

	images could have provided this valuable information, possibly enabling the identification of additional safety issues and the development of safety recommendations to prevent similar accidents.
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ATSB (Australia) Aviation Safety Issues and Actions

ATSB issues recommendations to aviation authorities about the installation of recording devices on small aircraft (the provisional translation of the partial excerpt is as follows).

Recommendation of ATSB	Australian civil aviation regulations did not mandate the fitment of flight recorders for passenger-carrying aircraft under 5,700 kg. Consequently, the determination of factors that influenced this accident, and other accidents, have been hampered by a lack of recorded data pertaining to the flight. This has likely resulted in the non-identification of safety issues, which continue to present a hazard to current and future passenger-carrying operations. The following recommendation was issued, since aviation authorities did not take safety actions.
	Civil Aviation Safety Authority consider mandating the fitment of onboard recording devices for passenger-carrying aircraft with a maximum take-off weight less than 5,700 kg.

8. Summary

The JTSB (Japan Transport Safety Board) Digests covers “flight data monitoring devices (FDM)” this time. We should understand that FDM does not directly prevent accidents of small aircraft from occurring. However, aviation safety is expected to improve from the following perspectives, once FDM is widely adopted and data obtained therefrom can easily be utilized.

Utilization to preserve and improve the skills of pilots

Pilots can review their own flight by making use of visualization tools, etc. based on data obtained after the flight. This will result in the prevention of accidents by helping the pilot to effectively maintain and improve skills.

Utilization of flight monitoring

An operator can prevent accidents by utilizing data for training and examinations through an advanced analytical technique and by extracting operational risks such as the deviation from standards, etc.

Utilization for monitoring of aircraft failure

It is feasible to identify the state of an aircraft based on data recorded and prevent its failure.

Utilization for aircraft accident investigation

It is feasible to accurately investigate the causes utilizing objective information obtained and to formulate preventive measures.

The following points should be taken into account as to the handling of FDM and information obtained therefrom.

Appropriate installation to aircraft

Equipment installed on or brought in aircraft including FDM should be used without affecting operational safety in accordance with related laws and regulations and safety standards for on-board equipment specified by related authorities. It should not be allowed to install or bring in non-conforming equipment without any justifiable reason.

Handling of information obtained

Since image information obtained from FDM may be privacy sensitive, it is necessary to take care of the handling of information from the perspective of protecting information sources. An aviation operator that handles this information also needs to protect data or limit the scope of information handled.

It is concerned that an aviation operator may utilize information obtained from FDM to monitor employees or pursue their responsibility. Therefore, it is important to clarify that information is not used other than for safety management purposes and handled under the principle of non-punishment, thereby ensuring psychological safety of employees as to the utilization of information.

Although FDM is a simple recording device, it can be an important tool that creates an environment where aviation safety is assisted by utilizing its data.

We expect that the Digests help you recognize the value of FDM and it would be installed on more aircraft including small aircraft.

The Civil Aviation Bureau, Ministry of Land, Infrastructure, Transport and Tourism, has published “Guidelines for Introduction of FDM for Small Aircraft” describing precautions about installation of FDM, actual installation examples, and methods of utilization of data obtained. You can find the Guidelines from the following (https://www.mlit.go.jp/koku/koku_tk10_000095.html (only available in Japanese)).

Comment from Director of the Analysis, Recommendation and Opinion Office

When we look into the causes and factors of accidents, human factors such as assumption, insufficient check, poor judgment, inappropriate control and operation, etc. involve in more than 80% of cases. On the other hand, other multiple factors such as natural phenomena and organizational structures involve in accidents in many cases. The most important thing in complex accident investigations is objective data such as information on the aircraft positions and altitudes that corroborates situations where accidents happened. Small aircraft are not obliged to be equipped with flight recorders and mainly use visual flight (a pilot visually judges the aircraft position). In addition, they do not receive ground flight control services on mid-flight routes in many cases, so objective information indicating flight courses tends to be insufficient. FDM was mentioned in the Digests as one of valuable solutions which brings about many advantages to operators. I expect you to read the Digest and recognize the value of FDM for improvement of your skills as pilots and safety management activities in risk analysis so that more small aircraft are equipped with FDM.

For prevention of aircraft accidents

Other than the Digests, please refer to investigation reports on accidents and serious incidents announced by the Japan Transport Safety Board for your case study. Moreover, the Civil Aviation Bureau uploads information on the safety of small aircraft including the Guidelines for Introduction of FDM. For more details, please see the following information.

Safety information of small aircraft, Ministry of Land, Infrastructure, Transport and Tourism
https://www.mlit.go.jp/koku/15_bf_000061.html (only available in Japanese)

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We welcome your comments on "JTSB Digests" and requests for outreach lecturers

