No. 26

Sterling Airways A/S, Douglas DC-6B, OY-EAN, accident at Torslanda Airport, Gothenburg, Sweden, on 23 December 1967. Summary of report released by the Board of Civil Aviation, Sweden, on 21 March 1968

1. - Investigation

1.1 History of the flight

The flight No. BU821, engaged in non-scheduled air transport operations from Stockholm-Arlanda Airport to Gothenburg-Torslanda Airport, took off from Arlanda on 23 December 1967 at 0637 hours GMT.

The aircraft was flown in accordance with an approved flight plan. The first approach was discontinued at critical height due to insufficient visual references. During the second approach the pilot-in-command took over the aircraft at a low altitude and landed. A heavy touchdown was made on runway 22 approximately 3 000 ft after the threshold, 0801 hours GMT. The aircraft sustained substantial damage.

1.2 Injuries to persons

Injuries	Crew	Passengers	Others
Fatal			
Non-fatal			
None	6	49	

1.3 Damage to aircraft

Left wing broken at engine No. 2, damage to the left main gear and the engine installations.

1.4 Other damage

None.

1.5 Crew information

The pilot-in-command held a valid airline transport pilot's licence, including rating for Douglas DC-6B. He had passed periodical flight training on 29 September 1967 and emergency training on 8 November 1967.

His total flying time amounted to 5 602 hours.

No flight duty was performed during the most recent 4 days.

The co-pilot held a valid airline transport pilot's licence, including rating for Douglas DC-6B. He had passed periodical flight training on 3 November 1967 and emergency training on 14 November 1967. His total flying time amounted to 5 459 hours. No flight duty was performed during the most recent 7 days.

The flight engineer held a valid flight engineer's licence for the aircraft type in question.

He had passed emergency training on 12 September 1967. His total flying time amounted to 2 390 hours. Flight duty during the most recent 30 days: 46 hours.

The cabin crew consisted of one steward and two stewardesses. All duly qualified for their duties.

1.6 Aircraft information

The certificate of airworthiness was valid until 15 December 1968, and issued by the Danish Authorities. From the flight-log of the aircraft it could be seen that no remarks had been made prior to this flight and of interest to the investigation. The weight and centre of gravity were within the prescribed limits.

1.7 Meteorological information

Over a wide area the weather was marginal, characterized by mist, low ceiling, drizzle, rain and snow.

The visibility and cloud base at the destination and alternate airport were, however, forecasted to be above approved minima at the estimated time of arrival.

1.8 Aids to navigation

The ILS to runway 22, markers and locators were functioning properly.

The glide path is 3.25° and has, due to displaced threshold, a height of 99 ft over the runway end.

1.9 Communications

The communications were normal and of good quality.

1.10 Aerodrome and ground facilities

Runway 22 at Torslanda Airport has a width of 60 m and a length of 1 820 m. Effective runway length at landing reduced to 1 740 m due to obstacles in the approach sector.

QFE datum for the runway is 8 ft and OCL is 260 ft (QNH).

The approved minima for Sterling Airways A/S are: minimum altitude 277 ft and RVR 1 100 m.

1.11 Flight recorders

Not installed.

1.12 Wreckage

The site of the accident was on the runway approximately 3 000 ft after the runway threshold. The aircraft was taxied to the ramp immediately after the occurrence.

1.13 Fire

No fire.

1.14 Survival aspects

When the aircraft reached the ramp, the aircraft was emergency evacuated due to heavy fuel leakage from the left wing. The evacuation was made within 2 minutes and in good order.

1.15 Tests and research

Not performed.

2. - Analysis and Conclusions

2.1 Analysis

The aircraft had been maintained in accordance with the regulations and the weight and centre of gravity were within allowable limits. The flight crew was properly certificated and was performing a normal non-scheduled flight.

The airborne and ground equipment were functioning normally. The flight was planned according to approved company procedures.

The weather was marginal but above approved minima for the aerodromes in question.

The duty prior to this flight gave no reason to believe that crew fatigue could have contributed.

The co-pilot was piloting the aircraft. The first approach was discontinued at critical height due to insufficient visual references. Upon reaching critical height in the second approach, when the co-pilot opened the throttle to prepare for missed approach procedure, the pilot-in-command got the runway in sight, took over the controls, lowered the flaps and landed. Witnesses saw the aircraft touch down heavily on its left main landing gear approximately 3 000 ft after the threshold.

In his statement, the pilot-in-command explained that the hard ground contact was due to misjudgement of altitude. Believing the aircraft was close to the ground, he had applied reverse power on all propellers causing a sudden loss of altitude.