

No. 17

Air Manila Inc., DC-3A, PI-C856, accident at Legaspi City, The Philippines on 16 December 1965. Report, dated 6 January 1967, released by the Aircraft Accident Investigation Board, The Philippines.

1.- Investigation1.1 History of the flight

Flight AM101 was a scheduled domestic flight from Manila to Legaspi. It took off from Manila International Airport at 1505 hours. At 1640 hours it established initial contact with Legaspi Radio, reported 7 minutes north-west of the field and requested weather and landing information. Legaspi Radio transmitted the following information: 1600H surface wind 040°/8 kt, visibility 5 km clouds 6 oktas 450 metres, 8 oktas 2,100 metres; temperature 24°, dewpoint 24°, runway in use 06 QNH 29.81 inches. At 1707 hours the flight requested information regarding the traffic in the circuit and was informed that there was none. At 1715 hours the sound of an aircraft, presumably AM 101, was heard south of the airport but the aircraft was hardly visible. At 1716 hours the flight inquired again about the present weather and the 1700 hours weather observation was passed to the aircraft. Subsequent inquiry about present visibility, wind direction and speed was made by the flight which was advised that the wind was 040°/8 kt and the visibility approximately 4 km. At 1718 hours the flight was seen turning for a landing on Runway 24. The landing roll was described by witnesses as unusually fast after the aircraft made a two-wheel touchdown, tail wheel high approximately 300 m after the threshold of Runway 24. Before the tail wheel came into contact with the runway full power was applied and the aircraft was observed airborne. At approximately 200 ft altitude, it initiated a tight left turn, collided with the top of a tree and then hit a building located two miles southwest of Legaspi Airport. The accident occurred at 1722 hours.

1.2 Injuries to persons

Injuries	Crew	Passengers	Others
Fatal	2		
Non-fatal	1	18	
None			

1.3 Damage to aircraft

The aircraft was destroyed due to impact.

1.4 Other damage

The Albay Division of Public Schools Office (DPS) Building was damaged.

1.5 Crew information

The pilot-in-command, aged 28 years, held a currently valid airline transport pilot's licence with rating on DC-3 type of aircraft without waiver and/or limitation. He also held a currently valid instrument rating. As of 10 December 1965, he had flown a total of 1 957 hours including 1 256 hours on the DC-3.

The co-pilot, aged 28 years, held a currently valid commercial pilot's licence with ratings on DC-3 and L-5 types of aircraft without waiver and/or limitation. He also held a currently valid instrument rating. As of 10 November 1965, he had flown a total of 2 596 hours of which 709 hours were as co-pilot on DC-3s.

1.6 Aircraft information

The aircraft's certificate of airworthiness was valid until 29 February 1966.

The total payload was 1 338 kilogrammes which was well below the allowable trip payload of 2 197 kilogrammes and the C.G. position was within limits.

The type of fuel being used was not mentioned in the report.

1.7 Meteorological information

At 1700 hours, the surface weather observation at Legaspi was as follows:

Surface wind: 040°/4 kt;
Visibility: 5 km;
Rain continuous: 6 oktas 300 m 8 oktas 100 m;
Temperature: 24
Dewpoint: 23;
QNH: 1009.81 inches;
Sunset: 1737 hours.

In reply to AM 101's inquiry at 1716 hours, the wind direction was 040°/8 kt visibility 4 km.

At the time of the accident, ground witnesses described the weather as dark and raining.

1.8 Aids to navigation

Legaspi Airport is provided with a non-directional beacon (NDB).

1.9 Communications

No communications difficulties were mentioned in the report.

1.10 Aerodrome and ground facilities

Legaspi has a paved runway with a SIWL (single isolated wheel load) of 15 000 lb. It is 3 955 ft long and 105 ft wide.

1.11 Flight recorders

Not mentioned in the report.

1.12 Wreckage

After the initial impact on the top of a tree, the aeroplane banked to the left hitting the front left side of a concrete building shearing off the left hand outer wing. The aircraft finally settled in a nose down position on the second floor of the building. The control cables prevented the rear portion of the fuselage from falling to the ground. The whole passenger compartment was resting on top of the building. The right hand wing was still attached to the fuselage and was hanging on the south side of the building.

1.13 Fire

A small fire broke out on the second floor of the building after impact but was rapidly extinguished by the rescuers.

1.14 Survival aspects

All the passengers except one were seated at the rear seats and were still seated with fastened belts after impact. All the seats remained attached to the seat rails and no seat belts were damaged. Some of the passengers evacuated from the wreckage without any assistance while the others were rescued by the Legaspi CAA personnel and local government officials who conducted rescue operations immediately after the accident. The flight attendant was rescued from the rear part of the fuselage. Both pilots who were still attached to their seats, were extricated dead from the shattered nose section of the aircraft.

1.15 Tests and research

None mentioned in the report.

2.- Analysis and Conclusions

2.1 Analysis

The communications log of the Legaspi Tower revealed that the flight established initial communication contact with Legaspi at 1640 hours and that it requested the weather conditions at the airport on four occasions and at short intervals. This indicated that the pilot was encountering difficulty in joining the traffic pattern under instrument meteorological conditions. The decision of the pilot to land with a tail wind component of 7.5 kt is unusual and is probably due to the marginal weather conditions existing over the airport which was below VFR minima.

No evidence of mechanical failure or malfunctioning of the aircraft, its components and accessories before the accident was found. It was believed that the aircraft was airworthy before the accident. It was noted that the windshield wiper had apparently not been used despite the rain prevailing at the time of the accident.

The fact that the aircraft touched down about 300 m after the threshold of runway 24 with an unusually fast speed was probably due to misjudgment of distance and/or failure to compensate for the prevailing tail wind. Shortly after a smooth two-point touchdown was executed, overshooting was imminent and the pilot decided to go around and attempt another landing.

After reaching an altitude of approximately 200 ft, the aircraft was observed making a tight left turn barely above the tree tops. According to reliable witnesses everything appeared normal during the first five seconds immediately after becoming airborne. Then the aircraft was observed banking alternately from left to right after executing the left turn up to the final impact. One of the surviving witnesses mentioned that the aircraft made a 360° roll before impact.

The low altitude during the left turn was probably due to the desire of the pilot-in-command to avoid losing visual contact with the runway.

Considering the heights of the DPS building and other structures and trees in its vicinity, together with the nature and extent of damage of the left hand outer wing, it was concluded that while in a tight left turn the aircraft was descending at a low angle until it finally rammed the building. This was corroborated by the testimony of a ground witness.

2.2 Conclusions

(a) Findings

The crew were properly licensed.

The aircraft was airworthy. The aircraft's weight and centre of gravity were within limits.

Examination of the wreckage did not reveal any mechanical failure or malfunctioning of the aircraft, its components and accessories before the accident. No uncorrected mechanical discrepancies were found in the aircraft logbook.

After having gone around the aircraft reached an altitude of approximately 200 ft and made a tight left turn barely above the tree tops. It then stalled during the turn at too low an altitude to permit a successful recovery.

(b) Cause or Probable cause(s)

The Board determined that the probable cause of this accident was a power stall during a tight turn manoeuvre at insufficiently low altitude where successful recovery was impossible*.

3.- Recommendations

None were contained in the report.

* Note from ICAO Secretariat

It is believed that a typing error has been made and that this should read:

"The Board determined that the probable cause of this accident was a power stall during a tight turn manoeuvre at too low an altitude from which successful recovery was impossible."