

On-site Summary

AC Model	206B3	Eng Mfg	Rolls-Royce
AC Registration	3626	Eng Model	250-C20B
AC Serial No.	N648CA	Eng Serial No.	CAE-840900
AC Total Time	15,907.1	Eng Total Time	7928.5
Orig AC Model	206B3	City	Woodville, 12 mi. West
Mishap Date	9/24/2015	State	TX
Mishap Time	10:40 AM	Country	USA
Flight Phase	Maneuvering	Owner	Chem-Air LLC
Damage Est	Destroyed	Operator	Chem-Air LLC

Narrative:

The helicopter had just refueled with about 20 gallons from the nurse truck's first dispensing load of fuel that day and then flew to the cut tree treatment area for brush control. During a climbing right turn over ~ 70 foot tall trees, the pilot reported engine and rotor rpm decay at the top of his turn. Over trees, he maneuvered and applied collective to reach the cut tree area, which allowed rotor rpm to decay further. After clearing the trees, the pilot applied forward cyclic and lowered collective to regain rotor rpm. Close to the ground he applied aft cyclic and full up collective pitch. He reported the helicopter impacted in a level attitude, rolled over to the right, and slid for about 20 meters before coming to rest. He turned off electrical switches and egressed through the broken out pilot windscreen. He walked about 20-30 meters away from the helicopter and laid down because of lower back injury. The nurse truck crew found him and he was taken to a local hospital.

Wreckage examination was at the operator's facility near Shreveport on 10/6/15. Representatives of the FAA, Rolls Royce, Bell Helicopter and operator were present. Water was found in the helicopter fuel tank, airframe fuel filter, engine fuel filter, and in the fuel line to the engine fuel nozzle. The presence of this water is consistent with the engine losing power. Using the Kolor Kut water detecting cream, water was found in the lower right portion (a low spot) of the deformed fuel cell. The crash resistant fuel cell appeared to not have been breached. The airframe fuel filter had mostly orange/brown water in it (as confirmed by Kolor Kut) and a much smaller amount of fuel. The fuel canister was essentially full. The paper filter was relatively clean, but the bottom of the fuel filter canister had dirt & particulate in it. The engine fuel filter mostly contained clear water with just drops of fuel observed. The fuel line to the engine supply nozzle had an approximate teaspoon of liquid in it, about half clear fuel and half clear water. The forward and aft boost pumps were energized while installed in the helicopter. Both pumps operated when energized although the forward pump was not as vigorous as the aft pump. The nurse truck was tested for water in the fuel at three locations. No water was found at the pump sump, the lowest part in the truck's fuel supply system. The filter sump was drained by removing the entire pip cock fitting since the pip cock was stripped. There was a small amount of water (approx. 2-3 tablespoons) and particulate in the first sample and some of the particulate was likely from the pip cock fitting which fell into the sample jar during the process. The filter was removed and did not appear to be bulging from water absorption. A larger amount of water (approx. 5-6 tablespoons) was found in the truck fuel nozzle with the fuel sample being yellow in color. Fuel sample jars were taken by the FAA representative for further testing. Damage to the airframe, landing gear, drive system, main rotor, tail rotor and flight controls was consistent with impact forces and no pre-impact anomalies were observed in any of these systems. Main drive continuity was confirmed between the engine power turbine and main transmission.