



MEMORANDUM FOR RECORD

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Date: February 19, 2020
Subject: Information from Wreckage Examination
NTSB Case Number: ERA20LA062

On February 18, 2020, the wreckage of N27GB was examined at Atlanta Air Recovery, Griffin, Georgia. The following is the information that was gleaned from the examination:

The fuselage was largely consumed by the post-impact fire. The nose baggage door remained closed and latched with thermal damage observed. The forward cabin door was separated from the fuselage and exhibited thermal damage. The aft cabin, and cargo doors were thermally destroyed. The pilot and copilot seat frames remained partially attached to their respective seat tracks, and the supporting structure of seats #3 through #6 was destroyed. The seats restraints were thermally destroyed. The nose gear exhibited impact and thermal damage and was observed mid-travel of its extension.

The instrument panel was thermally destroyed. The engine control quadrant was destroyed; however, the throttle, mixture, and propeller control cables were observed in their most forward positions indicative of the throttle open, mixture rich, and propeller fine pitch/high rpm. The flap lever was noted in the “stowed / 0°” position, and the landing gear handle was in the “up” (stowed) position. The fuel selector’s supporting structure and attached fuel lines were destroyed. The fuel selector was observed in the “left” fuel tank position and its gascolator bowl and filter were destroyed.

The engine cowlings remained attached to their respective mounts with impact damage and thermal discoloration noted. There was no evidence of pre-impact fire or fire damage observed to the engine cowlings. The alternate air box remained attached to its mounts and was noted in the “primary / filtered” air position. There were no obstructions to the induction air filter.

Flight control continuity was established through recovery and impact separations.

The left wing remained attached to its fuselage attaching points. The wing was thermally destroyed aft of its main spar. The main landing gear was separated from the wing and was not observed. The ports of the pitot mast were clear of obstruction and its supporting structure was destroyed. Aileron control continuity was established through impact and recovery separations.

The right wing was separated from the fuselage and was largely destroyed due to thermal and impact damages. Aileron control continuity was established through impact and recovery separations.

The vertical stabilizer exhibited thermal damage but remained attached to its supporting structure. The thermally damaged rudder remained attached to its mounts. The rudder's control cables remained attached to their respective attach points and were separated at various lengths by recovery personnel. Rudder control continuity was established from the cockpit through recovery separations to the rudder.

The stabilator remained attached to its mounts and exhibited thermal damage. The stabilator control tube, and cables remained attached to their respective attach points; the stabilator control cables were separated at various lengths by recovery personnel. Stabilator control continuity was established from the cockpit through recovery separations to the stabilator. The stabilator trim tab and control rod remained attached to their respective attach points with thermal damage observed to the left trim tab. About 4 jackscrew threads were exposed from the front of the stabilator trim barrel assembly which was indicative of a "neutral" stabilator trim setting.

The Hartzell aluminum two-bladed constant speed propeller remained attached to the engine. Both propeller blades were bent aft about 90° and exhibited abrasions and impact damage to their outboard areas. The propeller spinner remained attached to its mount with no torsional deformation observed.

The engine remained attached to its mount with no evidence of pre-impact fire or fire damage observed. The exhaust system remained attached to the engine with no pre-impact anomalies noted. All accessories of the engine remained attached to their respective attach points with no visible damage observed. The mixture, and throttle control cables remained attached to their respective attach points. The mixture was noted in the "rich" position and the throttle was observed in the "open" position. The propeller governor remained attached to its mounts. The propeller governor's control cable remained attached to its mounts and the governor was observed in the "fine pitch" position. Upon removal oil was observed within the governor and its drive gear rotated freely when facilitated by hand.

The oil sump contained about 10 quarts of oil. The engine could not be rotated during attempted hand rotation of the attached propeller. Removal of the six cylinders revealed discoloration consistent with lack of lubrication of the connecting rod journals; furthermore, the No.4 connecting rod had disintegrated and had separated from the crankshaft. All six cylinders oil spray nozzles remained attached to their respective attach points. Removal of the accessories, accessory case, and oil sump revealed two of the oil pump's drive gear teeth

were fractured and located within the oil sump. No visible damage was observed to the idler gear which drives the oil pump. Examination revealed the idler gear would not rotate the oil pump drive gear with two separated teeth.

The oil pump assembly, separated teeth, and idler gear were retained by the NTSB and sent the NTSB's Materials Laboratory for further examination.