

# Landing Gear Fire on Takeoff Led to DC-8 Crash at Jidda

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Pilots of the Nationair Canada DC-8-61 that crashed at Jidda, Saudi Arabia, reported pressurization, hydraulic and flight control problems after flames were seen coming from the left main landing gear during takeoff.

Capt. Omar Barayan, vice president of aviation standards and safety for the Saudi Arabian Presidency of Civil Aviation, told AVIATION WEEK & SPACE TECHNOLOGY skid marks several thousand feet long were found on Runway 34L at King Abdulaziz International Airport along with tire and wheel rim pieces. There was no fire damage on these pieces, but Barayan said one eyewitness reported large flames were coming from the left main landing gear during takeoff.

The McDonnell Douglas DC-8 took off on the 13,000-ft.-long runway at 8:29 a. m. local time on July 11 on a flight that lasted only 11 minutes. The temperature was 26C. The aircraft had 247 Nigerian hajj pilgrims and 14 Canadian crewmembers on board. All died in the crash, which came during an emergency return to the airport (AW&ST July 15, p. 33). The Canadian flight crew included Capt. William Allan of Nationair, first officer Kent Davidge and second officer Victor Sehr.

After takeoff, the DC-8 crew was instructed to turn left and climb to Flight Level 150, which is the transition level in Saudi Arabian airspace. Barayan said that at 2,000-3,000 ft. and 5-8 mi. from the airport, the pilots told Jidda Departure Control they were experiencing a pressurization problem and wanted to maintain 3,000 ft.

## PROBLEMS COME QUICKLY

Then, in quick succession, the pilots reported that a tire had burst, the aircraft was losing hydraulics, and they were declaring an emergency. Investigators do not know yet if the landing gear was retracted or extended at the time of this report.

The aircraft entered a left downwind for an immediate return to the airport. Barayan said the aircraft was probably about 12 mi. southwest of the airport. Winds were out of the north at about 15 kt.

The pilots then said they were experiencing flight control problems and had reverted to using manual flight controls without hydraulic assist. The DC-8 has a

normal hydraulic system powered by pumps on each of the two inboard engines and an auxiliary system powered by an electric pump in the left wing root. There is a separate hydraulic system for spoilers that is powered by an electrically driven pump in the right wheel well and another one for standby rudder power.

Investigators are trying to determine the extent of hydraulic problems. There

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are several hydraulic reservoirs located in or near the wheel well area, according to a McDonnell Douglas official. There are no temperature sensors or fire extinguishers in the wheel well.

Radar controllers vectored the DC-8 back to line up with Runway 34L. In the readbacks, the pilots reported they were "attempting" to steer a particular heading, indicating they were having difficulty controlling the aircraft during turns.

Prior to becoming established on final, the pilots reported there was a fire on board the aircraft, and this may have been in the cabin area. The pilots reiterated they were declaring an emergency and wanted all crash rescue equipment to stand by near the runway.

In the turn to Runway 34L, the aircraft overshot and ended up lining up on Runway 34 center on a 12 mi. final. Saudi controllers cleared the DC-8 to land on any of the three parallel runways 34 left, center or right.

Some witnesses on the ground reported that at this point smoke was coming from the wings or an engine, while others said it was coming from the fuselage. There are several technically qualified witnesses, such as an engineer, who saw the final approach. The flap and gear configuration are not yet known, but the aircraft was reported by witnesses to investigators to be coming in at a low altitude and a higher than normal approach speed.

There were also some reports that the aircraft started to break up in flight before impacting the ground 1 km. short of the runway. The high energy impact with the ground destroyed the aircraft which exploded in flames.

Six bodies and some small pieces of debris were recovered on the outskirts of Jidda, 4-8 mi. from the threshold. Barayan said this indicates there may have been a hole in the bottom of the fuselage by this point on final approach.

Barayan said as of late last week the investigation team still was interviewing eyewitnesses and gathering data. A survey of the wreckage has been conducted, including aerial photography, but there are no plans to reconstruct the aircraft.

The investigation team leader is Alan Clark, a Canadian citizen employed for several years by the Saudi Arabian Presidency of Civil Aviation. The team also includes representatives from the Transportation Safety Board of Canada, U. S. National Transportation Safety Board, Transport Canada, U. S. Federal Aviation Administration, and Nationair. Tire and brake specialists are also participating as are explosive experts. Sabotage has not been ruled out but is considered unlikely.

The flight data recorder and cockpit voice recorder arrived last week at Ottawa. A Transportation Safety Board of Canada official said the devices arrived in good condition, without any fire damage. The flight data recorder is a Davall Recycling Recorder Type 1190, and the cockpit voice recorder is a United Data Control V557.

Barayan said there may be some similarity between this accident and one involving a Capitol Airways DC-8 which suffered a tire or wheel failure during a rejected takeoff at Shannon Airport in Ireland in 1977 (AW&ST Oct. 10, 1977, p. 34). Shrapnel from disintegrating wheels punched a 3-in. gash in the wing fuel tank and a fire ensued, causing extensive damage. Some passengers were injured while evacuating the aircraft.

There are still 329 DC-8s in service worldwide out of 556 delivered originally, according to a McDonnell Douglas official. United Parcel Service is the largest user of DC-8s with a fleet of 49. There are 92 others in service with U. S.-based operators. □