

John Brannen
Senior Air Safety Investigator
AS-CEN

Date: Various Dates between 11/19/2024 & 03/05/2025

Subject: CEN25LA041

Contact: Alan Patchin - Pilot of N280PA

The pilot relayed that he was final builder of the homebuilt helicopter and he was in the process of testing the helicopter after its completion. On this flight he had taken the helicopter to an area on the airport and was practicing hovering maneuvers. He had completed his flight and was hover taxiing the helicopter back to his hangar when the engine suddenly lost power. Since he was only a few feet off the ground and the power loss was rapid, he was unable to autorotate and the helicopter impacted the ground and rolled onto its right side. He received some cuts to his head from an overhead switch panel but was otherwise uninjured. During discussion, he surmised that what may have happened is a woodruff key that hold a timing disk may have sheared and caused the timing to shift enough that the engine would not run. I asked if he would be able to examine this or if he thought that it may be possible to safely test run the engine. He later got back to me and said that he did think that the engine could be test run, although not under flight load for safety reasons. Coordination between myself, Mr. Patchin, and the FAA inspector was done and Mr. Patchin prepared the engine for test run on the airframe. Test runs were performed in the presence of the FAA inspector. Except for initial engine smoking due to having been on its side for a prolonged period, the engine ran and exhibited no reason for the loss of power experienced during the mishap. Mr. Patchin also provided me with his flight experience and other information for the records. I later received a video of the test run of the engine.

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