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Boeing 'Concerned' as 737s' Cracks Occur Earlier Than Expected

By Susanna Ray - Apr 5, 2011

[Boeing Co. \(BA\)](#) said metal-fatigue inspections must be stepped up on older 737s, the world's most widely flown jet, after cracks developed earlier than expected on a [Southwest Airlines Co. \(LUV\)](#) plane that split open last week.

Cracks on the so-called 737 Classic weren't forecast to occur until "much later," after 60,000 cycles of takeoffs and landings, said Paul Richter, Boeing's chief project engineer for older jets. The plane that ripped in an April 1 flight above [Arizona](#) had flown 39,781 cycles.

"We are all concerned about this recent development," Richter said yesterday on a conference call. He said Boeing is working with airlines worldwide to ensure that those making frequent, shorter flights, like Southwest, inspect the jets within five days.

About 175 planes flown by carriers in the U.S., [Asia](#) and [Europe](#) meet the criteria of a U.S. Federal Aviation Administration directive issued yesterday requiring inspections for cracks on all 737-300s, 737-400s and 737-500s that have flown more than 30,000 cycles. The FAA also is taking the rare step of requiring checks again every 500 cycles as a precaution while the probe continues, Richter said.

Boeing has built almost 6,700 737s and has a backlog for more than 2,100 more. The single-aisle jet, along with Airbus SAS's A320, is the backbone of the aviation industry, used chiefly on domestic and short-haul flights.

Southwest is the biggest operator of 737 Classics, followed by [Germany's Deutsche Lufthansa AG \(LHA\)](#), [US Airways Group Inc. \(LCC\)](#), Malaysia Airline System Bhd. and [United Continental Holdings Inc. \(UAL\)](#), according to data from aviation research firm Ascend.

Grounded Planes

Southwest pulled 79 planes from service after last week's incident forced an emergency landing, injuring a flight attendant and a passenger. The Dallas-based carrier found cracks on five other 737s, and Boeing has developed repair plans for three of those so far, Richter said.

Brandy King, a Southwest spokeswoman, declined to comment on Boeing's findings. The airline said it

operated a full flight schedule yesterday.

Lufthansa said that in coming days, during regular maintenance, it will check three of its jets that were built in the same period as the Southwest plane. It didn't find any problems during inspections earlier this week. The carrier's BMI baby unit said it also plans to inspect three aircraft over the next few days, using available ground time.

British Airways, [US Airways](#) and United Continental said their fleets haven't been affected by the Southwest incident.

Overnight Inspections

[Alaska Air Group Inc. \(ALK\)](#) plans to check two 737-400s in overnight inspections that won't disrupt scheduled flights. Another 15 aircraft will need to be inspected in three to six years as they reach the threshold outlined by the FAA, said Paul McElroy, a company spokesman in Seattle.

Boeing, based in [Chicago](#), was aware of the potential for problems with fatigue around the fasteners that hold the 737 fuselage panels together and changed the design for newer models of the plane starting in 2000, Richter said.

Boeing is urging airlines to inspect the lower row of fasteners in the lap joints along the left and right side of the crown of the planes, a section about 50 feet long, Richter said. With two inspectors, one on each side, each check will probably take about eight hours, he said.

The company has "very high confidence" in the inspection technique with handheld instruments that can find "very short cracks" using electromagnetic technology, Richter said.

Fuselage Sections

The FAA's directive eventually will require about 570 planes to be checked, Richter said. Airlines that find cracks will need to collaborate with Boeing on how best to fix their aircraft, and will probably need to cut out and replace sections of the fuselage, he said.

The Southwest repairs will probably require removing an 18-inch length of the lap joints and will take 8 to 16 hours per jet, he said. The April 1 incident was "a statistical event" and doesn't have anything to do with Southwest's maintenance program or with how the carrier operates its planes, Richter said.

Boeing knew that the first 737s, which the company began building in [Seattle](#) in 1967, would have problems along the lap joints, and the FAA already has devised inspections and repairs for those planes, Richter said. The company changed the design for all 737-300s, -400s and -500s built after 1993, and those are the ones that weren't expected to start cracking until they reached 60,000 cycles.

By 2000, when the models known as Next-Generation 737s began to be built, the company had developed a new design that's "significantly different and much improved," Richter said. Engineers were able to reduce how much the metal fuselage bends when the plane is pressurized as it ascends, he said.

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