BULLETIN

AIRCRAFT ACCIDENT INVESTIGATION BOARD/NORWAY
(TRANSLATED FROM NORWEGIAN)

Postboks 165, N-1330 OSLO LUFTHAVN, NORWAY
Telefon: (+47) 67 12 23 19 - 67 59 36 55
Telefax: (+47) 67 12 53 33

BUL 02/96
Date January 5, 1996

Aircraft	
- type & reg.:	Tupolev TU 154B, LZ-BTK
Radio call sign:	LAZ 7059
Date and time:	20 May 1995 at 1940
Location:	Oslo Airport Gardermoen, Norway,
Type occurance.:	Incident
Type of flight:	Commercial, charter
Weather cond.:	Wind 200°/04 kt, visibility more than 10 km, rain, broken clouds at 3 000 ft, scattered clouds at 1 500 ft, temperatur +7°C, dew point +4°C, QNH 1015 hPa.
Flight cond.:	IMC
Fligth plan:	IFR
No. of persons onb.:	8 (crew members only)
Injury:	None
Aircraft damage:	None
Other damage:	None
Information sources:	Report from CAA at Gardermoen and from the Pilot-in-Command

All times given in this report is local time, if not otherwise stated.

SUMMARY

During an ILS appproach to RWY 01 at Gardermoen, the Air Traffic Controller at Fornebu Approach (APP) observed the flight in a position west of the centerline. The flight had just prior to this been established on the localizer (LLZ) when it was transferred to Gardermoen tower (TWR) when passing Solberg Non Directional Beacon (NDB). LAZ 7059 had called Gardermoen TWR and reported "established" and was cleared to land. About half a minute later the TWR controller received a

The Aircraft Accident Investigation Board of Norway has compiled this report for purpose of improving flight safety. The object of any investigation is to identify faults or discrepancies which may endager flight safety, wheter or not these are causal factors in the accident, and to recommend preventive action. It is not the Board's task to apportion blame or liability. Use of this report for any other purpose than for flight safety should be avoided.

telephone message from the APP controller that the flight was observed west of the LLZ. The TWR controller then on his radar monitor observed the flight to be approximately 3 NM west of the LLZ, at 1 600 ft altitude. The flight was immediately instructed to climb to 4 000 ft and to fly a heading of 030°, shortly afterwards corrected to 050°. The flight was subsequently radar guided to an ILS approach to RWY 19 and landed at time 1953.

After the landing, the Pilot-in-Command (P-i-C) was requested to contact the TWR over the telephone. He then explained that after being informed about the track deviation, he switched to the other ILS receiver which functioned normally and was used as the main navigation aid during the following approach and landing. The Pilot-in-Command was informed that the incident had to be reported.

The P-in-C's report was received 19th September, approximately 4 months after the incident and after repeated requests, directed both to the airline and the Bulgarian authorities. The P-i-C's report confirms the previous information regarding the discrepancy about not following the RWY 01 LLZ and switching to the other ILS receiver. In his report, the P-i-C further stated that he became aware of his wrong position and the faulty ILS receiver by checking bearings to Eidsvoll NDB and radials from Gardermoen VOR. In his opinion, he initiated the rejected approach prior to receiving the instructions from Gardermoen TWR.

After landing in Bourgas, Bulgaria, on the return flight, both Flight Director systems was tested and found to function normally. A faulty cooling fan was found in the ILS receiver that failed on the first approach to Gardermoen.

COMMENTS FROM THE ACCIDENT BOARD

The AAIB of Norway finds it quite disturbing that company procedures and/or dual navigation systems do not help detecting deviations from a desired LLZ course. The main reason to have dual (or more) navigation receivers/systems, is that they all are used actively. This procedure makes it possibilit to compare either manually or automatically the indications from both independent, separate sets or systems. It also gives a redundancy in case one system fails. In this case the Pilot-in-Command stated that he discovered the discrepancy of being off track, by reading the Eidsvoll NDB bearings and Gardermoen VOR radials. It is a better system to have two separate ILS-receivers giving signals to two individual Flight Director Systems so that malfunction of one of them can be detected. Reading of NDB bearings and VOR radials do not give the same accurate and immediate indications of a possible malfunction. The P-i-C also was of the opinion that he himself had initiated the rejected approach. The discovery of the malfunction in this case was, in the opinion of the Accident Board, too late in the course of the approach.

With the clouds reported as 3 000 ft broken and 1 500 ft scattered, which gives a reasonable good clearence to the ground, the possibility of a "controlled flight into terrain" (CFIT) was not very probable.

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