



Examination Summary

NTSB ACCIDENT NUMBER: CEN22LA012

AIRCRAFT REGISTRATION/AIRCRAFT TYPE: N677JD, Stinson 108

ACCIDENT LOCATION: Wildwood, AR

Date of Exam: 11/01/2021

Post-Accident Examination Summary

On November 01, 2021, the airframe and engine of N677JD was examined at Dawson Aircraft Inc. Present for the examination was the NTSB investigator-in-charge and an FAA Aviation Safety Inspector. The following findings are from the exam:

Airframe:

The fuselage displayed impact related crushing on the left side about the location of the rear window. The right side of the fuselage exhibited a vertical crushing from under the "N" upwards about 1 ft. The rest of the fuselage was relatively free of impact damage.



Photo 1: Airplane

The fuel selector handle was fractured from the fuel selector, consistent with impact damage. The fuel selector was removed from the airframe and inspected using a flashlight.



Photo 2: Fuel Selector Valve

It was determined to be selected to the left fuel tank and was free of any debris or obstructions. The fuel strainer sustained damage consistent with impact damage. It was opened and found to be absent of any fuel, however, the damage sustained allowed for the possible evaporation of any fuel that may have remained. The screen was free of any debris.

The airbox sustained impact damage, but appeared to have been welded several times over it's lifespan on the corners. Once such weld failed and there was a fracture present. The surface of the fracture contained one area of shiny metal, consistent with a recent fracture as well as one area of darkened metal, consistent with a fracture that had been present for some time. The internal valve could not be manipulated due to crushing damage.



Photo 3: Airbox



Photo 4: Airbox Fracture

Engine:

The engine was displaced down and to the right with fractured engine mounts. The engine remained attached to the airframe by the oil lines and electrical wiring. The firewall was crumpled, consistent with impact damage. The spinner was crushed. One propeller blade was shattered and the other remained unremarkable.



Photo 5: Airplane

The carburetor was removed and when the throttle arm was manipulated, fuel was ejected from the nozzle, confirming that fuel had been present and the injector pump was functional. The carburetor was retained for further examination. Upon inspection, about a week later, the float bowl was absent of any fuel. The fuel screen was removed and was free of any debris.



Photo 6: Fuel Screen



Photo 7: Carburetor Floats

The floats were inspected and found to be unremarkable. No defects or anomalies were noted with the carburetor.

The Nos. 1, 3 and 5 exhaust nuts were loose as were the right magneto attach bolts. The right magneto was removed from the engine and testing using a hand drill. All terminals produced a bright blue spark from an inserted paperclip. The left magneto was removed with the wiring harness still secured and tested using a hand drill. All leads produced a bright blue spark.

The top panel of the engine was removed, which allowed for inspection of the camshaft and connecting rods. All were found to be unremarkable and engine continuity was verified.

The spark plugs were removed for inspection and the insertion of a lighted borescope. The top spark plug from the No. 2 cylinder was a bright white, consistent with exposure to high heat. While the other top plugs displayed some white discoloration, it was not to the extent of the No.2.



Photo 8: Spark Plugs



Photo 9: Spark Plugs

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The No. 5 cylinder was removed for further examination after anomalies were observed during a borescope of the cylinder. The edges of the piston had started to erode away and the piston head was in a poor condition. The inside of the cylinder



Photo 10: Engine Cylinder



Photo 11: Engine Piston