

ENGINE FAILURE AFTER TAKEOFF INCIDENT REPORT TRANSCRIPT

TYPE A/C : B-747-100 DAMAGE : None

DATE : 12 July 1978 INJURY : None

WHERE : SFO

Number 1 engine stalled at approximately 220 foot and the airplane lost altitude after banking steeply to the right during a twilight evening departure.

Takeoff gross weight was 710,000 pounds and the airplane departed runway 28L (10,600 feet long). Weather was 600 feet scattered, 15,000 feet scattered, wind 310/16, temperature +15°C, altimeter 30.03 inches. The Sky (Gap) was covered by clouds. Number 2 engine was QXI'd for a high EGT but outside air temperature was cooler than the QXT limit, so no thrust restrictions were required. Takeoff thrust was set at 1.44 and EGT was 880 degrees during the initial climb. Airspeed bugs were set for : V1-153, VR-163, V2-170 knots. The airplane was cleared straight ahead on the departure. At approximately 220 feet, number 1 engine stalled with a loud bang accompanied by a jolt. Number 1 engine EGT climbed to 1050 degrees, lighting the EGT limit amber light.

The flight engineer notified the captain that number 1 engine had stalled and the engineer accomplished the shutdown with the first and third officers monitoring his procedures.

The captain then began a right 25 degree bank turn toward San Francisco Bay. Control tower personnel observed the turn and asked the crew "Can you maintain runway heading, there is terrain off to the right". The first officer suggested that the captain tighten the turn. Bank was increased to approximately 46 degrees. At about this time the airplane was in and out of clouds and thrust was reduced causing a shallow descent of 100 to 200 feet per minute at approximately V2 plus 7 knots, accompanied by activation of the ground proximity warning system. (Thrust reduction was confirmed by simulator profile analysis -Ed). The first officer stated that the persistent GPWS activation was annoying since the crew was well aware of the situation. The airplane descended to approximately 120 feet all before climbing. At about this time the flight engineer initiated fuel dumping procedures.



CaptainPilot

Flight path and fuel dumping was coordinated with ATC. ATC also provided traffic information to the flight as it headed southeast over San Francisco Bay dumping fuel and accelerating through the flap retraction schedule. The flight then turned northwest continuing to dump. Dumping was completed over the ocean at approximately 5000 feet. Approximately 104,000 pounds of fuel was jettisoned. The flight was then vectored back to San Francisco where a visual approach to runway 28R was accomplished using the ILS for profile guidance. Landing gross weight was 580,000 pounds.

The captain stated that he deviated from the planned departure because he feared a second engine malfunction and he exercised his emergency authority in turning to the right out over the relatively unobstructed Bay.

(CROSSCHECK - Jul-Aug 1978)

