



MEMORANDUM FOR RECORD

Todd Gunther
Air Safety Investigator
Eastern Region

Date: April 29, 2022
Subject: Wreckage Examination
NTSB Case Number: ERA22LA112

The wreckage of N597K was examined at Florida Air Recovery in Jacksonville, Florida on April 27, 2022, by NTSB investigators Todd Gunther and Dan Boggs.

During the examination of the wreckage, the following information was obtained:

Airplane

Examination of the airplane revealed that the front of the fuselage had been crushed back and the engine had separated from its mounting location. The forward fuselage displayed buckling along its sides leading aft in multiple locations, the top of the cabin was buckled inward, and the aft fuselage was buckled and bent about 20 degrees to the right, just forward of the empennage. The wing flaps were in the up (0-degree) position. The left wing displayed impact and crush damage and was bent aft about 30 degrees just outboard of the wing flap and the right wing displayed damage to the outboard wing panel.

The fuel strainer was clean and devoid of fuel, and the fuel drain valve handle was in the "OFF" position. The fuel selector valve was in the "BOTH ON" position. The carburetor air heat control knob was in the on position (pulled out), and the shaft was bent about 45 degrees to the left. The throttle control was broken off at the friction lock nut, and the propeller control was almost full in (fine pitch / high rpm) and bent upwards 90 degrees. The mixture control was in the full rich position, and the engine primer was in, locked, and missing its knob. The ignition switch was in the "OFF" position.

Propeller

The aluminum 2-bladed constant speed propeller and spinner remained attached to their respective attach points. No rotational deformation was noted to the impact damaged spinner. One propeller blade was bent aft about 20 degrees, approximately 16 inches

outboard of the propeller hub. The other propeller blade was bowed aft about 10 degrees. Neither propeller blade displayed leading edge gauging or chordwise scratching.

Engine

The engine had separated from its mounting location. The exhaust system was impact damaged and remained attached to its respective cylinder attach points. No obstructions were noted to the internals of the exhaust. Compression and suction were established on all cylinders. The magneto would produce spark on all towers and the battery powered distributor did not display any evidence of preimpact failures or malfunctions. The front massive electrode type spark plugs were removed and when checked with a Champion Aviation AV-27 (Check-A-Plug) chart, appeared normal, with short service time and correct heat range. Compression and suction were obtained on all cylinders and drivetrain continuity was established. The interiors of the cylinders were observed with a lighted borescope and no anomalies were observed. Oil was observed within the engine, and the oil filter did not exhibit the presence of metal in the pleated filter material

The carburetor was intact, the carburetor venturi was unblocked, and the carburetor throttle valve was functional. All six ports of the discharge nozzle were clear, and the accelerator pump was functional. The main metering jet was clear, the float did not display any evidence of leakage, and the needle valve was functional. The float chamber was devoid of fuel.