

## Chapter 6 Efforts toward accident prevention

### 1 Information dissemination for accident prevention

The Japan Transport Safety Board prepares and issues various publications as well as individual reports, regarding specific cases so that it can better understand the efforts being made to prevent recurrence and contribute to accident prevention.

We place these publications on our website and, in order to make them more accessible to the public, we also introduce them through our JTSB E-Mail Magazine service (only available in Japanese).

The e-mail magazine distribution service is being used by people, including aviation, railway, and ship-related businesses, government agencies, and educational and research institutions.

Moreover, we are exchanging opinions with business operators and other parties regarding how the JTSB should disseminate its information and an effective and appropriate dissemination method. Also in the future, we will make improvements based on opinions we receive.

### JTSB Website

The screenshot shows the JTSB website interface. At the top, there are logos for JTSB (Japan Transport Safety Board) and MLIT (Ministry of Land, Infrastructure, Transport and Tourism). Below the logos are navigation icons for Aviation (航空), Railway (鉄道), and Ship (船舶). A search bar and links for '船舶事故ハザードマップ' (Ship Accident Hazard Map) are visible. The main navigation bar includes links for '運輸安全委員会について' (About JTSB), '業務改善の取り組み' (Business Improvement Efforts), 'ダイジェスト・その他刊行物' (Digests and other publications), '安全情報' (Safety Information), '報道・会員' (Press and Members), and '申請・お知らせ' (Application/Notice). The 'ダイジェスト・その他刊行物' link is circled in red. A dropdown menu is open under this link, showing options like '運輸安全委員会ダイジェスト' (JTSB Digests), '運輸安全委員会年報' (Annual Report), '過去の刊行物' (Past Publications), '安全啓発リーフレット' (Safety Alert Leaflets), and 'IMO (国際海事機関) における海上事故分析' (Maritime Accident Analysis in IMO). An orange arrow points from a text box to the '申請・お知らせ' link. The text box contains the text: 'Subscribe to the JTSB E-Mail Magazine here. (in Japanese)'.

### 2 Issuance of the JTSB Digest

With the aim of fostering awareness of safety, and preventing similar accidents from occurring, we issue “JTSB Digests.” This publication introduces you to statistics-based analyses and must-know cases of accidents.

We also issue the English version of “JTSB Digests” as part of our efforts to disseminate information overseas.

In 2020, we released three issues of “JTSB Digests” (November, December: Issues No. 34-36).

The contents of each issue are as follows.

① JTSD Digest No. 34 [Aircraft accident analysis digest] “Accidents relating to the in-cloud flights of VFR aircraft” (Published November 24, 2020)

This issue covers accidents relating to in-cloud flights and others of VFR aircraft with representative cases, accident circumstances and backgrounds and summarizes points of note for preventing recurrences.

- Occurrence of in-cloud flights accidents and serious incidents
- Background of in-cloud flights accidents and serious incidents
- Psychological background of pilots
- Accident investigation case: “A crash into the mountain slope”
- Accident investigation case: “A crash into the vicinity of the mountain top”
- Accident investigation case: “A crash into the face of mountain slope”
- Accident investigation case: “A crash into the mountain slope”



② JTSD Digest No. 35 [Marine accident analysis digest] “For the safe navigation of small passenger ships – Bang! Backache! For the prevention of a spine fracture accident on a small passenger ship” (Published December 16, 2020)

This issue covers accidents involving passenger spinal fractures resulting from sudden vertical motions of ships, explains and analyzes how they occurred and the resultant injuries, as well as summarizes points of note for the safe navigation of small passenger ships (also see the Feature on page 10).

- Occurrence of accidents involving passenger spinal fractures
- Accidents examples involving passenger spinal fractures
- Accidents analyses involving passenger spinal fractures
- Measures for preventing recurrences of passenger spinal fracture and other accidents



③ JTSD Digest No. 36 [Marine accident analysis digest] “Analyses of accidents and incidents relating to engine trouble on recreational fishing vessels and fishing vessels” (Published December 24, 2020)

This issue analyzes accidents and incidents relating to engine trouble on recreational fishing vessels and fishing vessels (small vessels weighing less than 20 tons in total tonnage), includes accident and incident situations and examples, summarizes measures for preventing recurrences, as well as the importance of daily inspections and points of note for maintenance.

- Occurrence of accidents relating to engine trouble
- Accident investigation case: “Loss of control (engine failure – main engine)”
- Accident investigation case: “Loss of control (engine failure – seawater pump)”
- Accident investigation case: “Loss of control (engine failure – main engine)”



- Accident investigation case: “Loss of control (engine failure – reverse & reduction gear),” etc.

### 3 Issuance of the Analysis Digest Local Office Edition

The JTSB has issued the analysis digest local office edition (only available in Japanese). It has issued this publication in order to provide various kinds of information to help prevent marine accidents. The information is based on the analyses made by our regional offices and relates to specific accidents that occurred in their respective jurisdictions. This information focuses on cases with characteristic features such as the sea area, the type of vessel, and the type of accident.

(Analysis Digest Local Office Edition in 2020)

<p>Sendai</p>	<p><b>Small fishing vessel needs a rope ladder!</b></p> <p>(Main contents)</p> <ul style="list-style-type: none"> <li>• Accident investigation case</li> <li>• Analyses</li> <li>• Results of investigations of vessels needing rope ladders</li> <li>• Conclusions</li> <li>• A rope ladder is easy to make by yourself !</li> </ul>	
<p>Nagasaki</p>	<p><b>Many capsizing accidents of small boats are happening along the west coast of Kyushu.</b></p> <p>– What you can do to enjoy your leisure activities</p> <p>– Points of note for preventing a capsizing accident</p> <p>(Main contents)</p> <ul style="list-style-type: none"> <li>• Accident examples</li> <li>• Example 1: “I left port knowing that waves were high.”</li> <li>• Example 2: “I did not immediately return to the port despite the increasingly high waves.”</li> <li>• Example 3: “I continued navigating the ship despite the waves hitting the sides.”</li> <li>• Summary of key points to prevent capsizing small boats</li> </ul>	
<p>Naha</p>	<p><b>Before setting sail...</b></p> <p><b>Knowledge leads to a sense of security, and compliance leads to safety – For pleasure boat accident prevention and damage mitigation –</b></p> <p>(Main contents)</p> <ul style="list-style-type: none"> <li>• Analyses</li> <li>• Accident investigation case (6)</li> <li>• Safe navigation checklist</li> <li>• To the users of marina and fisharina</li> <li>• Key points for accident prevention and damage mitigation</li> </ul>	

As you read these local office digests, you can not only find out the circumstances of local accidents, but can also gain some tips for accident prevention. The local offices will make further efforts to

regularly issue the analysis digest local office editions. By doing so, they will ensure that you will be provided with more satisfactory content.

Column

Preparation of publicly available reports and analysis digests

Hiroshima Office, Secretariat

To make as many people as possible knowledgeable regarding the objectives and efforts of the JTSB, the Hiroshima Office is preparing accident investigation reports and analysis digests of past accident investigation case that are easy to understand not only for those engaged in ship operations but also for the general public.

So, what does an “easy-to-understand report” mean? Although the office uses as many photos and figures as possible for reports, their number of readers has not increased. The JTSB has decided to include detailed illustrations in reports for the purpose of increasing readership, allowing readers to better image accident situations and, hopefully, achieve better response.

Fortunately, the Hiroshima Office has a staff member who is very skilled with illustrations. Her skill and artistry should shed the staid images in their reports. In time, favorable reports that “the illustrator working for the JTSB on the recent accident investigation reports is very skilled” spread through SNS, resulting in 1,521 retweets, 18 quote tweets and 2,685 likes.

At first, the office staff had concerns about using illustrations – such as “the use of illustrations may result in colorful reports,” “what is the best placement for illustrations be used in a report?” and “the use of illustrations may be regarded as inappropriate for accident investigations.” However, when the office took on the challenge of preparing a report from a new point of view and tentatively published it, the report was also highly appreciated inside the JTSB. Now illustrations are also being utilized in analysis digests in headquarters (Tokyo) and other local offices.

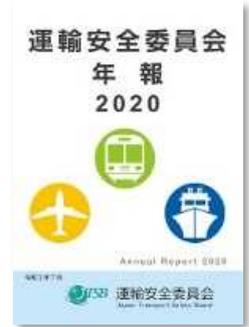


JTSB Annual Report

## 4 Issuance of the JTSB Annual Report

In order to publicize the JTSB’s general activities in 2019 and prevent the occurrence of accidents based on what was learned in past accidents, the JTSB issued the “JTSB Annual Report 2020” in July 2020.

As part of our efforts to provide information overseas, we issued the English version of the report “Japan Transport Safety Board Annual Report 2020” on December 2020. We did so to let people overseas know about the topics in this Annual Report.



## 5 Preparation of safety leaflet

When the Japan Transport Safety Board published the JTSB Digest or releases investigation reports on accidents and incidents for which measures to prevent the recurrence thereof need to be urgently implemented, it prepared single-page, A4-sized leaflets to let as many people as possible see various safety information mentioned in them. To raise attention to the prevention of accidents, the board distributed the leaflets at event venues and asked organs concerned for cooperation in distributing them.



For preventing “capsizing accident” of saury fishing vessel



For the safe navigation of recreational fishing vessels and fishing vessels – Prevention of accidents and incidents involving an engine trouble

## 6 J-MARISIS – Now even easier to use

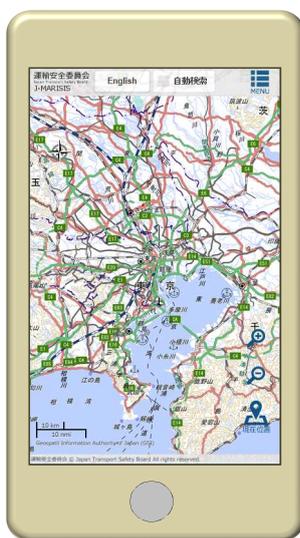
So that more effective use can be made of published marine accident investigation reports, the Japan Transport Safety Board began providing the Japan-Marine Accident Risk and Safety Information System (J-MARISIS) as an Internet service from the end of May 2013, allowing users to search reports from maps. In April 2014, we also released the global version of J-MARISIS, further allowing users to search investigation reports published by overseas marine accident investigation organizations from world maps.

Given the increase in the number of people using the Internet on mobile terminals, as well as requests to make this system easier to use on smartphones and tablets, we released the mobile version of J-MARISIS at the end of June 2015.

With touch panel support as well as revised display buttons and layouts, its ease of use has been increased, and the GPS functions of mobile terminals can be used to display information on areas near the user's current location. As a result, users on pleasure boats, recreational fishing boats or other small vessels can easily check information on accidents and other relevant information on navigation in sea areas they are planning to visit.



J-MARISIS <https://jtsb.mlit.go.jp/hazardmap/mobile/index.html>



Top page



Screen showing the information of current location using GPS function



- ← Menu button
- ← Mark indicating the location of an accident, etc.
- ← Accident information
- ← Zoom in / zoom out
- ← Current location display

Screen showing accident information

- The service can be used free of charge, excluding the connection fee. The traffic volume of ships and fishing points will also be indicated.

The Japan Transport Safety Board welcomes your views, requests and other comments/communication from users of J-MARISIS. Please use the “Contact us” section of our website.

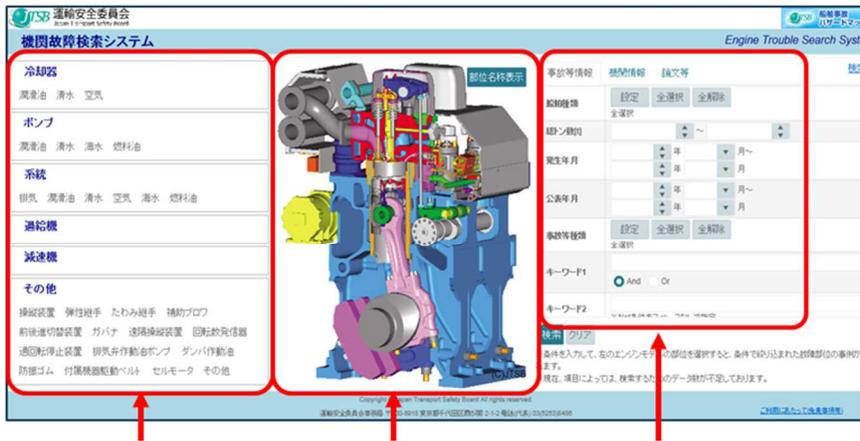
Contact us <https://www.mlit.go.jp/jtsb/toi.html>

## 7 Engine Trouble Search System ~ Easy Search with Click ~

The Japan Transport Safety Board (JTSB) established the Engine Trouble Search System (ETSS) in response to requests from people involved in maritime affairs for tools that can easily search and utilize accident investigation reports from engine trouble parts. This system has been available since April 2019.

ETSS is designed to search for marine accidents and incidents from engine failure parts and parts, and to use reports that are appropriate for the purpose of use. You can use ETSS free of charge other than internet communication fees.

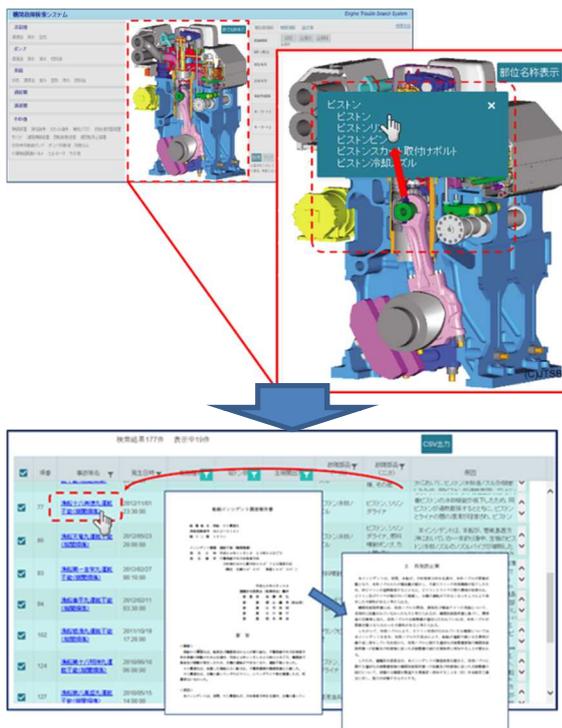
Engine Trouble Search System <https://jtsb.mlit.go.jp/hazardmap/etss/>



You can look at it from the place, the appearance, or the condition.

<Usage Example>

As part of the engine was overheated, select the place (piston part) and investigate the case of trouble.



- (1) When you select the piston part in the appearance view, the part related to the piston part is displayed in more detail. Select to display a list of related reports.
- (2) If the number of cases is large, it can be narrowed down by ship type, gross tonnage, output, damaged parts, cause, etc. By selecting "fishing boat," a gross tonnage of "1 - 20 tons," and an output of "400 - 500", and refine your research, the phrase "The cooling function was deteriorated, and the piston of the equipment expanded due to overheating." was discovered.
- (3) You can find and use reports that may be relevant.

8. Outreach lectures (dispatch of lecturers to seminars, etc.)

The Japan Transport Safety Board holds a series of outreach lectures as part of its efforts to raise awareness on the work of JTSB, and to create an opportunity for collecting the feedback and opinions of the general public.

Seminars that lecturers can be dispatched to cover topics that are useful in preventing or mitigating damage from aircraft, railway, and marine accidents. Members of the staff are dispatched as lecturers to various seminars and schools.

We can provide flexible support for the content of lectures, such as by incorporating content to match the needs of participants, based on courses chosen by requesting groups.

<http://www.mlit.go.jp/jtsb/demaekouza.html> (in Japanese)



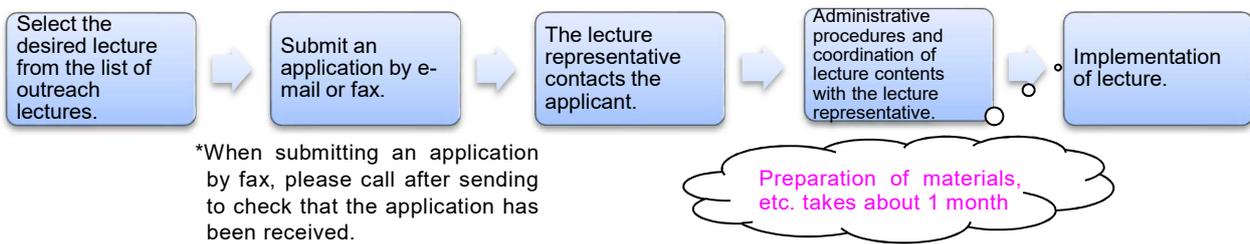
Scene of an outreach lecture

**List of outreach lectures**

No.	Course	Main audience	Contents
1	About the Japan Transport Safety Board	General (High school students and older), transportation businesses, etc.	Easy-to-understand explanation about the organizational background, work, etc. of the Japan Transport Safety Board
2	What is accident investigation?	Elementary school students	Easy-to-understand explanation about accident investigation for elementary school students and older
3	About aircraft accident investigation	General (High school students and older), aviation businesses, etc.	Easy-to-understand explanation about aircraft accident investigations, including the background, concrete examples, etc.
4	About railway accident investigation	General (High school students and older), railway businesses, etc.	Easy-to-understand explanation about railway accident investigations, including the background, concrete examples, etc.
5	About marine accident investigation	General (High school students and older), maritime businesses, etc.	Easy-to-understand explanation about marine accident investigations, including the background, concrete examples, etc.
6	About marine accident investigation (fire, explosion, engine failure)	General (High school students and older), maritime businesses, etc.	Explanation about marine accident investigations related to fire, explosion and engine failure, including the background, concrete examples, countermeasures, etc.
7	About the JTSB Digests	General (High school students and older), transportation businesses, etc.	Introduction to case studies of accidents and explanation of various statistical materials across various modes, based on the JTSB Digests that have been issued to date.
8	About the JTSB Digests (Analyses of Aircraft Accidents)	General (High school students and older), aviation businesses, etc.	Explanation about various themes taken up in the analyses of aircraft accidents in the JTSB Digests.
9	About the JTSB Digests (Analyses of Railway Accidents)	General (High school students and older), railway businesses, etc.	Explanation about various themes taken up in the analyses of railway accidents in the JTSB Digests.
10	About the JTSB Digests (Analyses of Marine Accidents)	General (High school students and older), maritime businesses, etc.	Explanation about various themes taken up in the analyses of marine accidents in the JTSB Digests.
11	Trends in the occurrence of marine accidents, and preventing recurrence	General (High school students and older), maritime businesses, etc.	Schematic explanations about risks and waters where marine accidents frequently occur using the J-MARISIS, and explanations about accident prevention methods.
12	Analysis digests of regional offices (marine accident-related) [each regional office in Hakodate, Sendai, Yokohama, Kobe, Hiroshima, Moji, Nagasaki, and Naha]	General (High school students and older), maritime businesses, etc.	Explanations on each topic regarding analysis digests from regional offices. *Lists can be found by clicking the link below. <a href="http://www.mlit.go.jp/jtsb/bunseki-kankoubutu/localanalysis/localanalysis_new.html">http://www.mlit.go.jp/jtsb/bunseki-kankoubutu/localanalysis/localanalysis_new.html</a>

\*No. 12, in principle, is restricted to requests from the areas under the jurisdiction of the local office.

### Flow chart from application to implementation of lecture



## 9 Activities of the Accident Victim Information Liaison Office

The Japan Transport Safety Board gives full consideration to the emotions of the victim and their families, as well as bereaved families. In addition to providing information on accident investigations in an appropriate manner at the appropriate time, a contact point for providing accident investigation information to victims, etc. was established in April 2011 with the aim of providing attentive response to opinions and feedback. Furthermore, in order to



promote the provision of information, the Accident Victim Information Liaison Office was established under the directive of the organization in April 2012. Contact points for the provision of information were also set up in local offices to provide integral support alongside with Tokyo.

In 2020, information on accident investigation and other matters was provided to 253 persons, including the 28 cases of aircraft/railway/marine accidents.

The status for other activities is as follows.

#### ○Memorials for accident victims

The JTSB made memorial visits to accident sites including Mount Osutaka in Ueno Village, Tano District, Gunma Prefecture, the site of the JAL Flight 123 crash, and presented offerings of flowers from the Board members and the Director-General at each accident site including the “Inori no Mori (Memorial Grove), the site of the Fukuchiyama Line Accident in Amagasaki City, Hyogo Prefecture, to express our deepest sympathy for those lost in these accidents.

By presenting these memorial offerings first-hand, we deeply felt the emotions of those who still have painful memories of these events, and renewed our awareness of the importance of closely sharing the feelings of bereaved families and victims.

The Accident Victim Information Liaison Office hands out “Contact Information Cards” to victims of accidents.

The Office receives inquiries and consultation about the accident investigations from victims and families of accidents, as well as bereaved families. Please feel free to contact the following where necessary.

Contact Information Cards

**Information for Victims  
and their Families**

Japan Transport Safety Board

Victims and their Families  
Liaison Office

*Japan Transport Safety Board*

**(Front)**

Japan Transport Safety Board  
Victims and their Families  
Liaison Office

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1-6-1 Yotsuya, Shinjuku-ku,  
Tokyo, 161-0004

Tel: +81-3-5367-5030

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*Japan Transport Safety Board*

**(Back)**

## Column

### Relocations of the office building of the JTBSB

#### General Affairs Division

On March 30, 2020, the secretariat headquarters of the JTBSB was relocated to the 15<sup>th</sup> floor of Yotsuya Tower in front of Yotsuya Station, Tokyo. In this column, I will introduce a few incidences relating to the relocation.

Since its establishment on October 1, 2008 until June 3, 2018, the JTBSB had been located at the Central Government Building No. 2 in Kasumigaseki. Following the relocation of related departments and agencies, the JTBSB temporarily moved to the Otemachi Joint Government Building No. 3 on June 4, 2018, but returned to the Central Government Building No. 2 on March 4, 2019. There after the office moved again to the current location. In total, there were three relocations in about two years.

I feel that each relocation streamlined the JTBSB through reductions in the superfluous documents that burdened each division and department, however the relocation to Yotsuya Tower involved various hardships. These included sorting out matters to be reviewed, floor layouts, adjustments of work-related infrastructure, reductions and allocations of bookshelves, advancing relocation schedules, complication involved in relocating to private building, signboard installation and adjustment, attendance to relocation work and too many other issues, about which I cannot explain in the limited space of this column.

Initially, after the last relocation, COVID-19 restricted employees attendance to the office and so, many cardboard boxes were left unpacked for a time. We were gradually able to go back to normal operations.

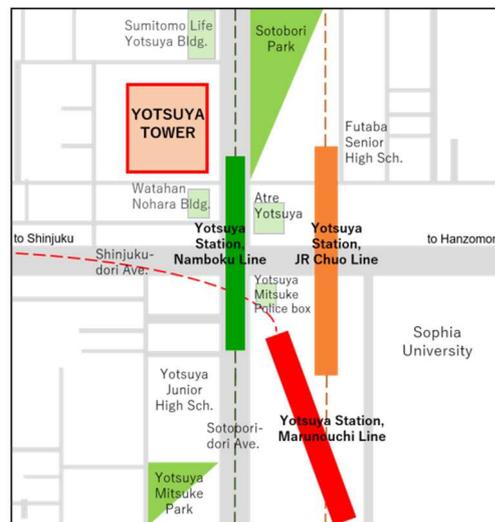
Although Yotsuya Tower is a private building, the 13<sup>th</sup> to 15<sup>th</sup> floors are designated as the “Yotsuya Regional Joint Government Building” by national organs including the Tokyo Legal Affairs Bureau, the Tokyo Labor Bureau, the Ministry of Foreign Affairs, the Ministry of Economy, Trade and Industry, the Immigration Services Agency of Japan and the Ministry of Land, Infrastructure, Transport and Tourism (the Policy Research Institute for Land Infrastructure and Transport and the JTBSB).

Streets in the vicinity of Yotsuya Tower, make Sotobori Park and restaurants accessible. There are restaurants, a post office and a supermarket also inside the tower building. The offices command a great view of Tokyo Skytree, Tokyo Tower, State Guest House and buildings in Shinjuku.

With our tower building blessed with this favorable location and new offices, we will endeavor to work-style reforms for better job performance, add a new twist to our way of working and improve the operating effectiveness of the staff.



Yotsuya Tower



Area map