WPR17LA088 Factual Report Changes

On April 20, 2017, about 1845 Pacific daylight time, a Piper PA-22-150 airplane, N9975D, was substantially damaged when it was involved in an accident near Kern Valley Airport (L05), Kernville, California. The pilot and two passengers were seriously injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that, shortly after takeoff, during which he applied full throttle, and when the airplane was about 100 ft above ground level (agl) or less and with the usable runway behind the airplane, he noticed that the engine power was decreasing, and that the airplane was not climbing as expected. He checked the throttle and mixture control, and both were full forward, and he checked the fuel selector, and magnetos, and both were positioned to the "both" setting, but the airplane continued to lose altitude. He realized that the engine was not producing sufficient power to climb to or maintain 75 ft agl and added that he maintained a "high deck angle" because he was" trying to maintain lift without stalling." He then quickly turned toward an open, sandy spot for an emergency landing as the airplane continued to lose altitude. During the turn, the main landing gear wheels clipped a tree right before the small clearing, followed by the airplane nosing over inverted.

The two passengers reported that the airplane departed midfield with a "very high angle of attack," which did not fluctuate even during the stall, and that the pilot never lowered the airplane's nose. One of the passengers stated that the engine sounded normal and ran at full power throughout the flight.

A GoPro camera was recovered from the wreckage. The recording was taken from inside the airplane and began with the airplane taking off. The impact was captured at an elapsed time of about 5 minutes. The recording indicated that the engine could be heard operating until the time of impact. Views of the tachometer gage showed engine operation in the normal range.

Kern Valley Airport is not equipped with a weather reporting facility. The nearest automated weather observation system was located at the Meadows Field Airport (BFL), Bakersfield, CA about 36 nm southwest of Kernville. The 1854 weather reported a temperature of 22° C, dewpoint 7°C, and an altimeter setting of 30.12 in hg. The airport elevation at Bakersfield is 509 feet msl. The density altitude at this location was calculated as 1,347 ft.

The National Oceanic and Atmospheric Administration (NOAA) High-Resolution Rapid Refresh (HRRR) atmospheric model sounding near L05 at 1900 PDT on April 20, 2017, indicated that at 2,997 ft mean sea level (msl), which is the lowest reading for the sounding, density altitude was calculated as 3,996 ft msl. Kern Valley airport's elevation is 2,614 ft.

During the engine examination, the engine was found still attached to the airframe via the engine mount. The carburetor had separated from the mounting flange. The two-bladed, fixed-pitch propeller remained attached to the propeller hub at the crankshaft flange. Both propeller blades exhibited leading edge gouging, S-bending, torsional twisting and chordwise striation along the length of the blades. The crankshaft was rotated by hand utilizing the propeller. Thumb compression was observed in proper firing order on all four cylinders. Mechanical and valve train continuity was established. The left and right magnetos remained securely attached to the engine at their respective

mounting pads. The ignition harness was secure at each magneto. Magneto-to-engine timing was within manufacturer's limits. Both magnetos were removed and rotated manually. Each magneto produced spark at the end of the respective spark plug lead, and the drives of each magneto remained intact and undamaged. The spark plugs were removed and according to the Champion Spark Plugs chart AV-27 "Check-APlug" the spark plug electrodes exhibited coloration consistent with normal operation.

Examination of the engine revealed no evidence of any preaccident mechanical malfunctions or failures that would have precluded normal operation.