Faulty part is suspected in other copter crashes

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The type of helicopter involved in this month's fatal crash in Northern California has gone down four other times in the past 15 years under similar circumstances, leading some safety officials in the United States and Canada to raise questions about a part in the aircraft's clutch system.

When the piece — known as the input freewheel unit — fails, power to the helicopter's main rotor can go out entirely, according to the National Transportation Safety Board, the Transportation Safety Board of Canada and lawyers who have sued the manufacturer on behalf of crash victims.

Investigators looking into the Aug. 5 crash that killed eight Oregon firefighters and a U.S. Forest Service official have not singled out the unit in a process that could take a year or more to complete. But the lead NTSB investigator on the case said Thursday the freewheel unit will be included in the examination.

Paul F. Jackson, spokesman for Sikorsky Aircraft Corp., declined to comment Thursday on the freewheel unit or on the accidents for which it has been blamed. The Connecticut company has said it is cooperating fully with investigators.

Sikorsky — and defendants that included either the engine maker or transmission maker — settled at least five lawsuits out of court related to crashes allegedly caused by failures of the freewheel units, but never admitted fault.

Canadian and U.S. safety officials, though, have stated that four crashes involving Sikorsky S-61 helicopters were caused by freewheel-unit failures.

In one, at Canoe Creek, B.C, in April 1993, the Canadian safety board's investigation determined that a Sikorsky S-61's left freewheel unit failed because of excessive wear after 427 hours of use. Even though the operator had followed Sikorsky's service recommendations, the agency said, the freewheel units "became worn beyond tolerance."

In another case, at Porteau Cove, B.C., in January 2001, the Canadian agency found that self-lubricating bearings inside the helicopter's freewheel units "were subject to premature wear and damage from normal use." That wear caused "instability ... that led to slip or spit-out, disengaging one of the" freewheel units.

A third crash, Aug. 8, 2002, killed two pilots during a logging operation in Wendle Creek, B.C. The agency's investigation found both of the helicopter's freewheel units failed "in rapid sequence, causing the engines to overspeed and subsequently shut down."

Less than a year later, on March 23, 2003, Sean Winter of Central Point, Ore., was the co-pilot on a helicopter that crashed in Kimble, Tenn., during logging operations. Winter survived, but Montana-based pilot Griffin Fisk died in the crash, which the NTSB determined was caused by "interruption of rotor-system drive power due to the input free wheeling unit malfunctioning."

Sikorsky has responded to concerns about the freewheel unit, lawyers who've sued the company said, by pushing responsibility back on helicopter operators. In a series of service bulletins, several of which

followed closely on the heels of crashes, Sikorsky reduced the recommended time between overhauls of the freewheel units from once every 1,000 hours of use to once every 500 hours, or once every 7,500 lifts of logs, water or other external loads.

But lawyers for crash victims, and a veteran Canadian aviation crash investigator, say the freewheel unit is inherently flawed and that Sikorsky has known about the defect for years.

Portland attorney Robert Hopkins, who has been trying aviation cases for three decades, said Sikorsky has been resistant to changing the design of freewheel unit. "They were well aware of the problem but did not fix it," he said.

The common thread linking the four cases that have been blamed on the freewheel unit is that they came when the helicopters were hovering or climbing, when there's maximum strain on the aircraft.

"The pattern in this most recent crash in California is the same," said San Francisco attorney Gerald Sterns. The Aug. 5 crash, still under investigation, came when the S-61 was lifting off with 13 people aboard.

When the freewheel unit fails and both engines fail, he said, power is cut to the main rotor and "the blades just windmill."

"That leaves the pilots helpless," Hopkins said. "They have to ride it down. That's all they can do."

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