

No. 23

S.O. - 30 F-OAIY Aircraft, runway accident at Orly on 30 October 1951.

Circumstances

The right main undercarriage leg retracted suddenly while the aircraft was on a take-off run at Paris/Orly airport. The right wing struck the ground and slewed the aircraft round in the opposite direction. Fire broke out in the cargo hold but all passengers and crew were safely evacuated. The aircraft and cargo were about 80% destroyed.

Investigation and Evidence

After clearance was given to the aircraft for take-off, the aircraft was lined upon Runway 21 with its nose wheel set on the take-off line. The throttles were opened gradually and the aircraft began its normal take-off along the centre line of the runway. In the pilot's words, "the aircraft covered approximately 150 metres, engines were at 2 700 r.p.m; manifold pressure 42 inches; airspeed not more than 75 miles per hour. Just as the flight engineer was synchronizing the propellers a very loud explosion was heard and just about the same time the starboard wing listed heavily towards the ground. A bumping was felt on the right side and the aircraft swerved to the right".

The aircraft left the runway and came to a standstill facing in the opposite direction. Although the throttles were closed, engine switches and the master switch switched off and the fuel valves closed, the engines continued to operate at full throttle and only heavy spraying with CO₂ succeeded in stopping them.

Evacuation of the passengers, which began immediately the aircraft had come to a stop, was carried out rapidly in spite of the fact that it was impossible to fully open the rear entrance door which remained stuck 1/3 open. Shortly after the aircraft stopped, fire broke out in the lower hold but was rapidly brought under control by the airport fire brigade.

Examination of the damaged aircraft showed that the right landing gear leg had retracted. Statements by the crew confirmed that all three green indicating lights were on when seen just before the aircraft began to swerve to the right. Examination of the actuating equipment of the right leg indicated the following:

a) Electrical controls were operative and there was no evidence of any sudden switching of the electrical current to the right leg electro valve which could have caused sudden retraction.

b) The device for preventing retracting on the ground was in the proper operating position.

c) Extensive testing failed to indicate any failure in the hydraulic system.

It was established that the cause of the continued operation of the engines after the accident was the cutting of a number of circuits, controls and conduits by flying fragments of the propeller blades thereby rendering ineffective any action by the pilot or flight mechanic to stop the engines.

The reason for the rear exit door jamming in the 1/3 open position was the offsetting of the hinge system of the rear door caused by distortion of the fuselage consequent upon the accident.

The cause of the fire in the hold was the burning of the fuselage sheeting by the exhaust of the right engine, the exhaust acting as a blow-torch, igniting clothes and goods in the hold and hydraulic liquid spilled from broken lines.

Probable Cause

The cause of the sudden retraction of the right leg of the main landing gear could not be determined.