

No. 4

Avianca (Aerovías Nacionales de Colombia), C-47A, HK-502, accident at Municipio de Marulanda, Caldas, Colombia, 25 February 1962. Report released by the Administrative Department of Civil Aeronautics, Colombia.

1. Historical1.1 Circumstances

Douglas C-47A, HK-502 was on a non-scheduled domestic flight from Manizales Airport (elevation - 3 380 ft) to Bogotá (elevation - 8 355 ft). The aircraft took off from Manizales Airport at 1404 hours with 2 crew and a load of cargo aboard. At 1420 hours HK-502 reported its position over San Félix at an altitude of 12 500 ft and that it estimated Cambao at 1433. At 1435 HK-502 declared an emergency. The aircraft crashed into the mountain immediately after this radio transmission. The accident site was approximately 32 miles from Manizales on a bearing of 300°. The accident was reported by the Salamina authorities at 1440 hours local time.

1.2 Damage to aircraft

The aircraft was totally destroyed.

1.3 Injuries to persons

The 2 flight crew were killed.

2. Facts ascertained by the Inquiry2.1 Aircraft information

The certificate of airworthiness was valid to 1 May 1962. The weight of the aircraft at take-off was computed to be 11 620 kg (25 564 lb). The maximum allowable take-off weight was 12 202 kg (26 844 lb). The distribution of the load was determined to be satisfactory. The engines had an operating time of 341.41 hours since overhaul.

2.2 Crew information

The pilot-in-command held a valid airline transport pilot licence rated for DC-3 aircraft. He had a total of 7 579 hours flight time of which 3 815.49 hours on DC-3 aircraft included 496.48 hours as pilot-in-command. In the preceding 24 hours his flight time was 7.23 hours and in the preceding 90 days it was 200.24 hours.

The co-pilot held a valid commercial pilot licence rated for DC-3 aircraft. He had a total of 1 435.26 hours flight time of which 240.52 hours were in DC-3 aircraft. In the preceding 24 hours his flight time was 7.23 hours and in the preceding 90 days it was 252.18 hours.

2.3 Weather information

The meteorological conditions were good. Visibility: 15 km, Wind: calm, cloud 3/8 cumulus. Icing conditions: None.

2.4 Navigational aids

The radio aids available for the flight consisted of HF, VHF and ADF facilities. The aircraft had similar radio equipment.

2.5 Communications

Radio communications were normal until the time of the accident.

2.6 Aerodrome installations

The information is not required in this instance.

2.7 Fire

Fire did not occur.

2.8 Wreckage

The wreckage was located in a ravine at an elevation of approximately 8 500 ft. The aircraft had struck the peaks of the mountains in a climb configuration at an estimated speed of 113 kt with the landing gear and flaps retracted. The right wing made contact first which caused the aircraft to pivot through 180°. The aircraft traversed 66.30 m after impact before coming to rest. The parts of the aircraft affected by impact were the nose, wings, undercarriage, tail unit, cabin, fuselage, etc. There was no evidence of fire occurring.

3. Comments, findings and recommendations

3.1 Discussion of the evidence and conclusions

Examination of the aircraft log books showed no evidence of malfunction during the preceding 5.20 hours of flight. During the flight from Manizales Airport there was no report of any malfunction in the pilot's radio messages, nor were there signs of structural or engine failure prior to impact. Weather conditions were generally good for VFR operation and were not considered to be a contributory factor in the accident. The radio aids and facilities on the aircraft were operational. However, the manoeuvring space available to the aircraft was inadequate for the aircraft to carry out a normal landing in the area. The evidence given by witnesses did not confirm the pilot's radio report that he was flying at a height of 12 500 ft and therefore the Commission of Inquiry assumed that the aircraft was in fact lower than the reported altitude and that the pilot had infringed the regulations in force, regarding altitude in VFR conditions for the route Manizales - San Félix - Cambao - Bogotá.

3.2 Probable cause

The accident was due to the faulty procedure on the part of the pilot who made the en route climb from Manizales to San Félix at a low altitude, so that the aircraft became trapped in a canyon and crashed in the San Félix pass at La Aguadita after stalling during a turn at 9 000 ft.
