



TRANSPORTATION SAFETY
BUREAU

Administrator
File number

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RFO/634/8/2012

TSB

Locally

Budapest, 13 December 2012

Subject: On the conclusion of the notification procedure in connection with aviation activity number **2012-226-4P**.

Category of occurrence:	Aviation incident
Location, date and time of occurrence:	LHBP, 29 July 2012
Aircraft operator:	EL AL Israel Airlines Ltd.
Aircraft registration:	4X-EKB
Aircraft type:	Boeing B737-800
Operator registration number:	Not known
Date of receipt of the final report on the technical investigation:	TSB performed no investigation

Description of the occurrence:

The aircraft type B738, with registration number 4X-EKB and flight No. LY-333 of EL AL Israel Airlines was flying from Tel Aviv to Brussels, at cruising flight (FL340) in the Serbian airspace (170 NM south of Budapest) when it reported to the Belgrade air traffic control that it had problems with the fuel system so they would interrupt the flight and would like to land in Budapest as alternate airport. In the course of descent, the crew reported emergency (Mayday Mayday) but requested no technical assistance to their landing. In response to the ATC's question they explained that they had 6.2 tons of fuel at the aircraft but 3.8 tons of it cannot be used from the right-hand side tank. The aircraft landed safely on Runway 31R.

Actions taken:

The duty service of TSB received notification from the duty service of the control tower who did not mention that the aircraft crew had reported emergency. As the notification did not include this important information, the technician on duty and the investigator on duty of TSB did not go to the site to perform investigation at the scene of the occurrence. When the actual course of the occurrence turned out, the appointed investigator contacted the maintenance organization responsible for troubleshooting and asked for the documentation of such troubleshooting. Then the investigator contacted the head of the Israeli investigating organization, and requested his assistance with finding the captain of the flight involved, and requested for the "Captain's Report". Concurrently, the investigator also asked the HC for the transcript of the voice communication transacted during the emergency landing. On the basis of the documents received, the IC established the following:

- The flight departed from Tel Aviv in an operable state with 14,700kg fuel. The distribution of the fuel in the tanks was as follows: left main tank 3,900kg, central tank 7,100kg, right main tank 3,900kg. Pursuant to the sequence of consumption, the fuel was first consumed from the central tank. When the central tank became empty, consumption from the main tanks should have started, but the crew found realised that the fuel in the left tank was being consumed but none from the right tank. Then, according to the relevant points of the QRH, the crew performed 'FUEL LEAK CHECK' but they detected no fuel leakage. Then, also according to the QRH, they started to eliminate the IMBALANCE, but, they got stuck at the first point because the open position indicator of the CROSS FEED VALVE did not light when the valve was opened. However, they supposed that the valve was open because the engines were working. It was at that point that the captain decided to land in Budapest. They still tried to perform the next point of the QRH which requires the turning off of both pumps at the low side but, being afraid that the engine would stop, they did not take the risk of turning both pumps off at the same time. Thus, they only turned one pump off, then turned it on again, and turned the other one off afterwards. As they had no feedback on the position of the CROSS FEED VALVE they chose to request the possibility to land.
- It was impossible to consume the fuel from the right main tank, thus the crew only were able to rely on the fuel in the left main tank which was somewhat more than 2,000kg, and the meteorology service reported thunderstorm in Budapest, too. Then the captain reported emergency situation but requested no technical assistance at all with landing, and then he performed a smooth landing onto Runway 31R.
- In the course of troubleshooting, the maintenance crew found that the direct current motor driving the CROSS FEED VALVE broke down. After replacement of the electromotor and the necessary maintenance, the aircraft was qualified operable.
- It may be concluded on the basis of the investigation performed that the crew of the flight acted in compliance with the OM requirements. 'Mayday Mayday' was reported because the captain was afraid that the consumable fuel left would be less than the specified 2,000kg. Opposite that, the consumable fuel left was exactly 2,000kg after landing, according to the documents available.

TSB finished technical investigation, and thus considers the case to be closed.

Safety recommendation: The IC found no circumstances which would require the issuance of a safety recommendation.

Comments: None.

Dr. Loránd BECSKE
Director-General

NOTE:

This document is the translation of the Hungarian version of the concluding letter.

Although all effort has been made to translate it as accurately as possible, discrepancies may occur.

In this case, the Hungarian is the authentic, official version.