172N Ram, JA3814, which veered off the runway of Otone Airfield, Kawachi Town, Inashiki-gun, Ibaraki Prefecture, and made a fatal contact with a ground worker in August 2012). In view of the result of these accident investigations, as operation safety of small private aircraft needs to be improved, the Japan Transport Safety Board recommends the Minister of Land, Infrastructure, Transport and Tourism pursuant to Article 26 of the Act for Establishment of the Japan Transport Safety Board to take the following measures:

- (1) Promote pilots of small private aircraft to understand the importance to confirm that requirements for performance prescribed in the flight manual are satisfied, in addition to the importance to comply with maximum takeoff weight and limit for the position of the center of gravity, as confirmation before departure, at the occasions like specific pilot competency

assessments and aviation safety seminars.

Enforce instructions and trainings to pilots of small private aircraft to plan the actions in advance including to follow the emergency procedure prescribed in the flight manual and confirm these actions thorough self-briefing by a pilot himself at the time of preparation before departure. along with compliance with the speed and procedure prescribed in the flight manual, as for the actions to the situation of degraded flight performance due to lack of acceleration or decrease in speed during takeoff.

- (2) Study and compile the cases of effective measures connecting entrance taxiways to runway thresholds in order to make maximum use of runway length and inform aerodrome providers and administrators of these case studies as maximum use of runway length at takeoff, will allow a pilot to have a margin to make a decision during takeoff roll and contribute to improving safety.

(2) Collision involving the Passenger Ship BEETLE and a Marine Life

(Recommendations on July 27, 2017)

Summary of the Accident

A passenger ship BEETLE, with a captain, a chief officer and five crews on board and carrying 184 passengers, collided with a marine life at around 09:54 on January 8, 2016 when she was proceeding off the west of Kami Shima, Tsushima City, Nagasaki Prefecture toward the Port of Hakata from the Port of Busan at 40 knots, with lifting the hull of the ship above sea level by lift force of hydrofoil wings.

Three of the passengers were seriously injured by a lumbar vertebra compressed fracture etc., and four of the passengers and two of the cabin crews suffered minor injuries. Two shock absorbers on the bow stretched out, and then BEETLE returned to the Port of Busan in hullborne mode.

Probable Causes

Concerning the accident, it is probable that BEETLE collided with a marine life in spite of a rudder turn since the marine life was discovered in the proximity during the maneuver at a cruising speed (40 km).

It is somewhat likely that discovering the marine life in the proximity is associated with the captain not directing enhancement of lookout by four persons of a captain, a chief engineer, a chief officer, and a first engineer, suspension of inboard sales by cart, seating of cabin crews, and implementation of airing of seat belt wearing to passengers, in addition to decelerated maneuver at 36 – 38 kn (cetacean-cautious maneuver) as well as navigating without enhancing lookout.

It is probable that the reason why the captain did not direct cetacean-cautious maneuver was that Company A had not established operating guidelines of cetacean-cautious maneuver in the safety management rules and was not thoroughly disseminating them, had informed the allowable delay time associated with implementation of decelerated maneuver, and did not have a grasp of the implementation status of cetacean-cautious maneuver.

Recommendations to the JR KYUSHU JET FERRY INC.

Concerning the accident, it is probable that the passenger ship BEETLE collided with a marine life when she was sailing in a reduction area at a cruising speed, passengers who were not appropriately using a seat belt, passengers who had their tables set up with wearing a seat belt, and cabin crews who were engaged in inboard sales by cart and others.

It is probable that JR KYUSHU JET FERRY INC. had not established operating guidelines of cetacean-cautious maneuver such as decelerated maneuver, enhancement of lookout for marine animals, suspension of inboard sales by cart, and implementation of dissemination of seat belt wearing to passengers in safety management rules, and had not thoroughly disseminated them, had informed allowable delay time associated with implementation of decelerated maneuver, and had not grasped an implementation status of cetacean-cautious maneuver.

In view of the result of this accident investigation, the Japan Transport Safety Board recommends JR KYUSHU JET FERRY INC. pursuant to paragraph (1) of Article 27 of the Act for Establishment of the Japan Transport Safety Board as follows:

JR KYUSHU JET FERRY INC. must take the following actions in order to ensure safety of passenger transportation.

- (1) Prescribe implementation of cetacean-cautious maneuver in safety management rules.
- (2) Make each ship enforce cetacean-cautious maneuver in setup reduction areas.
- (3) Establish an administration system capable of grasping an implementation status of cetacean-cautious maneuver in each ship.
- (4) Accelerate mounting of shock-absorbing material in passenger cabins and storing of table at cetacean-cautious maneuver.

2 Safety Recommendations

(1) Collision between the Container Ship SINOKOR INCHEON and the Fishing Vessel TOSHIMARU

(Safety Recommendations on March 30, 2017)

Summary of the Accident

While container ship SINOKOR INCHEON was proceeding east toward Mishima-Kawanoe Port, Shikokuchuo City, Ehime Prefecture, with a master and a second officer and other 15 crew members onboard, and while fishing vessel TOSHIMARU was proceeding north-northwest toward Mitajiri District of Mitajiri-Nakanoseki Port, Hofu City, Yamaguchi Prefecture, with a skipper onboard, the two Ships collided at around 23:56 on February 19, 2016, off to the east of Hime Shima, Himeshima Village, Oita Prefecture.

TOSHIMARU received a hole and other damage to her port -side center shell plating and capsized, becoming a total loss. Her skipper was killed.

SINOKOR INCHEON had abrasions on her bulbous bow.

Probable Causes

It is probable that, off the eastern coast of Hime Shima at night, while SINOKOR INCHEON was proceeding east and TOSHIMARU was proceeding north-northwest, the SINOKOR INCHEON and TOSHIMARU collided because second officer of SINOKOR INCHEON was not keeping lookout on TOSHIMARU because he thought there was no danger of a collision with TOSHIMARU, and because Skipper of TOSHIMARU did not notice of SINOKOR INCHEON until SINOKOR INCHEON had come close to TOSHIMARU.

It is probable that second officer of SINOKOR INCHEON thought that there was no danger of colliding with TOSHIMARU because, when he extended the radar's true speed vectors, he found that the tip of TOSHIMARU's vector reached a point behind the tip of SINOKOR INCHEON's vector.

It is somewhat likely that Skipper of TOSHIMARU did not notice SINOKOR INCHEON until SINOKOR INCHEON had come close to TOSHIMARU because Skipper of TOSHIMARU had accumulated fatigue; however, it was not possible to determine the situation of lookout as Skipper of TOSHIMARU was killed in this accident.

Safety Recommendations to the KOREA SHIPMANAGERS CO., LTD.

In view of the result of this accident investigation, the Japan Transport Safety Board recommends that KOREA SHIPMANAGERS CO., LTD. should take the following measures.

Instruct all crews on board operating ships to thoroughly comply with "STANDARDS REGARDING WATCHKEEPING" of the mandatory regulations of the STCW convention, the Safety Management Manual and Master's Standing Order, including keeping appropriate lookout.

(2) Grounding of Cargo Ship CITY

(Safety Recommendations on September 28, 2017)

Summary of the Accident

When a cargo ship CITY, with a master and 17 persons on board, was riding a single-anchor near the Port of Sakata in Sakata City, Yamagata Prefecture, a wind velocity increased and though she hove up anchor and attempted to standing out to sea, she was driven by a pressure, and stranded on a tetrapod at around 05:09 on January 10, 2016 near the Port of Sakata.

Though the CITY swamped to the position of the bridge of her hull and became total loss, there was no fatality.

Probable Causes

It is probable that the accident occurred because weather and sea information was not appropriately obtained on the CITY during anchorage in the waters off the Port of Sakata under the condition of anticipated a wind with a maximum speed of 15 m/s and about 2.8-meter-high waves and the master did not have a grasp of the seaworthiness of the CITY, she missed the timing for evacuating to a safe water area, and although she heaved up anchor and tried to head out to sea, the speed necessary to keep the course and the ship became unable to maneuver, and ran on a wave-absorbing blocks.

It is probable that the reason why the master did not appropriately obtain weather and sea information because the master thought there was no sign of worsening weather seeing Asian Pacific surface analysis charts and coastal wave analysis charts.

It is probable that the reason why the master did not have a grasp of the seaworthiness of the ship was because the safety management manual of Trans Ocean Shipping Co., Ltd. did not describe about seaworthiness such as limiting clutch force and limit wind speed in a ballasted condition and a limit of ship maneuvering for course keeping considering a wind pressure and output power of the main engine in the said condition.

Safety Recommendations to the Trans Ocean Shipping Co., Ltd.

It is probable that the accident occurred as a result of the course of events that the CITY had not appropriately obtained weather and sea information during her anchorage and that she missed the timing of evacuating to a safe water area because the master did not have a grasp of seaworthiness of the ship due to lack of descriptions about seaworthiness such limiting clutch force and limit wind speed in a ballasted condition and a limit of ship maneuvering for course keeping considering a wind pressure and output power of the main engine in the said condition in the safety management manual of Trans Ocean Shipping Co., Ltd. and thereby she became unable to maneuver despite an attempt to head out to sea.

It is probable that the reason why the CITY had not appropriately obtained weather and sea

information is that the master thought there was no sign of worsening weather seeing weather and sea analysis charts and therefore had not obtained other weather information.

From these, in view of the result of this accident investigation, the Japan Transport Safety Board recommends Trans Ocean Shipping Co., Ltd. which is the vessel management company of the CITY to take the following measures for the purpose of prevention of the recurrence of similar casualties and etc.

- (1) Trans Ocean Shipping Co., Ltd. educates masters of the ships under control of the company about obtaining necessary weather information.
- (2) Trans Ocean Shipping Co., Ltd. describes information about limiting clutch force and limit wind speed in a ballasted condition and a limit of ship maneuvering for course keeping considering a wind pressure and output power of the main engine in the said condition in the safety management manual.