

**55th CONFERENCE OF
DIRECTORS GENERAL OF CIVIL AVIATION
ASIA AND PACIFIC REGIONS**

*Denarau Island, Nadi, Fiji
22 — 26 October 2018*

AGENDA ITEM 3: AVIATION SAFETY

PREVENTING OBJECTS FALLING OFF AIRPLANES

Presented by Japan

INFORMATION PAPER

SUMMARY

Japan has implemented various measures against objects falling off airplanes and is studying further measures. It is important to make global efforts to solve the problem of objects falling off airplanes. We should promote further measures. This paper urges member states to note that measures against falling off airplanes derived from the collaboration between authorities and all airlines are quite effective, to cooperate with Japan as necessary, and to also note that Japan is conducting further studies on effective measures.

PREVENTING OBJECTS FALLING OFF AIRPLANES

1. INTRODUCTION

1.1 Objects falling off airplanes, including ice blocks, are catching attention as one of the significant social problems in Japan. In addition, we recognize that objects falling off airplanes are not a problem only in Japan and can be a global issue. It is important to recognize the current situation and take effective measures proactively.

1.2 Japan is taking various measures to prevent objects falling off airplanes after serious incidents in Japan. This paper introduces the actions taken by Japan to prevent objects falling off airplanes and recommends actions to address this challenge globally.

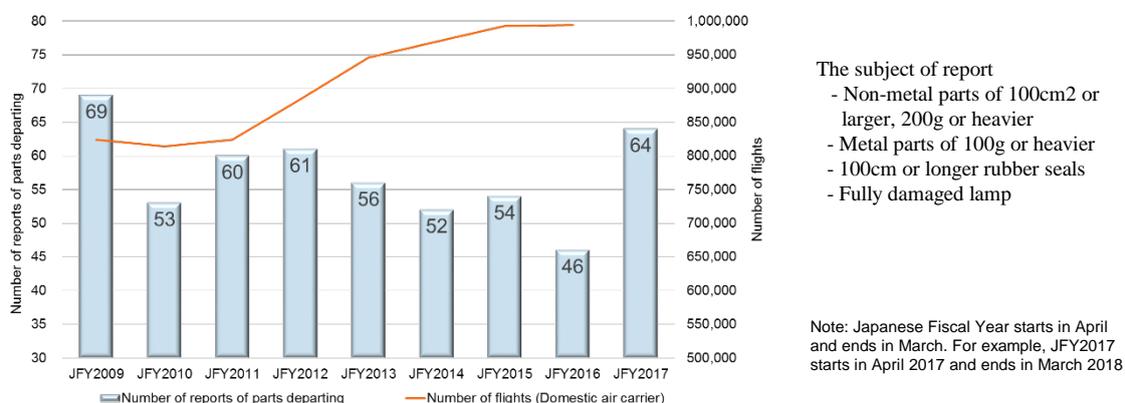
2. DISCUSSION

2.1 Japan has two large airports, Narita Airport and Haneda Airport in Tokyo. Japan is planning to address further functional enhancement at these metropolitan airports, aiming to contribute to an increase of international visitors, strengthened international competitiveness of industries and the city (Tokyo Metropolitan Area), and regional activation throughout Japan.

2.2 In concrete terms, Japan plans to increase the number of slots through a re-examination of the runway capacity, revision of runway operation and flight routes at Haneda Airport, and construction of high-speed taxiways at Narita Airport as measures to be taken before the 2020 Tokyo Olympics and Paralympics. In the new runway operation and flight paths at Haneda Airport, airplanes will fly over the city center of Tokyo. Therefore, the Government of Japan has been offering careful explanations to local municipalities and residents.

2.3 During such explanatory meetings, many residents made various requests of thorough noise prevention measures and particularly thorough safety measures including those against objects falling off airplanes. If objects fell off airplanes, damages of third parties may occur which may impact a safe operation significantly.

2.4 The Government of Japan has been requiring Japanese air carriers to report the PDAs (Parts Departing Aircraft) since April 2009. Although the number of reported PDAs decreased slightly, it increased in 2017.



PDAs reported by Japanese air carriers

2.5 Japan has already implemented various measures against objects falling off airplanes, such as completing draining water in the water supply pipes before the take-off to prevent ice blocks falling from the airplanes onto the ground, requesting air carriers to complete maintenance and inspection to maintain safe operations including prevention of objects falling off airplanes, and requesting airplanes' manufacturers to improve designs and prevent incidence of falling parts from the airplanes.

2.6 However, serious events regarding objects falling off airplanes recently occurred, which raised huge public attention. In September 2017, a panel (4.3kg, 1.1m) fell from an airplane onto a car driving on a busy street in Osaka. In May 2018, an engine failure occurred when an airplane was climbing after taking off Kumamoto Airport. Through this incident, more than 100 metallic fragments, which are suspected to be part of the engine, fell onto the ground, houses, and cars. Fortunately, there was no-injured person by the incident; however, the incident resulted in the damage of a window in a hospital, windows of cars, etc. These events were broadly reported to the public by the mass media. In addition to the above, five cases of damage caused by objects falling off airplanes occurred between 2008 and 2017, including damage to a greenhouse and roof tiles. Moreover, the events that ice blocks fell onto the ground happened. Anxiety and concern of residents toward objects falling off airplanes have been augmented.



The panel falling off an airplane and the damaged car window in Osaka, Japan



Examples of objects falling off (Spring/Ice blocks)

2.7 Japan has been taking further actions based on “Enhanced Measures to Prevent Objects Falling off Airplanes” established in March 2018 in the council which consists of various stakeholders such as air carriers, maintenance organization, airplanes manufacturer, etc., and has decided to take action as follows:

- a) Establishing “Standard to Prevent Objects Falling off Airplanes”. This standard requires measures to prevent falling objects from both “Hardware” and “Software” side.
[Hardware side] Airplanes modification, etc.
[Software side] Inspection/maintenance, education and training, system to conduct root cause analysis, preventive measures of recurrence when parts departing from airplanes and falling ice blocks occur, etc.
- b) Requiring Japanese air carriers and foreign air carriers flying in/from Japan to implement measures to prevent objects falling off airplanes.
- c) Utilization of the newly created booklet “Implementation of Measures to Prevent Objects Falling off Airplanes,” which introduces actual examples of preventive measures; and
- d) Strengthening the airplanes inspection: increasing the number of ramp inspections and introducing a new inspection by airport administrators.



Example of preventive measures (Replacement with improved locking/Cleaning of draining valves)

2.8 Japan established “Standard to Prevent Objects Falling off Airplanes” in August 2018. For foreign air carriers flying in/from Japan, Japan plans to enforce “Standard to Prevent Objects Falling off Airplanes” from March 2019, and also plans to establish the relief system for damage caused by objects falling off airplanes.

2.9 Aviation demand is considered to increase globally. Japan believes that the number of objects falling off airplanes may increase so much more if proper measures are not taken. In the world, there are cities where airplanes fly along flight routes over dense areas. These cities may also be in similar situations with Tokyo.

2.10 We recognize that preventing objects falling off airplanes is becoming a global challenge. However, global measures against objects falling off airplanes are not sufficient.

2.11 At ICAO Thirteenth Air Navigation Conference, Japan proposed developing guidance materials to prevent objects falling off airplanes. We will promote further studies to take effective measures and to develop guidance materials.

3. ACTION BY THE CONFERENCE

3.1 The Conference is invited to:

- a) note that measures against objects falling off airplanes derived from the collaboration between authorities and all airlines are quite effective for the thorough implementation of safety measures;
- b) cooperate with Japan by disseminating the new measures taken by Japan against objects falling off airplanes to airlines of member states as necessary; and
- c) note the importance of collecting and analyzing data of objects falling off airplanes.