

No. 23

Líneas Aéreas La Urraca Ltda. , Curtiss C-46A, HK-354X, accident at Port Henderson Hills, Jamaica, West Indies on 26 November 1962. Report released by The Director of Civil Aviation, Jamaica, West Indies.

1. Historical1.1 Circumstances

The aircraft was on a non-commercial ferry flight from Fairbanks, Alaska via Miami and Jamaica to Bogota, Colombia. At the time of departure from Miami the aircraft was carrying a pilot, two passengers, four spare engines and a quantity of spare parts. The flight landed at Palisadoes Airport, Kingston (Jamaica) at 1701 hours GMT on 25 November. Following refuelling of the aircraft, fuel was observed venting from the right front tank. This was rectified, and departure was delayed until the next day.

A night take-off run was made at 0847 GMT, early in the morning of 26 November. This was longer than usual, and the initial climb was more gradual. However, the departure was not so abnormal as to cause alarm. The aircraft was cleared to climb ahead to 1 500 ft following take-off from runway 29 before setting course. Several witnesses saw the aircraft starting to turn to port on crossing the coast line, 3-3/4 miles from the end of the runway. Three minutes after becoming airborne, while still in a shallow climbing left-hand turn, the aircraft flew onto the southern face of the Port Henderson Hills at a height of 700 ft, just below the brow. The accident occurred at 0850 hours, 5 miles from the airport and 1-1/2 miles south of the extended runway centre line. After scraping along rough ground over the brow of the hill, the aircraft fell down a steep precipice, and fire broke out.

1.2 Damage to the aircraft

The aircraft was destroyed.

1.3 Injuries to persons

The pilot and one passenger were killed. The other passenger was seriously injured.

2. Facts ascertained by the Inquiry2.1 Aircraft information

At Fairbanks, on 10 November, a U.S. licensed aircraft maintenance engineer certified that the aircraft was airworthy for one flight only, from Fairbanks to Miami. A ferry permit was issued to that effect. The flight was to be limited to visual flight rules (day) only and only essential crew and their baggage were to be carried. The aircraft had no certificate of airworthiness allowing for the carriage of passengers and non-essential freight. The engineer listed ten limited airworthy items in his certification to be replaced or overhauled and to be re-inspected prior to further flight from Miami. While considerable maintenance work was carried out at Miami, it was not

possible to establish whether all the limited airworthy items listed by the engineer at Fairbanks were attended to before the aircraft left Miami.

The ferry permit did not stipulate a maximum permissible all-up weight. The weight of the aircraft at time of departure from Palisadoes was estimated to be 47 960 lb which was well in excess of the normal civil limitation of 45 000 lb for unmodified C-46 aircraft.

## 2.2 Crew information

The pilot-in-command, age 35, was the owner and chief pilot of the Company. He held a valid Colombian airline transport pilot's licence, endorsed for C-46 aircraft. He had operated several times through Palisadoes Airport, often at night. There was evidence that he had had adequate rest before the final flight. He was the only crew member aboard the aircraft. On aircraft the size of the C-46 two pilots, at least, are normally required.

On the subject flight the right-hand seat was occupied by one of the two passengers. This man held an aircraft maintenance engineer's licence corresponding to engine inspector, but he was not a licensed flight crew member. He had worked upon the aircraft both at Fairbanks and at Miami and had been on board the aircraft since its departure from Fairbanks.

## 2.3 Weather information

Information not available.

## 2.4 Navigational Aids

Information not available.

## 2.5 Communications

The pilot was in touch with Palisadoes Tower by radio prior to take-off. On the previous day he had established contact on HF and VHF with Palisadoes (Kingston) tower after having been out of all contact for over three hours after reporting at Nassau. If he encountered difficulties following his final departure, being the only crew member, he may have been too busy controlling the aircraft to use the radio.

## 2.6 Aerodrome Installations

Information not available.

## 2.7 Fire

Fire consumed all but the rear section of the fuselage but did not break out until after the aircraft had struck the ground.

## 2.8 Wreckage

Examination of the wreckage showed that when the aircraft first made contact with the bush and rocky ground it was in a shallow climbing turn to port with both engines under power. The undercarriage was retracted, and the propellers were in the low pitch position.

### 3. Comments, findings and recommendations

#### 3.1 Discussion of the evidence and conclusions

The controls, instruments and engine components were either destroyed by fire or were too badly damaged by it to permit any signs of malfunctioning prior to impact to be detected.

The average rate of climb of the aircraft before impact was calculated to have been 233 ft/min, which was well below the rate of climb expected of this type of aircraft, properly loaded, with engines developing normal climb power. The heavily laden condition of the aircraft would have been only a partial explanation of the slow rate of climb.

Improper loading could have affected the aircraft's performance. However, there was no evidence that the distribution of the main load was changed at Palisadoes following the flight from Miami.

The shifting of the aircraft's load during flight might also have affected its performance. However, it was not considered likely that any of the spare engines had become free in flight as all four broke free together at a considerable distance from the first point of impact with the ground.

The survivor was questioned several times following the accident. On one occasion she stated that the pilot had said that one of the engines was dead and that the pilot was busy with the roof and the controls. However, the evidence showed that both engines were operating at the time of impact although the poor rate of climb makes it seem possible that one or both of them were not using full power.

There were considered to be three possible explanations for the pilot's deviation from his clearance to climb ahead to 1 500 ft:

- 1) a 100% altimeter error was experienced - this was considered unlikely;
- 2) pilot error - he may have turned on to the course for Bogota before reaching the minimum terrain clearance altitude;
- 3) mechanical difficulty was encountered which affected the controllability of the aircraft or distracted the pilot from observing the high ground.

#### 3.2 Probable causes

The aircraft was turned during the climb after take-off at a height insufficient to clear rising ground. The ability of the pilot to avoid the hill may have been affected by some mechanical or other failure, although the occurrence of such a failure was not established.

A contributing factor was that the carriage of one pilot was inadequate for the safe operation of an aircraft of this type.

### 3.3 Recommendations

No recommendations are contained in the report.

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Non-commercial ferry flight Take-off Collision - rising terrain Pilot - misjudged distance after failing to adhere to ATC climb-out clearance
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