

No. 12

LACSA, DC-3, TI-1006-C, accident at Monte Arenal, Costa Rica, 12 May 1961.
Report dated 6 September 1961 released by the Directorate General of Aviation,
Costa Rica.

Circumstances

Departure from La Sabana Airport, San José was at 1205 hours GMT on the route San José - Upala - San José. The last radio contact with the aircraft was made at 1220 hours, and no further reports of its position were received. The accident occurred at approximately 1225 hours GMT.

The aircraft's wreckage was found at 1620 hours the same day at Cerro del Arenal. The two crew, the sole occupants of the aircraft, died prior to the outbreak of the intense fire which followed the accident.

Investigation and EvidenceThe Aircraft

At the time of the accident the aircraft had a certificate of airworthiness valid until 6 October 1961. The aircraft had logged a total of 30 385:51 hours. In August 1960 a No. 5 service was performed on the aircraft at which time the altimeter settings were tested, and the instrument panel unit was overhauled. At the same time the compass was compensated and the deviation card installed. The radio compasses were frequently checked by the airline's radio technicians.

The times shown for the engines and propellers since the last overhaul were as follows:

Engines	starboard	port
	793:32 hours	18:20 hours
Propellers	1 994:31 hours	1 120:54 hours

The weight of the aircraft at take-off was 20 768 lb, well within the maximum permissible limit, and was estimated at 20 024 lb at the time of the accident.

The Crew Members

Two crew were aboard the aircraft on the subject flight.

The pilot held an airline pilot's licence and had flown a total of 12 950 hours with this airline. His last medical examination was in April 1961.

The first officer had a commercial pilot's licence and had also obtained a flight instructor's licence on 20 April 1960. His last medical examination was in February 1961. His total flying experience amounted to 2 300 hours.

The Subject Flight

The flight to Upala was being made on a visual flight rules flight plan, and the estimated time of arrival there was 1240 hours.

The aircraft was airborne at 1206 hours. Several communications concerning the cargo to be picked up in Upala, were exchanged with the aircraft on the airline frequency. The last such message was at 1220 hours. This was the last radio contact with the flight.

As the aircraft had not arrived at Upala by 1243 hours (i. e. 3 minutes after its estimated time of arrival there) the airline attempted to obtain information concerning its whereabouts, and the weather conditions, from Upala and Los Chiles. Inquiries were also made at Canas and Liberia, two stations on the other side of

the mountains. All five stations continued to call the flight without results. As no word was received by 1330 hours, an emergency was declared.

The wreckage of the aircraft was located at Monte del Arenal at 1620 hours on the same day. As the flight time between San José and Monte del Arenal is approximately 19 minutes, and the aircraft took off at 1206 hours, it was assumed that the accident occurred at 1225 hours. This was confirmed by a wristwatch belonging to one of the crew members.

At the accident site

Several expeditions were made to Cerro del Arenal. Some were unsuccessful because of the difficulties presented by the terrain and the steep slope. However, the site of the accident was finally reached. A fairly large number of people had previously been at the site, and the investigating commission noted that many parts had been removed or damaged, and pieces of the wreckage had been taken away as souvenirs.

The main part of the wreckage was found in an area of about 60 m radius, while the right wing with the engine and landing wheel were about 40 m away in a cleft formed by vegetation and volcanic stone formations. From this information and the position of the other parts it was assumed that the right wing made the first impact with the ground and continued its path along the ground turned slightly upwards at about 30°.

The stabilizer and right elevator were torn from their mountings, and it was, therefore, impossible to determine the position of the tabs on that side. Because of the total destruction of the controls along the fuselage, it could not be determined whether any cable in the main components had broken before the accident. The ailerons of both wings were destroyed by impact and fire. The rudder's position corresponded to the prevailing wind at Cerro del Arenal. Examination of the wings showed that the flaps were 'up'. The landing gear was retracted. There was no apparent separation of components which could have caused an uncontrollable flight

situation. The instrument panel was located but was so damaged that no reading was possible, except that the aircraft's clock had stopped at 1757, and the cylinder heat temperature indicator showed zero in both engines. All other instruments had been destroyed.

From the evidence available, it was believed that at the moment of the accident the engines were developing power. The oil filters in the engines were found to be completely clean and contained no metal particles, so that the possibility of mechanical failure in the engines can be excluded.

As the last radio contact with the aircraft was at 1220 hours, i. e. 5 minutes before the accident, this shows that the radio was in good condition, and the conversations exchanged indicated no abnormalities in the operation of the aircraft.

The Weather Situation

Information from various sources, including other airlines and pilots that had flown the same route the day of the accident, showed the following conditions:

San José: ceiling and visibility unlimited
 Upala: ceiling 1 500 ft, visibility 10 - 12 miles, wind calm, ground wet
 Los Chiles: ceiling and visibility unlimited

Route between san José and Upala: in the areas near Cerro del Arenal stratus clouds between 3 000 and 7 000 ft. The prevailing winds were from the northeast with fair intensity.

Probable Causes

The aircraft was a little off course at the time of the accident, possibly because of the strong northeast winds in the area. A slightly premature descent had been made apparently without the crew noticing the hill, because of a stratus formation.