

No. 5Compagnie Autrex, DC-3 aircraft damaged on landing at Beyrouth International Airport on 24 January 1954. Directorate of Civil Aviation, Lebanon, Accident Report No. 8Circumstances

The aircraft, belonging to the Compagnie Autrex, was on a delivery flight from Paris to Hanoi. It departed from Paris on 22 January 1954 at 0650 Z and arrived at Brindisi the same day at 1305 Z. The following day the aircraft left Brindisi at 0720 Z and landed at Nicosia at 1330. From Nicosia the aircraft intended to fly to Basra, but a failure in the HF radio equipment caused a change in the schedule, and it was decided to fly to Beyrouth where specialists and the spare parts necessary for the repair were available. While landing, the aircraft struck a mound short of the runway damaging the right undercarriage. The aircraft subsequently landed on the runway when the undercarriage collapsed. There were no injuries.

Investigation and Evidence

At 0630 Z the pilot contacted Beyrouth requesting permission to land. After a routine circuit the aircraft reported that it was down wind and received the following information: QNH 29.99, Visibility 4 miles; Surface wind Northwest 10 knots. Temperature 13°; QFE 29.90; Runway 36.

The runway was lighted and the aircraft made a normal approach to land at 0656 Z. The approach was a little short and at 30.30 metres from the entrance to runway 36 the wheel struck a mound rising on an incline to a height of 78 cm above the runway.

The impact caused a blow-out in the right tire and damage to the right landing gear. The airplane bounced after the impact and landed on the runway at some 20 meters from the beginning of the runway. The pilot held the aircraft on the left wheel, but at 600 metres, following loss of speed and of lift, the aircraft settled on the right landing gear which collapsed, causing the tip of the right wing to scrape against the ground. As a result, the aircraft swerved to the right and left the runway at the intersection of runway 36-18 and the first taxiway.

The aircraft broke three markers -- one runway marker and two taxiway markers -- and cut a high tension cable which caught fire.

The first witness to arrive at the scene extinguished the fire. The end of the severed cable was located at 1.50 metres from the tip of the right wing of the aircraft.

In his evidence the captain explained that on final approach he had half flaps, landing gear down and locked and an approach speed of 105 mph, with 2350 rpm, auto-rich with manifold pressure of 16-17 inches. No turbulence was experienced. After the impact the aircraft continued to move in a fairly normal attitude. When the aircraft touched down, the captain noticed that the landing gear would not hold and he then cut all switches without, however, starting the fire extinguishers. After the stop, "fire" was reported which, when checked, proved to be fire in the cable connecting the markers. (Note: The cable carried 5,000 volts).

Marks left on the mound showed that the right wheel touched before the left. The aircraft was, therefore, inclined slightly to the right on landing. The right wheel touched about 1 metre before the left wheel and the furrow made by the right wheel was deeper. However, the mound sloped down on both sides and the impact should not have been strong enough to cause the landing gear to break.

The altimeter reading after the accident showed a setting of 29.97. However, according to information provided by the tower to the pilot before the accident, the QNH was 29.99 and the QFE 29.90.

The load sheet on departure from Nicosia contained several errors, the combined effect of which gave a landing weight at Beyrouth which exceeded that permitted by the Certificate of Airworthiness by 27 kg.

The main cause of the accident was probably an unduly short landing which, in view of the length of the runway and the perfect condition of the aircraft, was unwarranted and must, therefore, be ascribed mainly to error on the part of the pilot, due largely to his lack of familiarity with the terrain. The pilot had never landed at the Beyrouth International Airport. The faulty altimeter setting was possibly an additional reason for the defective approach. Also, restricted visibility prevented the pilot from seeing the mound and taking appropriate action to avoid a crash.

The presence of the mound at 26.60 metres from the runway entrance was a contributing factor. Since this mound was 78 cm high, the variation in level was 3%.

#### Probable Cause

The accident is attributed to pilot error due to lack of knowledge of the terrain. The existence of the mound was only an aggravating circumstance. The failure of the right landing gear may be explained by the excessive landing weight of the aircraft.

#### Recommendations

A regular inspection of the runway ground approaches is necessary to reveal natural obstacles caused by the movement of sand as well as all variations in land caused by the wind. A special crew should always be ready to smooth out areas which might be considered as dangerous.

Any unusual condition should be brought to the attention of the airport manager who will act accordingly.

In addition, the manager should be advised of any temporary installation of electric cables which does not meet the required conditions, and measures should be taken so that these installations shall be of the shortest possible duration. The breaking of the electric cable could have caused much more serious results.