

REPORT

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All times given in this report is local time (UTC + 1 time), if not otherwise stated.

Aircraft

-type & reg.: YAK-40, LY-AAY and MD-82, LN-ROY
Radio call sign: KLA 455 and SAS 344
Date and time: 7. November 2000, at 1050 hrs
Location: 6 NM north of Oslo Airport Gardermoen (ENGM)
Type of occurrence: Air traffic incident, violation of separation minima
Type of flight: Commercial, scheduled services both aircraft
Weather cond.: ENGM METAR at 1050 hrs. Wind: 030° 13 kt.
Visibility: more than 10 km in rain. Clouds: few at 1 000 ft,
broken at 1 600 ft. Temp./dewpoint: 5 °C/ 2 °C.
QNH: 1001 hPa. Tempo, wind: 060° 20 kt, gusting 30 kt.
Visibility: 5 000 m in rain. Clouds: broken at 1 000 ft.
Light cond.: Daylight
Flight cond.: IMC/IMC
Flight plan: IFR/IFR
No. of persons onb. : Not reported
Injuries: None
Aircraft damage: None
Other damage: None
Information sources: Reports from both Commanders, report from Oslo ATCC,
report from ENGM ATC and AAIB/N's own investigations.

SUMMARY

The incident took place approx. 6 NM north of Oslo Airport Gardermoen (ENGM), and resulted in a violation of separation minima between KLA 445 and SAS 344.

KLA 445, a YAK-40 from Air Lithuania, departed from runway 01L at ENGM at time 1045, on a flight to Palanga Airport (EYPA) in Lithuania. The crew was given a departure clearance according to Standard Instrument Departure (SID) GOTUR 2A. SAS 344, a MD-82 from Scandinavian Airlines departed from the same runway at time 1048, on a flight to Bodø airport. The departure clearance for SAS 344 was according to SID TOMBO 2A. YAK-40 is an old aircraft type with less performance compared to modern jets like the MD-82. KLA 445 was handed over to Oslo APP as soon as it was radar identified, at time 1046. Due to the low performance of the YAK, both groundspeed and vertical speed was

The Aircraft Accident Investigation Board has compiled this report for the sole purpose of improving flight safety. The object of any investigation is to identify faults or discrepancies which may endanger flight safety, whether or not these are causal factors in the accident, and to make safety recommendations. 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.

relatively low. In addition there were heavy winds from east (080° 30 kt at 3 000 ft), making the easterly turn towards OPA NDB even slower.

SAS 344 departed from RWY 01L, 3 minutes behind KLA 445, at time 1048. KLA 445 was at that moment climbing through 4 000 ft, with a vertical speed of 1 000 ft pr. minute. As SAS 344 departed, the radar identification was delayed due to a wrongly set transponder code (TXP-code) on SAS 344. As the crew checked in with APP, SAS 344 was already climbing through 4 500 ft. The crew was immediately instructed to stop climb at 5 000 ft, but due to high vertical speed, they were not able to level off until reaching 5 500 ft. At the same time they were given traffic information about KLA 445. KLA 445 was at that time at approximately the same altitude, heading for OPA NDB. According to the APP-controller on sector east, KLA 445 had a drift in relation to the expected course, most probably due to the heavy easterly winds aloft. Due to this the crew on SAS 344 was, in addition to the altitude restriction of 5 500 ft, instructed to fly a heading of 350° to stay west of KLA 445. As SAS 344 and KLA 445 passed each other the horizontal separation between them was estimated to be slightly above 3 NM, and a vertical separation of 500 ft.

COMMENTS FROM THE ACCIDENT BOARD

In AAIB/N's opinion, there was no actual risk of collision related to this incident. The incident occurred mainly due to SAS 344, which far exceeded KLA 445 performance wise, overtook KLA 445 both in horizontal and vertical speed. In addition, the wrongly set TXP-code of SAS 344, resulted in a delayed radar handover from ENGM TWR to Oslo APP. Due to this, the APP-controller was not able to stop SAS 344 at a lower altitude than 5 500 ft.

The YAK-40 operates on ENGM frequently, and the performance of the aircraft should be well known to ATC. The wind conditions that were present in the area were also both forecasted and reported. It is the opinion of AAIB/N that the main causal factor leading to this incident, was that the SAS 344 crew was given departure clearance too early, considering the low performance of KLA 445 departing 3 minutes before. According to "Letter of Agreement"(L.o.A.) between Oslo ATCC and Gardermoen TWR, the TWR is responsible for assuring that departing aircraft are radar separated before handover to Oslo APP. AAIB/N cannot see that the intension of the L.o.A. was completely adhered to at this incident.

Once again AAIB/N will remind ATC of the importance of sufficient education and knowledge on the performance of different aircraft types. This is necessary in order to optimise traffic planning, and will contribute to minimize the risk of corresponding incidents.

After the deadline for submission of comments to the draft report expired, AAIB/N has received additional documentation from the Chief air traffic controller (ATCO) at Gardermoen TWR, including transcripts of radar data. These transcripts show that the crew on KLA 445 continued on a track of 350°, 2NM further than what is described in the SID. According to the Chief ATCO, this resulted in a flown distance of 4 NM further than the

expected track of KLA 445. The Chief ATCO writes the following in his comments to the draft report:

“If KLA 445 had followed the track that was expected by the controller in TWR W, and that was used in determining the departure clearance given to SAS 344, KLA 445 would have been in a position 4NM further to the southeast and also to the northeast, at the time of the incident. In that case, radar separation would have been achieved with sufficient margin. Even taking into consideration the difference in performance between the two aircraft, it seems that the controller’s judgement of the time interval (~3 minutes) between the departures was sufficient”.

It is of great importance for AAIB/N that this kind of information, that must have been available to the ATC at an early stage, is enclosed in the documentation that is forwarded to AAIB/N following a reported incident. Incorrect or missing information might lead to wrong conclusions.

1 Enclosure