

No. 45

Philippine Aviation Development, C-45F Beechcraft, PI-C-622, crashed in Barrio Bilog-Bilog, Tanauan, Batangas on 11 October 1957. Report of Aircraft Accident Investigation Board released by Civil Aeronautics Administration, Republic of The Philippines

Circumstances

At approximately 0540 hours on 11 October, PI-C-622, with 5 passengers and a pilot aboard took off from the Manila International Airport on a charter flight to Ozamis City and return. The aircraft departed Ozamis on the return trip to Manila at approximately 1550 hours of the same day.

At approximately 1830 hours, radio contact with the Manila Tower was established and the aircraft reported its position to be over the Province of Batangas, which is about 60 nautical miles SW of Manila and lies on course on the route Ozamis-Manila. On the C-45F Beechcraft it takes about 25 minutes flight time to Manila.

The pilot requested information as to the prevailing weather conditions over Manila and vicinity and the weather report as of 1800 hours was relayed to and received by the pilot. Further efforts were made by the Tower at 1900 hours and 1930 hours to contact the aircraft but with negative results. At approximately 2030 hours, the Manila Tower received the information from the Rescue Coordinating Centre that the aircraft crashed in Barrio Bilog-Bilog, Tanauan, 45 miles SW of Manila. There were no survivors and the aircraft was totally destroyed.

Investigation and Evidence

There was no flight plan filed either on the flight from Manila to Ozamis, or from Ozamis to Manila. The pilot, although relying on contact weather, in all probability, did not bother filing flight plans, for he knew that Ozamis Airport has no communications facilities.

The site of the crash is approximately 8 to 10 minutes flight from Lipa Air Base. The area and the surrounding terrain is rugged and rolling with grown mango plantations and its elevation is approximately 1 100 feet above sea level.

From the scene of the accident, it was determined that the aircraft crashed head-on into a mango tree at an approximately level attitude with considerable speed and power.

Before the aircraft hit the mango trees, two marks on the soft ground were noticed. The first, a straight clean line of about 9 feet long and 3 inches deep and about 50 feet from the mango trees, and the second, an oblong depression of about 7 inches deep, 20 feet from the trees. It is highly probable that the first line was traced by the belly-mounted pitot-static tubes, The second, could have been made by the left propeller. There were no ground marks to show that the landing gears were extended.

The state of the wreckage showed that the impact was violent, sudden and with substantial force.

Some of the pieces of wreckage were so badly crumpled and deformed that their identification was almost impossible. The rear portion of the fuselage was thrown 100 feet south of the mango trees. Part of the empennage was located at the back of the rear portion of the fuselage. A portion of the left wing was found approximately 300 feet away S-SE of the mango trees. The right engine was thrown 200 feet away SW of the mango trees.

The blades of the left propeller were symmetrically bent about 90°, 1/3 from

the tip in opposite directions, indicating that the left engine was delivering substantial power at the time of the impact.

The blades of the right propeller were also bent, but asymmetrically, indicating that the right engine might not have been delivering as much power as the left engine or that its blades were windmilling when the aircraft struck the mango trees.

Efforts were made by the Investigating Team to recover flight power plant indicators and gauges and such other related instruments in the cockpit but to no avail. The impact of the crash totally disintegrated the aircraft. Some parts of the wreckage, including the propellers' assembly, were stolen by unknown persons. Also, the recognizable portions of the aircraft had been tampered with and moved about.

It was difficult to establish the exact time of the crash but from the statements of several witnesses, some of whom heard the crash noise despite the heavy rains, the Board deduced that the time could have been close to 1850 hours.

The weather observation over Manila at 1800 hours on the date of the accident, which was relayed to and received by the aircraft, was as follows:

"Ceiling 10 000 overcast;
1 500 scattered; 2 000 broken;
visibility 15; temperature 81;
dew point 77; altimeter 2989;
wind W 7; cumulonimbus NW;
towering cumulus SW"

Over Manila at 1900 hours:

"Ceiling 9 000 broken;
2 000 scattered; 3 000 broken;
visibility 15; temperature 80;
dew point 75; altimeter 2990;
wind SSW 4; frequent lightning
SW quadrant"

Over Lipa at 1800 hours:

"Ceiling 10 000 overcast;
1 500 scattered clouds;
2 000 broken; visibility 7 miles;
wind WSW 12 knots, with lightning on the NW"

Over Sangley Point at 1800 hours:

"1 000 scattered clouds;
2 000 scattered clouds and an estimated ceiling of 10 000, broken to overcast; visibility 15 miles; wind WSW 5 knots; rain to the W moving NE"

Over the vicinity of the crash, at approximately the time of the accident, it was raining heavily with thunderstorms and lightning, and very turbulent conditions existed. This has been verified by at least two pilots who had flown over the vicinity earlier. It was highly probable, as testified by several witnesses, that the whole area could have had zero ceiling and zero visibility at the time of the accident.

The Board was unable to deduce why the pilot did not or was not able to contact the Manila Tower prior to the accident. There was a record of the pilot's contact with the Tower at approximately 1830 hours. Several ideas were put forward as to the probable state of affairs in which the pilot was placed prior to the crash. One is that the pilot could not have anticipated the crash and had no reason, therefore, to contact the Tower; the other, that the pilot could have been too pre-occupied flying the aircraft in such turbulent weather and that he had no time to grab the microphone, before the accident happened. The latter is highly improbable though possible.

From the nature of the bends in the propellers, and from the result of the tear-down inspection of the right engine, the Board was of the opinion that the right

engine could have been feathered or at least that the right engine may not have been delivering the same substantial power as the left engine when the aircraft crashed. Based on such presumption, simulated test flights were carried out on identical equipment, purposely overloading it by some 500 pounds and flying it on three different altitudes; namely, at 5 000 feet; 3 000 feet; and 1 500 feet with the right engine feathered twice, and the left, once.

Results of the flight tests reveal that at 5 000 feet, the aircraft could not climb; at 3 000 feet, it climbed 100 feet per minute and at 1 500 feet, it climbed at the rate of 250 feet per minute.

The Board, therefore concluded that even if the right engine of PI-C-622 was feathered at such 1 500-foot altitude over the vicinity of the crash, the aircraft could still have climbed.

From evidence gathered by the Board, there was no factual finding either on the

airframe or on the engine maintenance that might have contributed to the crash.

The Board was more inclined to attach the circumstances surrounding the accident to the weather in that the pilot in all probability flew low to "get under the overcast".

Probable Cause

The Board determined that the probable cause of the accident was the unsuccessful procedure of the pilot in trying to avoid the severe thunderstorm existing over the area at that time. His attempt to fly below the thunderstorm resulted in a ground collision.

A contributing factor was the weather over the area which, at the time of the accident, was zero visibility and almost zero ceiling, with a high degree of turbulence, heavy rain and lightning.

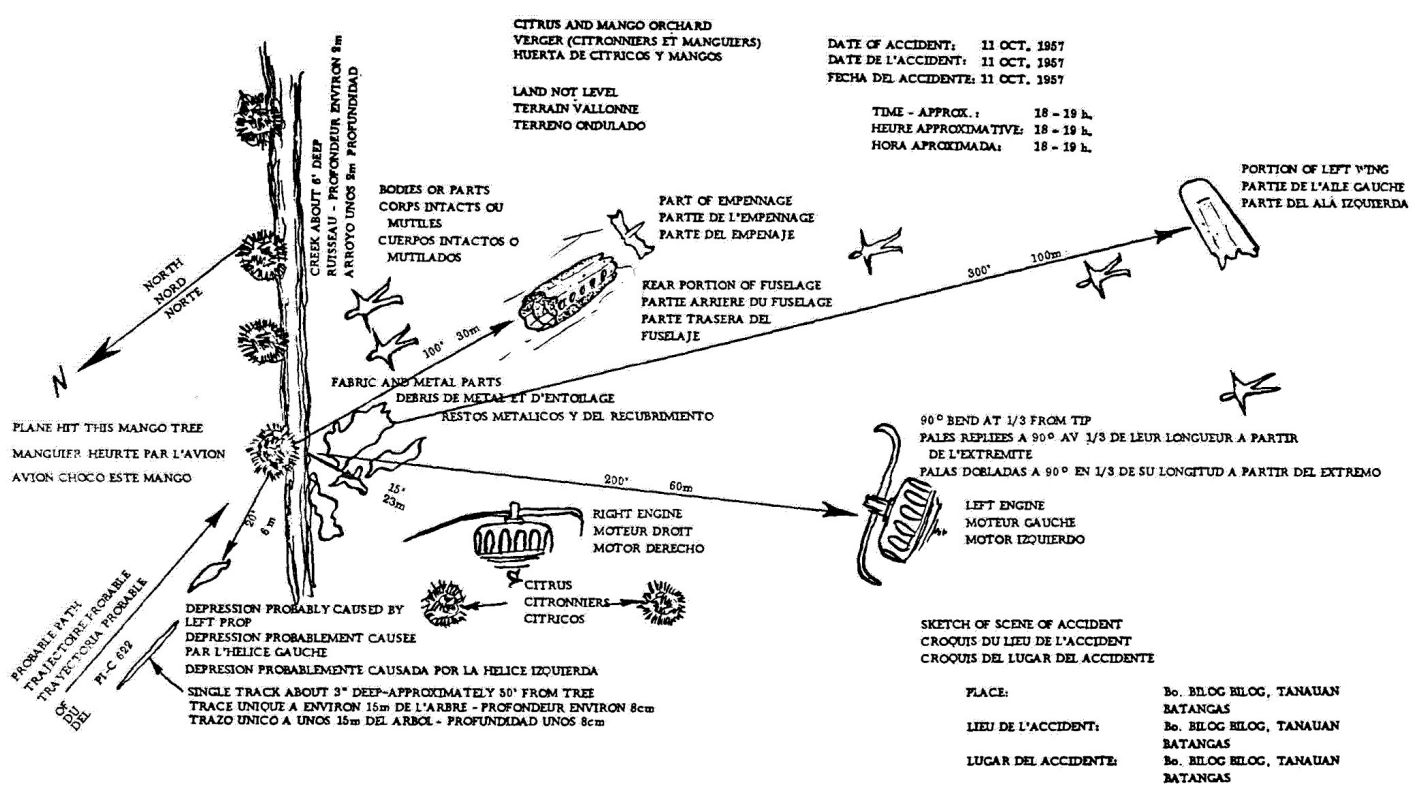


FIGURE 24