



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Alaska Region

On Scene Examination Summary

July 23, 2019
Skwentna, Alaska

A. Accident

NTSB Number: ANC19FA038
Location: Skwentna, Alaska
Date: March 6, 2019
Aircraft: Cessna 172 N7469A, S/N 29569, 1956
Engine: Continental Motors O-300A, S/N 15926-7-A-R

B. Background

On March 6, 2019, about 1730, a Cessna 172 airplane, N7469A, impacted terrain near Skwentna, Alaska. The airplane was the subject of an FAA ALNOT and the airplane and pilot were not located until July 22, 2019. The airplane was operated under Title 14 *Code of Federal Regulations* Part 91 as a visual flight rules personal flight. Visual meteorological conditions prevailed at the departure point and no flight plan was filed. The flight departed from Submarine Lake near Farewell at 1655 and it was en route to the Wasilla Airport (IYS), Wasilla.

The wreckage was located by a helicopter pilot/guide on July 22, 2019 on Alaska state owned land. See figure 1. There was no insurance on the airplane and recovery efforts were not made. An Alaska State

Trooper helicopter with the NTSB and FAA IICs onboard, accessed the site on the morning of July 23, 2019. An on scene examination was conducted.



Figure 1. N7469A at the accident scene on July 23, 2019. (courtesy of the Alaska State Troopers)

C. Participants in On Scene Examination

NTSB Investigator-in-Charge (IIC)
FAA IIC

Noreen Price
William Lowen

D. Wreckage Details and Airframe Examination

The airplane came to rest, after the seasonal snow melt, on an open grass covered ridge at an elevation of 3,241 ft heading 107° true. The fuselage was about 80° nose down leaning left 30°. All major components were present, and the debris was contained within a radius of 30 ft. The aft fuselage was twisted and displaced to the left with extensive buckling evident. The nose and engine section was displaced right and crushed into the ground. The wings remained partially attached with leading edge buckling across both wing spans. See figure 2.

The left outboard wing section exhibited extensive fore to aft and upward deformation. The inboard forward section indicated tension tears in the skin and the aft wing root section exhibited compression buckling. The flap was attached and up and the aileron was attached and deformed upward at the outboard section. The inboard flap and trailing wing root were embedded into the left fuselage. The wing upper skin was deformed in an upward and rearward direction in the outer 2/3 of span. The left lift strut was attached and deformed at the wing attachment point. The left wing fuel tank cap was secure. The fuel tank was compromised, and no visible fuel was present.

The right wing remained attached at the forward fuselage connection and indicated compression signatures at the leading edge inboard skin. The rear inboard wing was detached and exhibited tension signatures. The right flap was attached in the up position with the inboard 1 ft deformed downward. The

right aileron was attached but fractured at the outer half. The outer half was separated at torn skin and located at the rear of the wreckage near the empennage. The right fuel tank cap was secure in place. The fuel tank was compromised, and no visible fuel was present.

The empennage was hanging down aft and left of the forward fuselage, completely separated behind the aft bulkhead at a rivet line along the top, right and bottom with extensive fore to aft buckling on the right side aft of the separation, and extensive top down buckling on the left side forward of the separation. The vertical stabilizer, rudder and left horizontal stabilizer and elevator were intact with minor to no damage. The right horizontal stabilizer and elevator were significantly damaged with some fore to aft and outboard to inboard deformation. The rudder, elevator and trim cables were all continuous through the empennage.



Figure 2. Close up of the wreckage at the accident site.

The forward fuselage exhibited extensive damage. The top of the cabin was torn away and open and the supporting structure was deformed downward into the cockpit. All plexiglass was fractured and separated from the mounting structure. The left cabin door was torn off the hinges and lay on the left side of the fuselage. The right cabin door was also separated from the fuselage and on the ground at the right fuselage. The instrument panel was deformed inward on the right half with gages displaced throughout. The tachometer indicated 1983.41 hours. The altimeter indicated 3,020 ft and 29.96 was set in the kohlsman window. The face of the clock indicated 5:16. The turn and slip indicator exhibited a right full needle. The fuel selector valve was in the BOTH ON position. The mixture lever was full in and the throttle lever was out about 2 inches and bent to the right. The carburetor heat lever was full in. The ignition was between OFF and RIGHT magnetos and the ignition key was badly deformed. The pilot's seat (left) indicated for to aft and upward crushing in the seat pan and cushions. The pilot's 4 point restraint harness was hanging outside the front windshield opening with the lap belt buckle unlatched. The outboard lap belt was attached to airframe; the inboard lap belt was detached at a fractured bracket. The shoulder harness upper attachment separated at the airframe bracket. The rear seat was separated at fractured attachment points and located on the left side of fuselage with deformed, torn, and degraded padding. The fuel system gascolator was liberated from the bracket and the output fuel line was fractured at the nut. No fuel was present.

The left (pilot's) and right control columns were attached and deformed rightward. The outboard handles of the pilot's yoke were fractured. The rudder pedals were in place and able to be moved minimally due to extensive buckling of the cabin floor. Full control continuity was established from the pilot's control column to the elevators and ailerons. Full control continuity was established from the rudder pedals to the rudder. The flap handle was in the down (retracted) position with the outboard half deformed in the upward direction.

The left main landing gear was intact, and the right main landing strut was separated at the base and located forward of the engine on the right side of the wreckage. The right wheel assembly was intact. The nose wheel assembly separated at the top fuselage attachment bracket. It was located on the right side of the fuselage.

The ELT (Emergency Beacon Corp. Model EBC-102A) was secure in the bracket, attached to the antennae in the ON position. A sticker on the box indicated the battery expired in August 2018. An ASA portable CO-Detector card was located exterior to the wreckage and indicated a medium tan color. An electron carbon monoxide warning device was also recovered.

A yellow waterproof bag was outside the wreckage with a pelican case full of camera equipment inside. The estimated weight was 10 lbs. The pilot's navigation bag was also found outside of the wreckage and contained outdated navigation charts and publication and miscellaneous items. The estimated weight was 8 lbs. One empty 5 gallon fuel container was outside of the fuselage.

A Garmin Pilot III portable unit was recovered and sent to the NTSB Recorder Laboratory for examination and download. The recorder did not contain data for the accident flight.

E. Engine Examination



Figure 3. Continental O-300 engine and attached propeller upright (left) and bottom (right) at the accident scene.

The engine cowlings were separated from the fuselage and crushed under the wreckage. The engine mounts were fractured, and the engine was displaced almost 90° to the right of the fuselage heading. See figure 3. The case and cylinders were intact. The propeller remained attached to the engine and could be rotated within the confines of the ground. The ignition harness and spark plugs were secure in place. The magnetos were secure, and after removal, spark was evident at each terminal post when manually rotated. See figure 4. The rocker box covers were removed, and rocker arms were noted to move appropriately when the engine was manually rotated. See figure 5. The carburetor and airbox were separated from the bottom of the engine at the fractured mounting pad that indicated dull, dimpled overload fracture signatures. The throttle cable was attached to the throttle arm and the cable exhibited a separation about 1 ft from the carburetor. The throttle valve and controls were separated from the carburetor at the fractured base plate. The mixture control lever was attached, and the control cable was separated at the connector. The carburetor fuel inlet filter was removed and indicated no debris. The carburetor bowl had no fluids present and the float assembly and mixture needle were intact. See figure 6. The airbox inlet and filter

screen were clear of debris. The oil drain valve was fractured, and minimal oil was present in the sump. Oil was present in all of the rocker arm housings.



Figure 4. Left and right magnetos removed from the engine accessory drive.

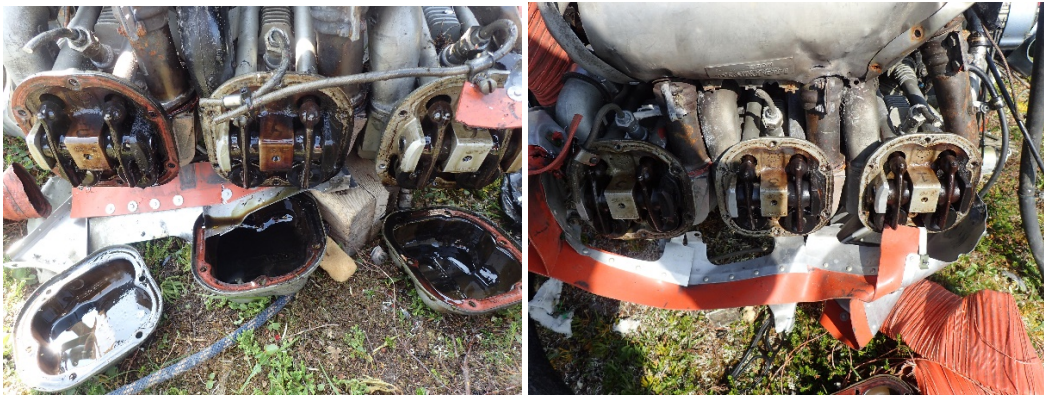


Figure 5. Rocker arm housings for cylinders 2, 4, and 6 (left) and 5, 3, and 1 (right).



Figure 6. Carburetor and airbox at the accident scene.

The right side exhaust shroud and manifold were in place with orange corrosion present on the manifold. The right exhaust pipe exhibited impact deformation. The Number 1, 3, and 5 exhaust stacks were intact and impact fractures were present in the shroud at the connectors. The number 3 exhaust stack was slightly separated from the cylinder. The left exhaust manifold was in place with the left exhaust pipe

separated at the attachment clamp. The #2, 4, and 6 exhaust stacks were attached and exhibited extensive orange colored surface corrosion. A 1.5 inch hole was present in the manifold below the number 4 cylinder and had fractured edges that indicated possible impingement during impact. The air intake risers were in place and the 1 cylinder intake had a small hole in an area that was against the number 3 exhaust clamp nut. This was likely impact damage, caused by the number 3 exhaust stack shifting during impact.

Propeller

The fixed pitch propeller was a McCauley 2 bladed model. The spinner had fractures and deformation at each blade opening. Each of the two blades bowed rearward, with minor torsional twist at the bend, which are signatures that are typical of impact with deep snow. Both blades exhibited small dimpled surface wear throughout, likely environmental degradation in snow. Some scratches in various directions were observed on both sides of each blade.

F. Additional Information

No maintenance logbooks were located.

G. Summary

There was no evidence observed at the examination of any preexisting engine, propeller or airframe discrepancies that would have precluded normal operation. There were no indications of inflight or post impact fire. The engine power level at impact could not be positively determined due to unavailable propeller signatures due to melted snow, and also limited field engine evaluation. The impact damage noted was consistent with the airplane impacting terrain in a nose down attitude. The engine, wing and displaced rear fuselage damage were consistent with a stall/spin impact during a left spin.