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Subject: Engine Examination Findings after Recovery N4124D

In support of CEN22FA288, the engine, a Lycoming IO-540-AE1A5 was examined to determine if it contributed to the accident. The examination took place at Air Salvage of Dallas, Lancaster, Texas, with David Harsanyi, Lycoming Engines, in attendance and telephone consultation with Thom Webster, Robinson Helicopters.

A visual inspection of the engine was conducted. No damage or failure of the crankcase was observed. All lines and hoses remained attached to their respective location and were not compromised. The top spark plugs were removed and found to worn, but a normal coloration. All cylinders were examined via borescope and were unremarkable. The engine was rotation and thumb compression, and engine continuity was established. Fuel servo filter screen contained minuscule debris and was relatively unobstructed.

In consideration the depth of the engine examination, several contact marks were documented on the forward face of the frame tubes consistent with the engine drive belts rubbing against the tube while rotating at impact.

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Figure 1 Left Side of Mount



Figure 2 Right Side of Mount

The upper sheaves were examined for any transfer marks. One of the drive belts was dislocated, but lack of damage to the belt suggested that occurred during impact.



Figure 3 Upper Sheaves

Finding signatures of rotation suggested the engine was providing power at the time of impact. With the information available, the decision to halt any further engine examination was made.

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