

No. 13Junkers JU-52 aircraft crashed on 10 March 1953 in the vicinity of  
"San Pedro de Colalao" (Tucumán Province), Argentina Accident  
Investigation Report No. 145. Released 5 August 1953Circumstances

The accident occurred on 10 March 1953 at about 1815 hours (local time) in the mountains near the town of San Pedro de Colalao (Tucumán Province). The aircraft was on a locust-control spraying flight and carried two crew (a pilot and a mechanic) and three passengers. All but one of the occupants were killed and the aircraft was totally destroyed.

The pilot who was operating the aircraft had accumulated 5,032 hours of flying time up to 31 July 1948. Information on his subsequent activity up to the time of the accident was not available because it was not possible to locate his documents for that period. It was established, however, that he had 50 hours of familiarization flying time on the type of aircraft in which the accident occurred and 43 hours in fumigation work.

The mechanic who was flying as a member of the crew, did not hold a license issued by the competent technical authority, appropriate to these duties.

Investigation and Evidence

The aircraft, which was suitably equipped for locust-control operations, departed from Tucumán airport on 10 March 1953 at 1740 hours (local time) to carry out a spraying flight in the mountains located to the NW of the aerodrome. Besides the crew and passengers, 2,400 litres of gasoline, 180 litres of oil and 1,000 litres of liquid locust spray (DOC) of which the specific gravity is approximately 0.900 kg. per litre were carried. This gave a total weight of approximately 3,165 kg., 235 kg. less than the maximum capacity of the aircraft which was 3,400 kg.

After making two spraying runs, the pilot turned toward a ravine, repeating the operation. At that moment, a swarm of locusts was discovered in flight near the crop. The pilot began a run at a very low altitude and was making a left turn to follow the course of the ravine when the port wing struck a tree causing the aircraft to crash into the woods and to burst into flames.

The spot at which the accident occurred is in the mountains, some 90 km. from Tucumán airport and its elevation is in the neighborhood of 650 metres.

The meteorological report prepared on the basis of the weather conditions obtaining at Tucumán and Metan road: cloudy with high and low clouds (cumulo-nimbus especially in the mountains) ceiling 1,000/1,500 metres; visibility unlimited; wind west 8/10km/h. According to statements by witnesses at the scene, it was a very hot day without wind and with a clear sky.

Taking into account the fact that the aircraft was flying at the time in the lee of elevated terrain, the small amount of wind - if the air was not completely calm - could not have caused a down draft powerful enough to affect the course of the aircraft. Nor could it be presumed that convection caused a disturbance of such magnitude as to make the aircraft hit a tree, in view of the time at which the accident occurred (approximately 1815 hours, local time).

The theory that the pilot had been unable to see outside because he had flown into the cloud of locusts was discarded because of statements by witnesses, and even if this did occur, he must already have been at an extremely low altitude.

Undoubtedly, the aircraft entered the cloud of locusts, but it is believed that this occurred at the same time as the wing tip touched the tree, because the starboard engine, which was higher during the left turn, showed scarcely any trace of locusts, whereas there was more evidence of them near the central and port engines.

From the condition of the propellers it was determined that the engines were operating at the time of the accident. It was not possible, however, to ascertain how and when the pitch of the left propeller blades had been altered.

#### Probable Cause

The investigating authority attributed the accident to lack of technical experience on the part of the pilot in carrying out a spraying flight over mountainous terrain, resulting in his failure to allow adequate terrain clearance. Contributing factors were the type of operation, the nature of the area flown over and the type of aircraft used.