

No. 30

TACA de Honduras, DC-3 aircraft crashed into mountain  
5 kilometers from San Andrés Aerodrome on 8 September 1953.  
Report by the Directorate of Civil Aviation, Honduras

Circumstances

The flight which departed from San Pedro Sula airport on an extra flight with cargo for the San Andrés Mine, took off at 1242 hours on 8 September. The load was properly distributed with the centre of gravity on take-off, within the authorized limits. At 1316 hours, following the first and only attempt to land at San Andrés Aerodrome, the aircraft crashed into a nearby mountain approximately 5 kilometers from the aerodrome. Fire broke out on impact and the aircraft and cargo were completely destroyed. The three crew, who were the only persons on board, were killed.

Investigation and Evidence

According to witnesses the aircraft began its approach to San Andrés aerodrome at about 3,000 to 3,400 feet. The approach was made on the right hand traffic pattern and landing gear and flaps were lowered. During the final approach and while at an altitude slightly above normal for a landing, the aircraft was nosed down with the apparent intention of getting on the runway. Upon failing to do so, the landing gear was retracted but the flaps left extended, while power was applied to the engines. The aircraft continued to fly the length of the runway maintaining an altitude of about 50 feet above the runway. There were no obstacles on the runway that could have prevented landing.

When the aircraft passed over the TACA Building, witnesses noted that heavy black smoke was coming from the aircraft, the exact source of which they were unable to determine. The aircraft continued its flight toward the narrow canyon to the northeast of the aerodrome and at a spot about 5 kilometers away, where the canyon widens, the aircraft began a sharp 180° turn to the left, presumably with the intention of leaving the canyon in the opposite direction in order to land at one of the nearby aerodromes. The aircraft completed about 150° of the turn but at that point, the steep turn became a sort of spin and the aircraft crashed into the mountainside.

According to available weather reports the meteorological conditions at the time of the accident were generally good: visibility unlimited and little cloud. It was pointed out, however, that there was no accurate wind direction and velocity indicator at San Andrés, and that the reports were drawn up by inexperienced personnel. With the lack of adequate instruments, wind conditions cannot be reported accurately. The wind on that day was rather variable between calm and 10-12 miles from the north. The topographical conditions at San Andrés are such that often there are sudden gusts of air which can only be measured with accurate instruments.

According to the TACA radio operators the pilot of XH-TAR made no contact with ground stations.

Examination of the wreckage disclosed that the cylinder head No. 12 on the right engine was missing. The engine also showed clear signs of having been subjected to intense internal heat with no indication that it had been exposed to the fire following the crash. It was assumed that the right engine failed at some time during the flight.

The inquiry on examining all the facts brought out in the investigation decided that they did not afford a clear explanation for the accident, but a logical reconstruction of the events and a careful analysis of the results of the investigation lead the inquiry to the following conclusions:

It was assumed that engine failure did not occur during the en-route, initial or final approach to land otherwise the pilot would have been left with no other choice but to land since a DC-3 with

only one serviceable engine and a gross weight of 25,642 lbs could not get out of the canyon ahead.

Although it appeared to some of the witnesses that the altitude of the aircraft during the approach was high, it was noted that the pilot had, on several earlier occasions during final approach-to-land at this aerodrome, encountered gusts which lifted the aircraft so that it was necessary to dive in order to reach the runway.

It was assumed that the pilot was faced with the same situation on this approach. He nosedived in an attempt to reach the runway, but realizing that the approach would be too steep to permit a safe touch down on the runway, he prepared to carry out a missed landing procedure.

The assumption that partial engine failure occurred after the attempt to land and that full engine failure did not occur until the aircraft was in the turn appeared valid to the inquiry for the following reasons: the pilot would not have attempted a steep turn such as the one almost completed in the La Bufa canyon with low air speed and a heavily laden aircraft with complete engine failure on one side. The pilot had made this type of turn in the narrow canyon on other occasions, but with both engines operating at maximum power. Presumably, the pilot considered that the malfunctioning engine would last at least until he got out of the canyon. Unfortunately it failed during the turn, precipitating a stall. There was no evidence that the cargo moved during the last turn, however, the enquiry considered that, because of the speed of the manoeuvre, it was possible that some drums of oil and gasoline (part of the cargo) broke the ropes, which were relatively too light to withstand any violent movement thereby aggravating the conditions.

Therefore, it appeared that the cause of the accident was that, on failure in an attempt to land, the pilot endeavoured to regain full power from both engines for missed approach procedure. However, the right engine did not fully respond and sufficient speed could not be obtained to complete as sharp a turn as was necessary to get out of the canyon since it was impossible to obtain altitude to clear the canyon.

#### Probable Cause

Failure of the right engine when the pilot wished to obtain maximum power from both engines after a missed landing.