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Date: January 9, 2023

Subject: CEN22LA362 Memorandum of Record, Engine Test Run

Contact: Mitchell Gallo

The aircraft, Cessna 172N, N6587E, was recovered from the accident site by Greg Boom of Rocky Mountain Flight School and moved to his hangar at Rocky Mountain Metropolitan Airport, Broomfield, Colorado.

On August 30, 2022, N6587, was examined at the hangar where it was stored, by the NTSB IIC, the FAA Coordinator assigned to the accident investigation, Harold Robertson, and a party representative from Lycoming Engines, Troy Helgeson.

The aircraft wings had been removed and were in the hangar along with other aircraft. Examination of the flight controls confirmed flight control continuity.

The Hobbs meter indicated 2,906.2, and the tachometer indicated 6,931.43. The altimeter setting was 30.21, and the altitude indicated about 5,500 ft.

The gascolator screen was removed and did not contain debris. The engine's bottom spark plugs were removed and exhibited coloration of normal engine operation. The engine's valve covers were removed, and the engine was rotated through by rotation the propeller by hand, which confirmed engine drive and valve train continuity to the accessory section. Thumb compression was obtained from all cylinder spark plug holes during engine rotation. The left and right magnetos were attached and secured to the engine. Magneto timing was confirmed to be within the engine manufacturer's specification for the engine. Electrical continuity from the magnetos through the ignition harness was confirmed. Engine control continuity was confirmed.

The engine was removed from the airframe by Beegles Aircraft Recovery & Storage LLC on September 9, 2022, and was shipped to Lycoming Engines for a test run. Prior to the engine test run at Lycoming Engines, the oil suction screen remained secured in the sump. The screen was removed for further examination. A piece of material consistent with a shop or a paper towel was found wedged between the outside of the screen and the sump housing. The material was removed. The inside of the suction screen did not contain debris. The oil filter remained installed on the back of the engine and no date information was written on the can. The oil filter was opened, and the filter element did not contain debris.

The engine was placed into Lycoming production test cell with a test club propeller. The engine started on the first attempt, and the engine was warmed up. Oil pressure was low and the idle noted as high for testing. A magneto check was performed and both sides of the magneto produced between 100 and 125 rpm drops. The engine was shut down to adjust the oil pressure and idle speed. The engine passed all testing with no discrepancies.