



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety

Central Region

September 3, 2020

ENGINE TEST RUN

CEN20LA004

A. ACCIDENT

Location: Ranger, Texas
Date: October 6, 2019
Aircraft: N36LS, Beech B36TC
NTSB Investigator-in-Charge: Joshua Lindberg

On October 6, 2019, about 0835 central daylight time, a Beechcraft B36TC Bonanza, N36LS, impacted trees after an aborted takeoff from Ranger Municipal Airport (F23), Ranger, Texas. The pilot and three passengers were not injured and the airplane sustained substantial damage. The airplane was registered to Aircraft Certification Flight Test Support LLC and operated by the pilot under the provisions of Title 14 *Code of Federal Regulations* Part 91 as a personal flight. Visual meteorological conditions prevailed at the time of the accident and no flight plan had been filed. The cross-country flight was departing at the time of the accident and was destined for Hicks Airfield (T67), Fort Worth, Texas.

In a post-accident statement, the pilot reported that during the soft-field takeoff roll he advanced the throttle, confirmed normal power indications on the gauges and the power continued to increase in a normal manner. As the airplane continued to accelerate, he noted about 50 knots indicated airspeed and increasing, until it reached 70 knots when he continued to apply back pressure on the yoke and rotated for the soft-field takeoff. The airplane lifted off with a slightly higher than a normal pitch attitude and the pilot flew the airplane over the runway while in ground effect. After flying in ground effect for a short period, he noticed the airplane stopped accelerating and felt "mushy" but he noted that the engine was still producing some amount of power. He "did not hear or feel any pops, bangs, vibrations, smells, or otherwise that would have triggered [him] to believe that it was an immediate total engine power failure." Next the airspeed indicator was showed about 70 knots and was slowly decreasing. The pilot identified a field to the left of the runway and banked left about 15 to 20° to make a forced landing in the field. The pilot stated that he heard the stall warning horn activate, then heard the underside of the airplane contact some small trees. The airplane landed hard in the field and came to rest upright. The landing gear remained extended during the entire sequence.

During the forced landing the airplane sustained substantial damage to the fuselage and left wing. The airplane was recovered to a secure storage facility and retained for further examination.

A review of the airplane maintenance logbooks revealed that a 100-hour engine inspection and airframe annual inspection were completed on December 7, 2018. The most recent maintenance logbook entry on July 26, 2019, noted that the turbocharger wastegate had been sticking and was replaced with an overhauled unit. The airplane was returned to service with a flight test completed and no anomalies noted.

B. PARTICIPANTS

NTSB IIC – Joshua Lindberg

C. ENGINE TEST RUN SUMMARY

The engine was prepared and secured on a trailer for the engine run. ASOD had to replace the No. 5 valve cover, repair the No. 3 wiring harness to the top spark plug, and re-secure the bottom right engine mount. A test propeller was installed since the original propeller was damaged during the accident. The original airplane battery was charged prior to the test run but the battery did not work. A replacement battery was installed and worked normally. No other fixes were necessary.



An external fuel can was plumbed into the left side fuel line. The avionics and engine monitor had been previously removed and were not reinstalled for this test run. The instrument panel did not feature any backup instruments to reference. The tachometer time was 560.4 hours.

The fuel pump was used to prime engine and it started normally. The engine ran for 7 minutes. The throttle was advanced to full power four consecutive times and the engine made full power. The engine was allowed to run at full power for 30 to 45 seconds each time. Every time the throttle reached the full forward position, the turbocharger engaged and was noticeably audible from inside the cockpit. The aux fuel pump was mostly set to LOW and OFF during the engine run and produced the same results for each setting. The aux pump was briefly set to HIGH with no anomalies noted. The engine did not exhibit any anomalies during the test run.