NATIONAL TRANSPORTATION SAFETY BOARD
Vehicle Recorder Division
Washington, D.C. 20594

April 9, 2010

Errata

Sound Spectrum Study Cockpit Voice Recorder - 12

Group Chairman's Report
By James Cash

A. EVENT

Location:	Weaverville California
Date:	August 5, 2008, 1941 PDT
Aircraft:	Sikorsky S-61N, N612AZ
Operator:	Carson Helicopters, Helitanker 766
NTSB Number:	LAX08PA259

B. GROUP

N/A

C. SUMMARY

On August 5, 2008, about 1941 Pacific daylight time,[1] a Sikorsky S-61N helicopter, N612AZ, impacted trees and terrain during the initial climb after takeoff from Helispot 44, located at an elevation of about 6,000 feet in mountainous terrain near Weaverville, California. The airline transport pilot, the safety crewmember and seven firefighters were killed; the commercial copilot and three firefighters were seriously injured.[2] Impact forces and a post crash fire destroyed the helicopter. The helicopter was being operated by the United States Forest Service (USFS) as a public use flight to transport the firefighters from Helispot 44 to another location. The helicopter was registered to Carson Helicopters, Inc. (CHI) of Grants Pass, Oregon, and leased to Carson Helicopter Services, Inc. (CHSI) of Grants Pass. The USFS had contracted with

[1] All times in this report are expressed in terms of a 24-hour clock and Pacific daylight time unless otherwise noted.
[2] The safety crewmember was a USFS Inspector Pilot.

CHI for the services of the helicopter.[3] Visual meteorological conditions prevailed at the time of the accident, and a company visual flight rules flight plan had been filed.

D. DETAILS OF INVESTIGATION

An error was made during the calculation of main rotor speed form the sound signatures recorded on the accident aircraft's CVR recorder. The conversion stated in the accident report of 100% main rotor speed equals a frequency of 663.1 Hz is incorrect. According to the manufacturer, the correct number should be 659.76 hertz when using the Planetary Mesh to calculate 100% rotor speeds. This error affected only the main rotor speed data shown on all of the plots in the original report. Using the new number results in an overall increase in approximately 1.00506% in the rotor system values depicted on the original plots. Please replace plots 3 thru 14 found in the original Sound Spectrum Report dated August 17, 2009 with the plots attached to this report. Additionally the accident takeoff data was reacquired to correct a minor measurement error that had been made in the original data. To illustrate the change in the rotor speed data for the accident takeoff, attached is an additional plot, labeled Plot 15 which depicts the original report data plotted with the corrected data for the accident takeoff from H44.

James Cash
Electronics Engineer

[3] Initially, the NTSB was informed that the contract was between the USFS and CHSI. For further information refer to the Operations Factual Report.

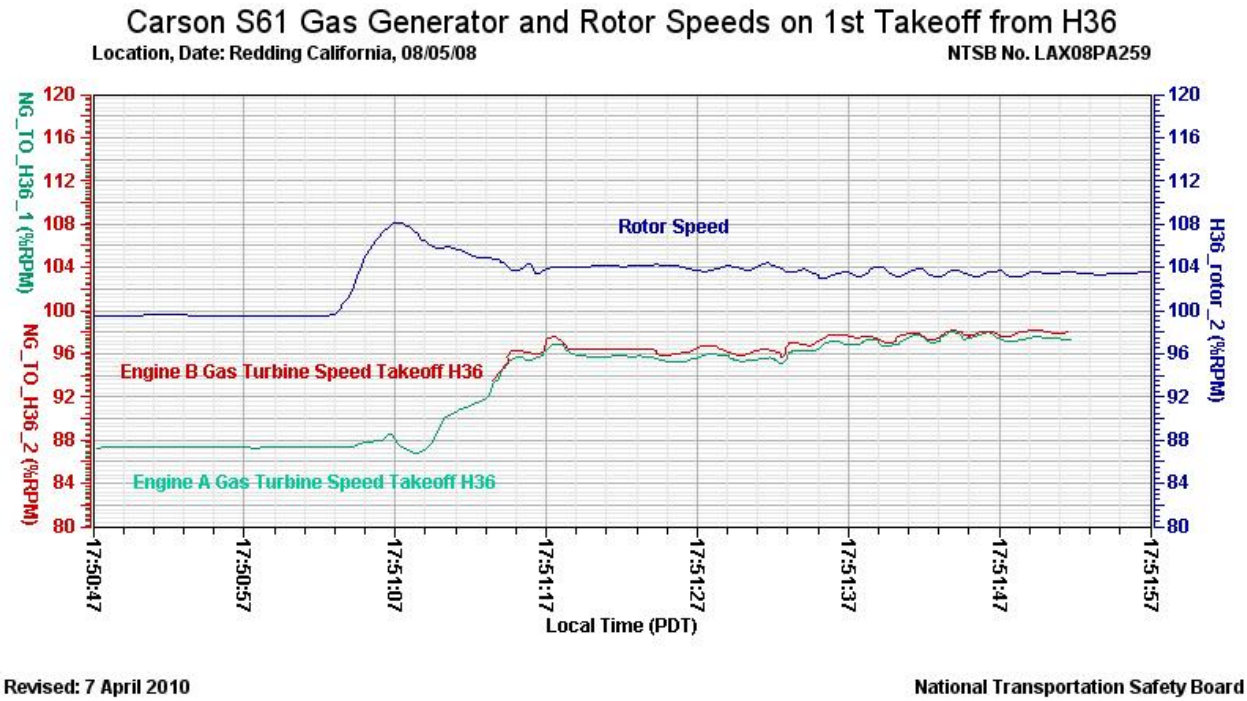

Chart 3 1st Takeoff from H36

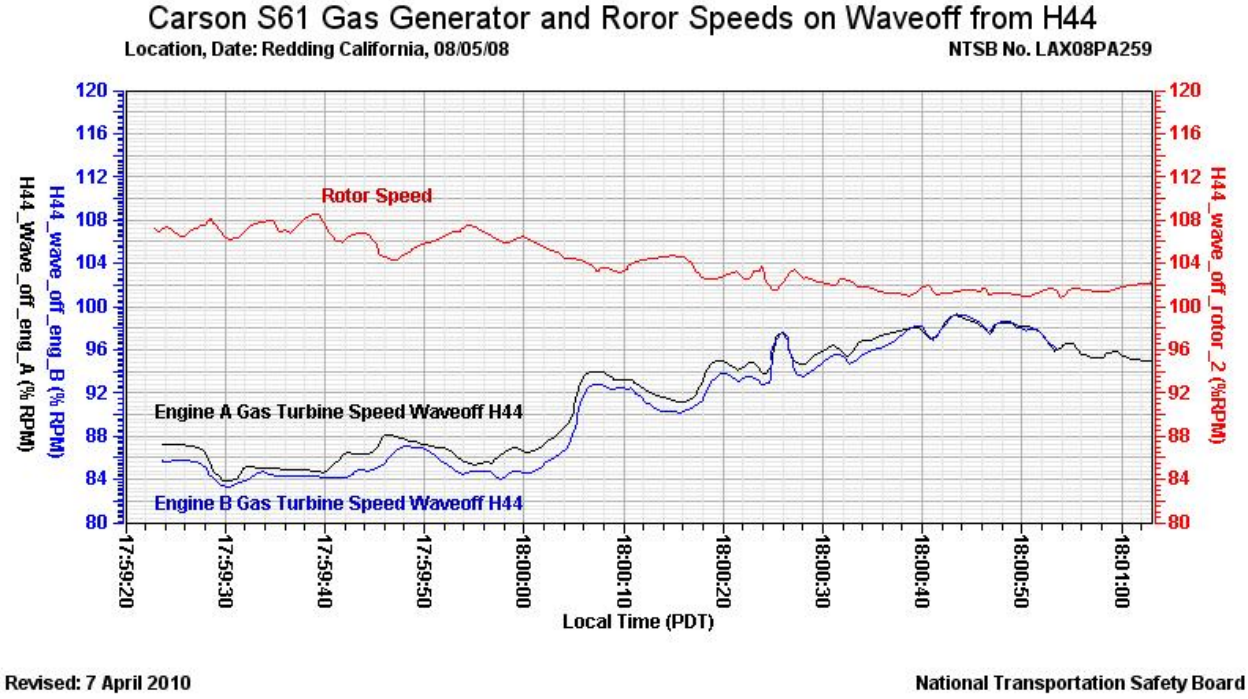

Chart 4 Wave off from H44

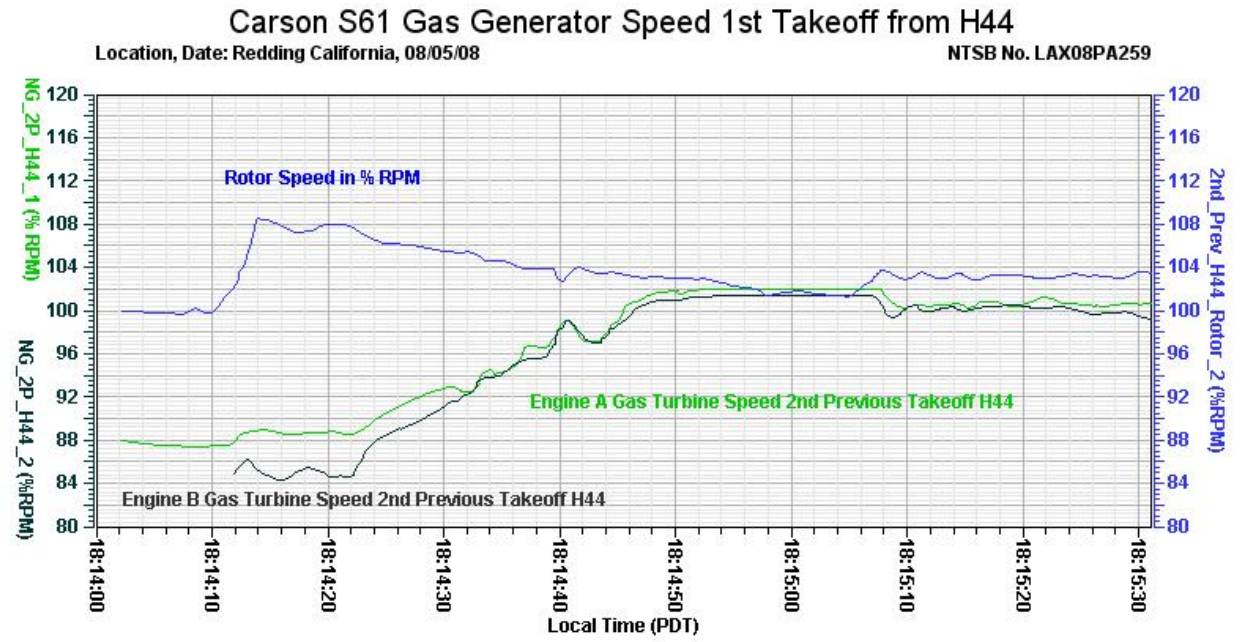

Chart 5 1st Takeoff from H44

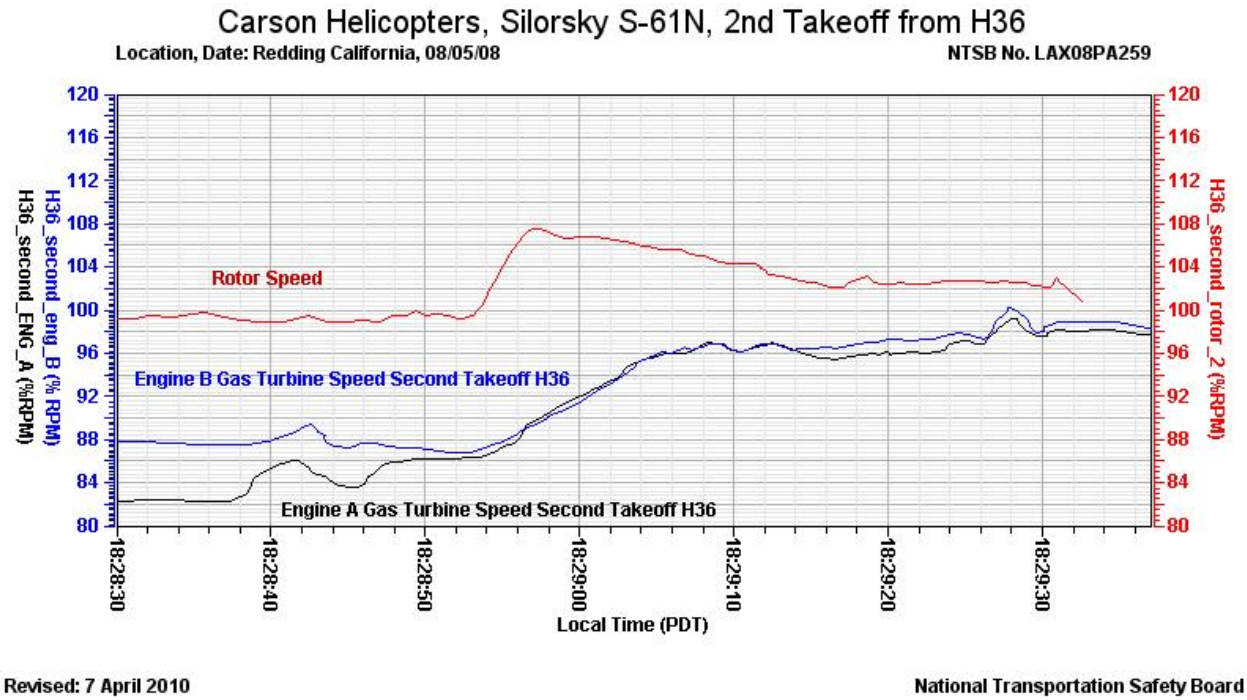

Chart 6 2nd Takeoff from H36

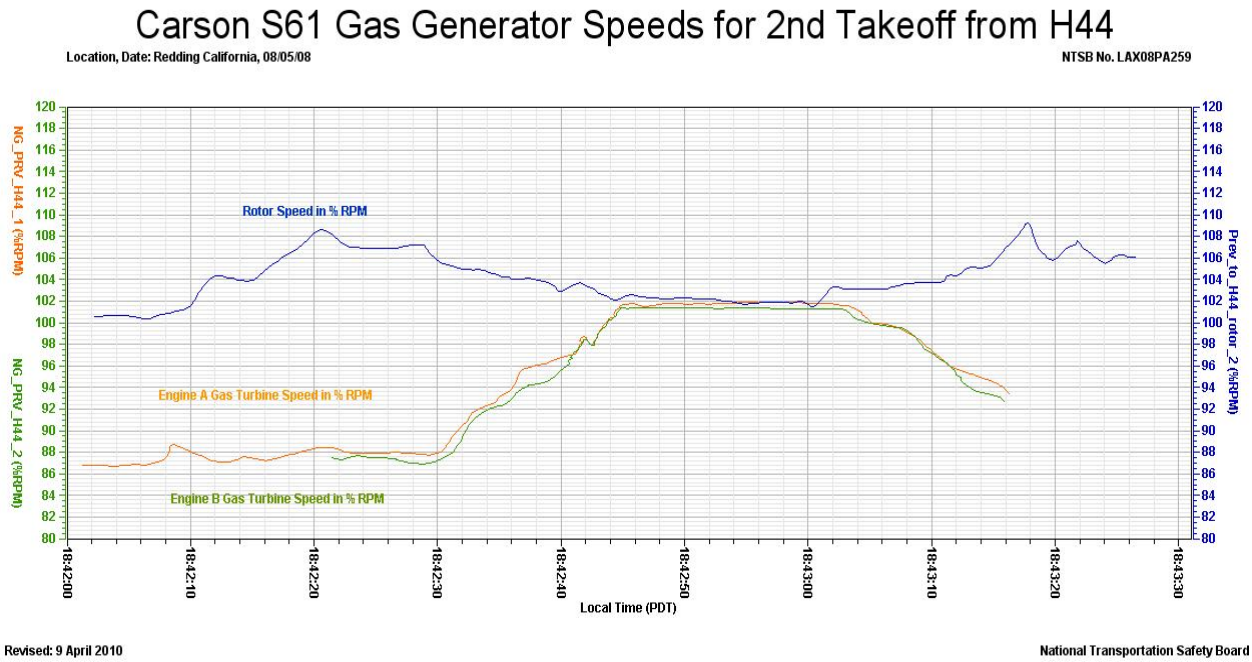

Chart 7 2nd Takeoff from H44

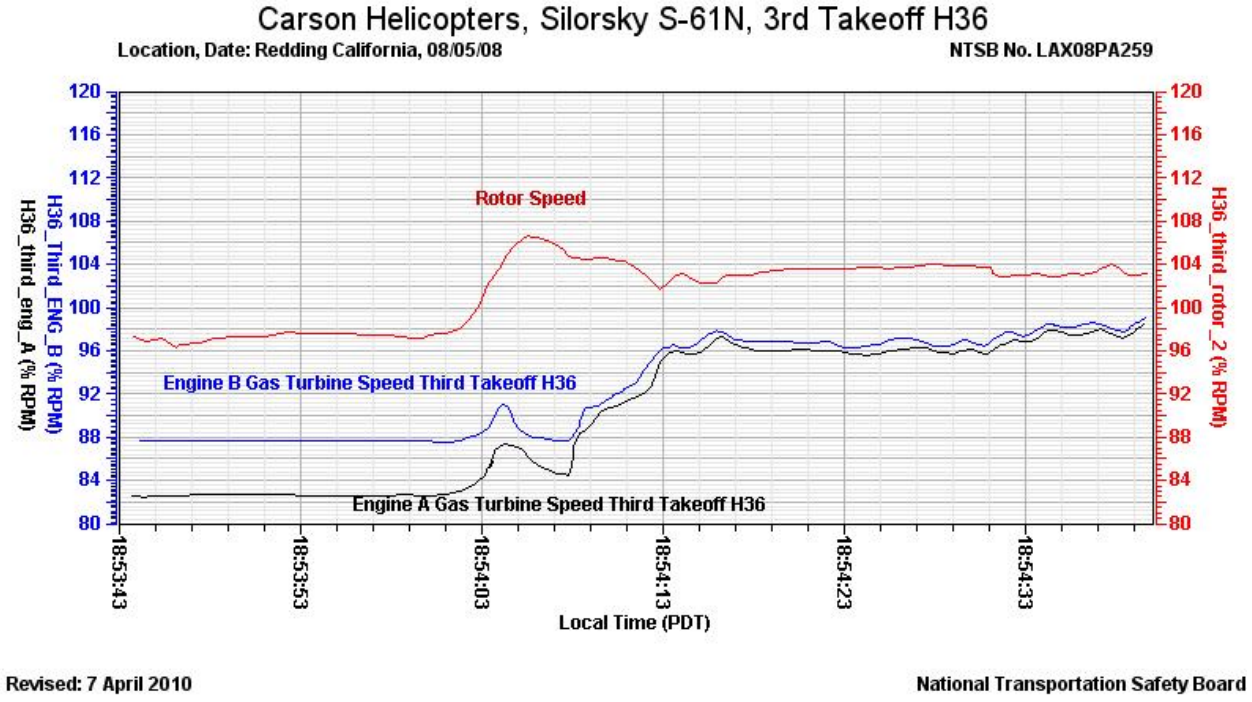

Chart 8 3rd Takeoff from H36

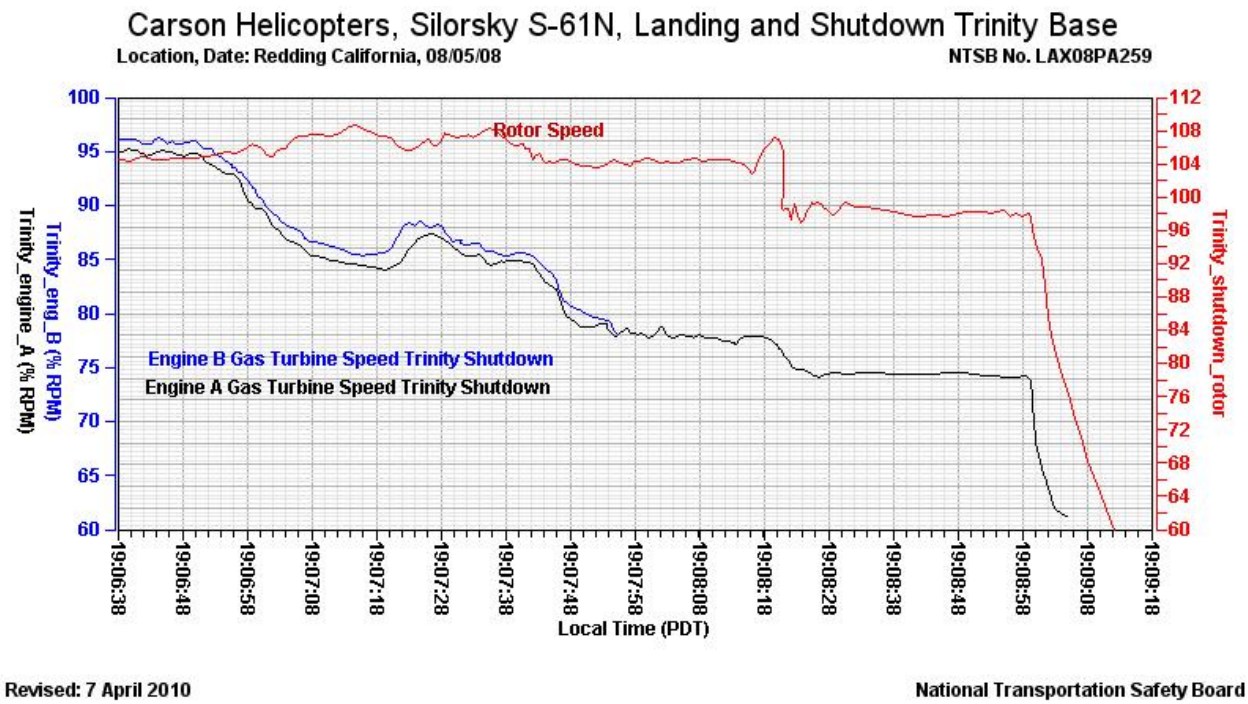

Chart 9 Landing and engine shutdown at Trinity Base

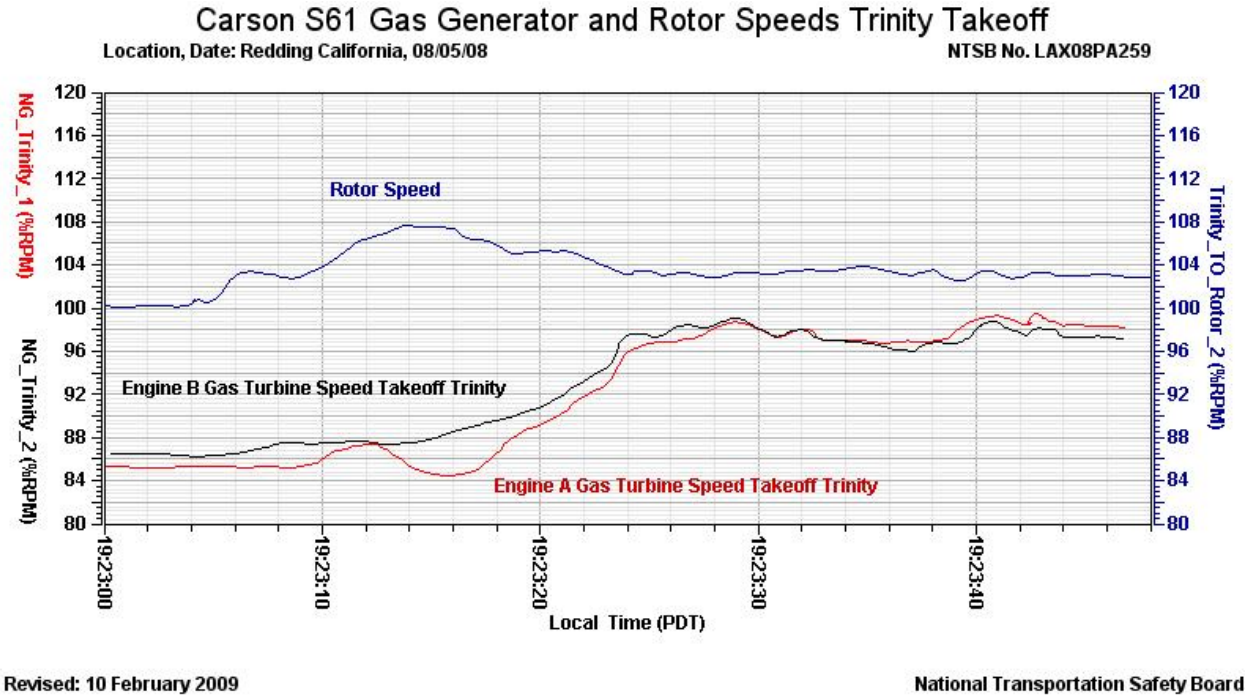

Chart 10 Takeoff from Trinity Base

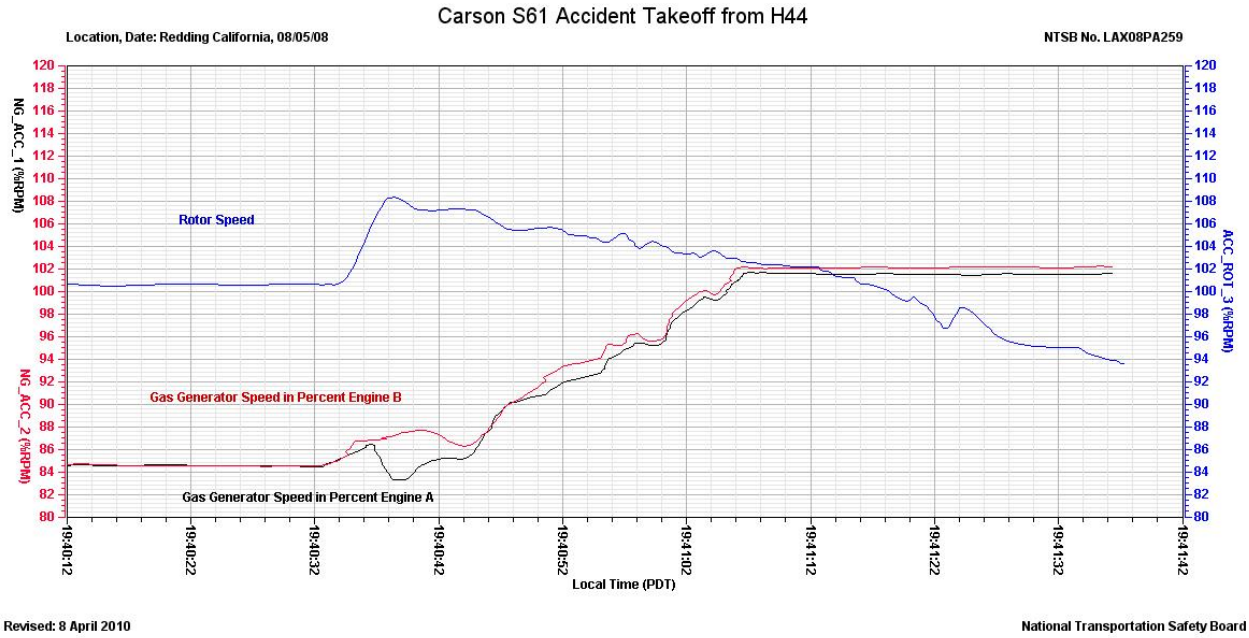

Chart 11 Accident Takeoff from H44

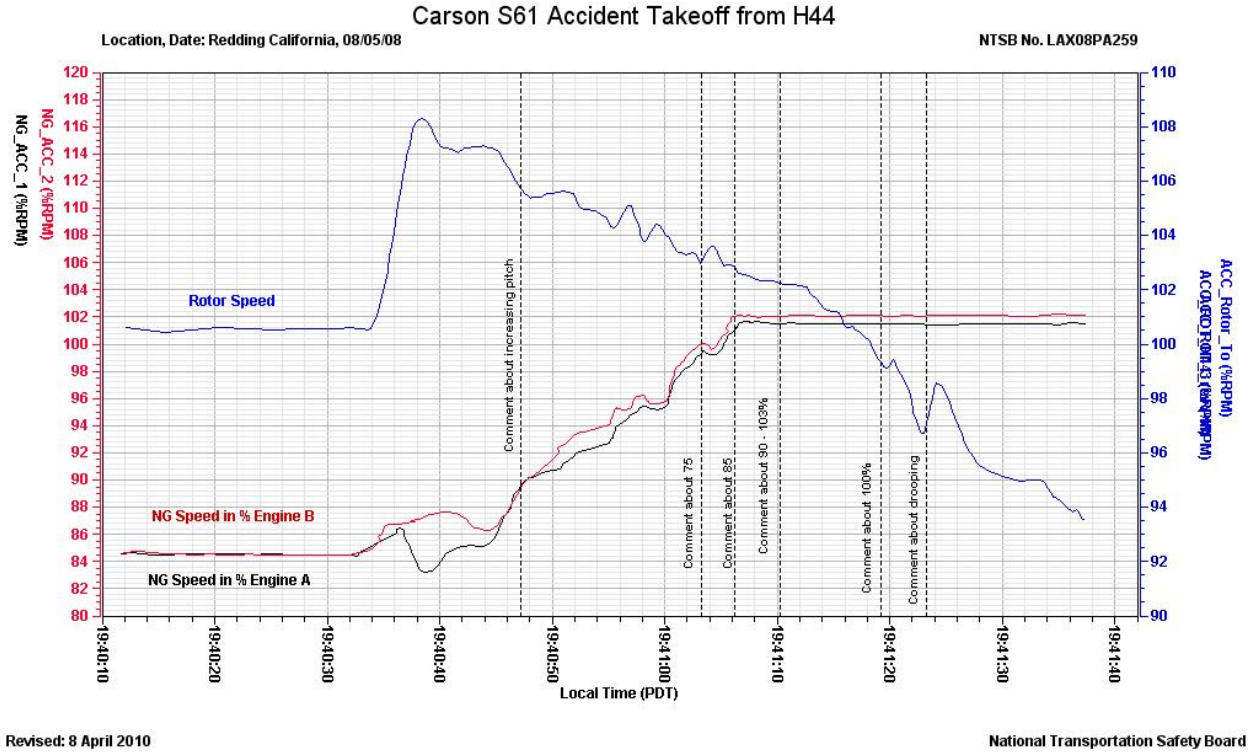

Chart 12 Accident Takeoff from H44 with selected CVR notations

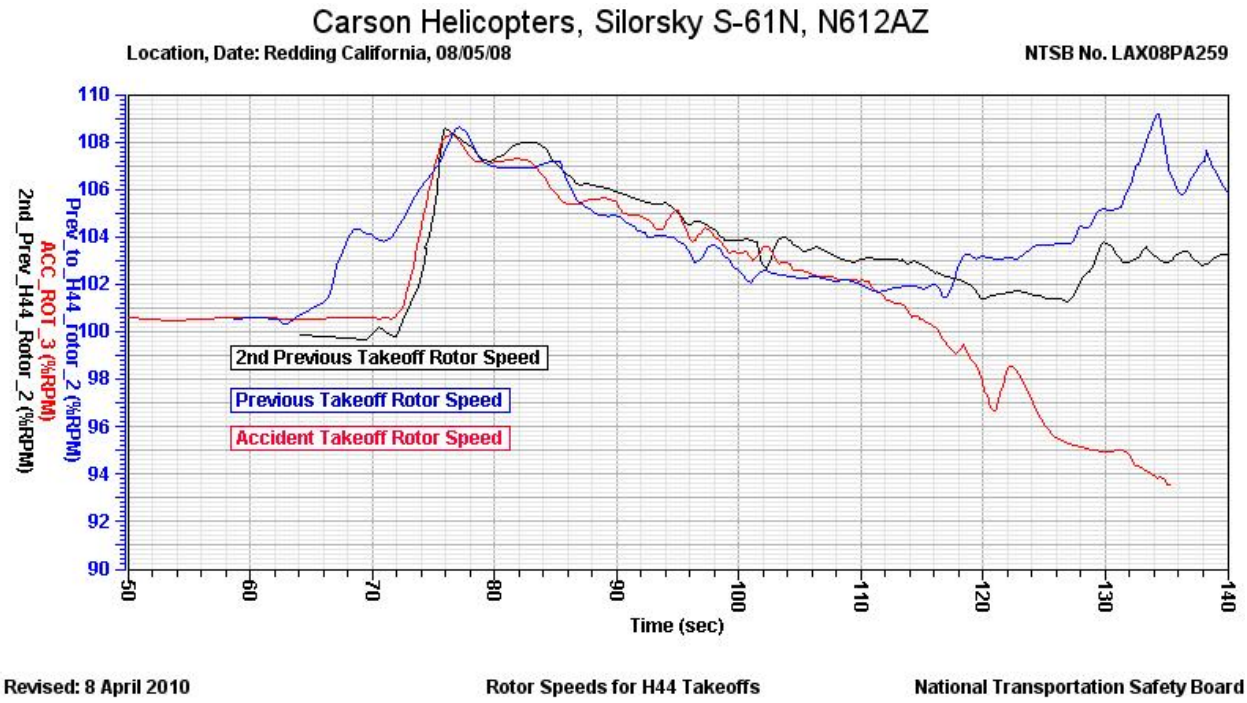

Chart 13 Main Rotor Speed Comparison of H44 Takeoffs
(Time is shown in elapsed seconds)

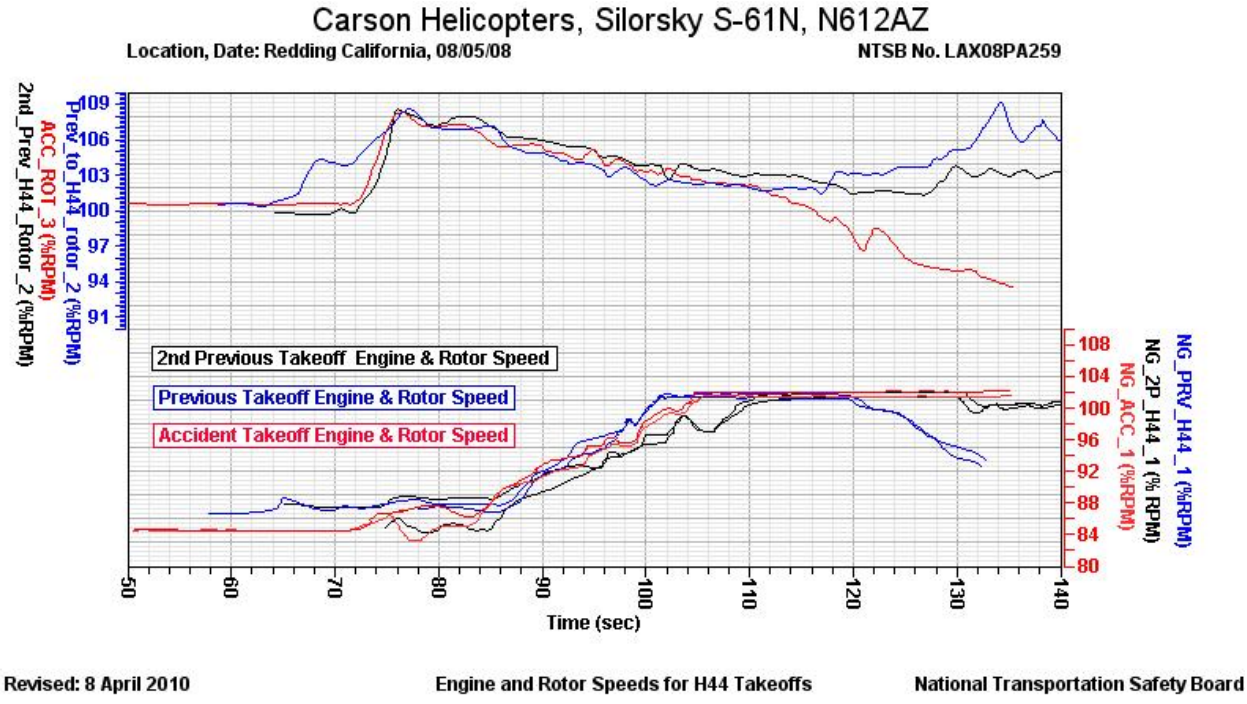

Chart 14 Main Rotor Speed and N_G Speed Comparison for H44 Takeoffs
(Time is shown in elapsed seconds)

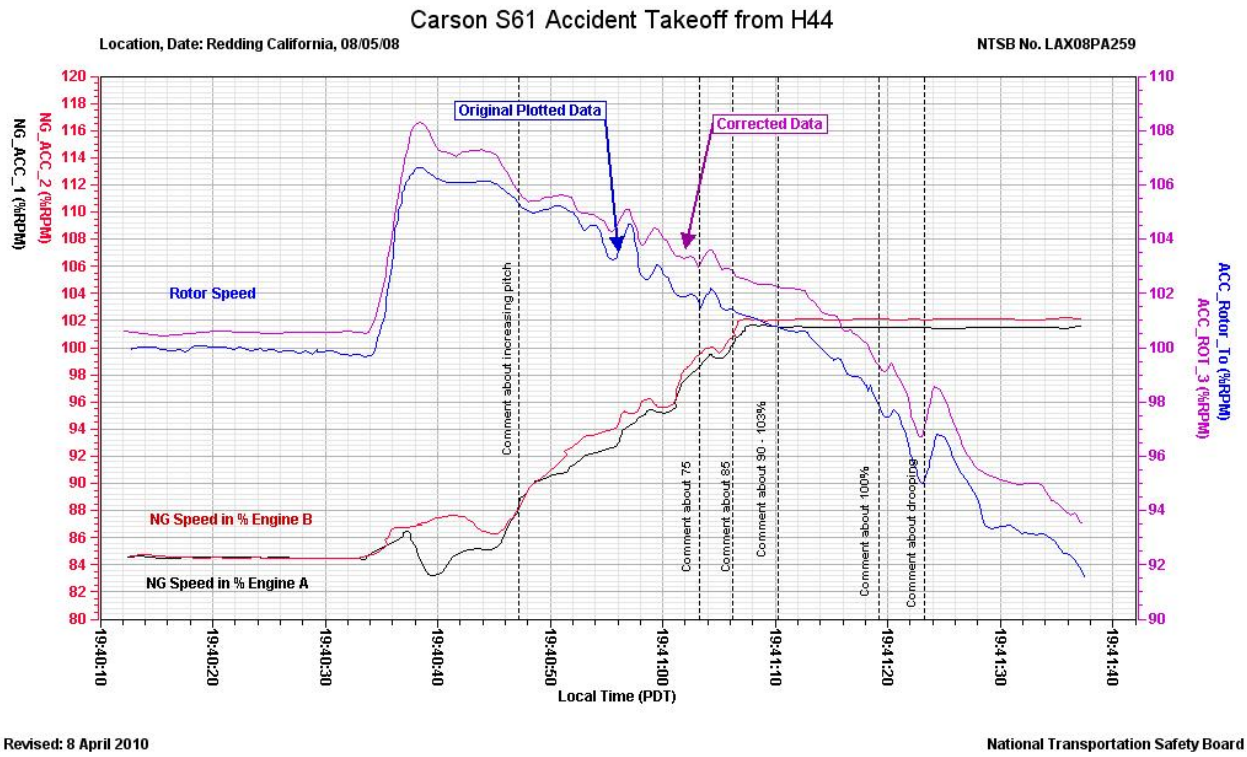

Chart 15 Main Rotor Speed and N_G Speed Comparison for Accident Takeoff