NYC 9/11 Public Portal Document

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Materials In Tail Fin Scrutinized

TAIL from A6

A chunk of the end of plane, called the empennage, was found near the crash site with the three fasteners that attach the tail fin visible, according to a pool reporter who was taken to the site. The fasteners appeared to be intact, but were still attached to portions of the composite material from the tail. There were no signs of fire damage, and it appeared that the composite material had torn.

Former FAA maintenance inspector William Crow, who has examined the workings of American Airlines A300s, said yesterday he couldn't imagine that wake turbulence could shear off a vertical stabilizer that was in perfect condition. He said that led him to conclude that either the plane was sabotaged — something he thought was highly unlikely — or the structure of the vertical stabilizer simply failed.

"It would be my opinion, if the information given on television is correct, that there must have been a mechanical failure rather than an upset," said Crow, who supervised FAA inspectors assigned to American Airlines before retiring in 1999.

Crow said the pilots would have "no chance whatsoever to manage the plane" once it lost the tail fin, and additional damage to the plane probably would follow.

"With the forces that would be brought on at an airspeed of 200-260 knots — with the aircraft gyrating about its vertical or horizontal axis — it probably did, or could, rip off both of the engines," Crow said.

The FAA in 1998 issued an airworthiness directive for older-model Airbus A300 planes requiring new inspections on the skin of the vertical stabilizer after receiving reports of fatigue cracking. The order, however, did not apply to the A300-600 model, which is the plane that crashed in Queens.

Flight 587's maintenance records show that prior to the disaster, the plane had three cracks ranging from 3 inches to a half-inch in its right wing flap, first detected by maintenance workers last May. Workers fixed the cracks temporarily by drilling holes to prevent the cracks from spreading. The problem was noted again in October, and then again on Nov. 11, a day before the flight.

In federal documents and interviews with pilots, American Airlines' Airbus A300 planes suffered rudder malfunctions in flight, known as "runaway rudder," leading the company to issue a 1999 service bulletin on how to deal with the problem.

In May 1998, a flight from Bogota to Miami landed safely after the crew experienced rudder deflections that caused the airplane to gyrate excessively from side to side on final landing approach, prompting the captain to abort the landing. An American pilot said the same type of incident occurred in a New York-to-Aruba flight around the same time, prompting the pilot to try to land the plane three times. That pilot received the air safety award from the airline for successfully landing the plane.

In October of that same year, during a flight from Santo Domingo to New York, pilots experienced a "rudder jolt," caused by a problem with the yaw actuator, which controls the movement of the plane. The problem, the bulletin noted, caused the rudder to move without pilot action, including deflections up to 12 degrees.

Investigators noted Tuesday that Flight 587's rudder was adjusted 10 degrees to the left. Pilots adjust the rudder to account for wind or to turn, but experts said the 10 degrees was an unusually large amount for such a movement, leading them to wonder if it was intentional.

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