

NOTE: Docket Items:

The following information was placed in the docket for this accident as a separate document, because the IIC conducted the airframe and engine exams on-scene and wanted to maintain a detailed record of the findings, which are not necessary for the factual report because they do not support the probable cause.

Summary of Examination of Airframe and Engine ERA12FA467

The IIC performed an examination of the airplane on July 20, 2012. The following is a summary of the investigator's observations.

The composite engine cowling was fire damaged. The engine assembly was fire damaged and remained attached to the tubular mounts. The engine assembly was displaced downward and to the right. The lower half of the carburetor and the alternator separated from the engine. The left and right landing gear legs were bent rearward and both tires were consumed by fire.

The canopy separated from the cabin structure and the windscreen was broken. The canopy lock was in the locked position. The instrument panel was fire damaged. No recordings from the flight instruments or circuit breakers could be determined. The throttle was full forward. The propeller was full forward, and the mixture was full rich. The fuel selector was on the right main fuel tank. The flap selector was not located. The carburetor heat box was crushed. The carburetor heat door was closed. The forward and rear seat pans remained attached to the floor structure. The forward and rear seat backs were consumed by fire. The forward seat belt and shoulder harness restraint system was latched and the webbing was consumed by fire. The forward control stick remained attached to the elevator pitch pull interconnect tube. The forward left and right rudder pedals remained attached to the rudder control cables and was confirmed rearward to the rudder.

The right wing was accelerated forward and remained attached at the wing root. The upper and lower wing surfaces sustained fire damage. The leading edge of the right wing was fire damaged extending outboard from the wing root 6 feet 9 inches. The right main fuel cap was secure with a tight seal. The right main fuel tank was ruptured. The right flap was fire damaged and remained attached at all hinge points. The right flap was not extended. The right aileron was damaged and remained attached at all hinge points. The push pull tube remained attached to the aileron where the push pull tube had been burned through by the post-crash fire.

The empennage was not damaged from the rear baggage compartment extending aft to the rudder assembly. The vertical fin was not damaged and the rudder remained attached at all hinge points. The left and right horizontal stabilizers remained attached to the airframe and were not damaged. The right elevator was not damaged. The left elevator was damaged and the trim tab was displaced upward one half inch at the trailing edge.

The left wing was pushed aft and remained attached at the wing root. The upper and lower wing surface sustained fire damage. The leading edge of the left wing was crushed inward along the length of the leading edge. The wing was bent upward 6 feet outboard of the wing root extending outboard to the wing tip. The left main fuel cap was secure with a tight seal. The left main fuel tank was ruptured. The left flap was fire damaged and remained attached at all hinge points. The left flap was not extended and was folded underneath the left wing. The left aileron was damaged and remained attached at all hinge points. The push pull tube remained attached to the aileron where the push pull tube had been burned through by the post-crash fire.

Examination of the engine assembly revealed the left and right engine tail pipes were crushed. The oil sump was intact and the oil dip stick remained in place. The dip stick tube was not observed. The oil suction screen was in place and removed. No debris was noted. An unmeasured amount of oil was present in the engine. The oil filter was opened. The filter media was charred but free of contaminants. The oil cooler was separated from its attachment point and fire damaged.

The alternator and drive pulley separated from the engine and were fire damaged. The alternator belt was consumed by fire. The starter was fire damaged and remained attached to the engine. The drive pinion was extended. No vacuum pump was installed on the engine. The engine was equipped with an aftermarket experimental electronic ignition. The control box, coil packs, and ignition harness was fire damaged. The automotive style top and bottom spark plugs were removed and exhibited dark gray combustion deposits and worn normal condition.

The throttle control remained attached to the carburetor at a mid-travel position. The mixture control rod end was fractured. The mixture control arm was at full rich on the carburetor. The propeller control remained attached to the propeller governor and was in a mid-travel position. The carburetor fuel inlet screen was removed and was fire damaged. Soot deposits were present inside the fuel inlet screen. All fuel lines were fire damaged and no fuel was observed. The engine driven fuel pump remained attached to the engine and was fire damaged.