



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

February 20, 2018

ACCIDENT SITE EXAMINATION SUMMARY

WPR18FA091

This document contains 16 embedded photos.

A. ACCIDENT

Location: Minden, Nevada
Date: February 19, 2018
Aircraft: N14GQ, Piper PA-34
NTSB Investigator-in-Charge: Andrew Swick

On February 19, 2018, about 1130 Pacific standard time, a Piper PA-34-200T, N14GQ, was destroyed when it collided with the ground northwest of the Minden-Tahoe Airport (MEV), Minden, Nevada. The air transport pilot was fatally injured. The airplane was registered to the Stunad, LLC, and operated by the pilot under the provisions of Title 14 *Code of Federal Regulations* Part 91 as a personal flight. Visual meteorological conditions prevailed and a flight plan was not filed. The flight originated from Meadows Field Airport (BFL), Bakersfield, California, about 0935 with an intended destination of MEV.

A witness, who was located outside her residence, about 2 miles north of the accident site reported that she heard a loud noise that sounded like a sonic boom. The witness stated she looked up and saw an airplane descending, while trailing smoke, in the vicinity of the accident site. The witness further stated that she never saw any flames.

Review of preliminary radar data revealed a primary target, consistent with the accident airplane, was traveling on a northeasterly heading over the Sierra Mountain range, south of Lake Tahoe at an altitude between 14,100 and 14,500 ft mean sea level (msl). The target continued on a northeasterly heading until it was northwest of the accident site, where it proceeded to make a wide right turn towards MEV. Shortly after, the track continued south towards MEV and then appeared to enter a descending right spiraling pattern over the accident site, until the radar contact was lost with the target.

Initial examination of the airplane by the National Transportation Safety Board (NTSB) investigator-in-charge (IIC), revealed the airplane impacted the ground in an inverted, wings level, slightly nose down attitude. There was no debris located within the vicinity of the main wreckage. The nose cone assembly, empennage, right wing outboard full-span-flap assembly, and left outboard wing section were not located with the main wreckage. A debris field, located about .5 mile south of the main wreckage and contained the separated airplane parts. The debris field was 3,128 ft in length.

Text messages received from the pilot's son indicated that communication about the weather was made to the pilot, and the possibility of flying through the broken cloud layer while descending from the Sierra Mountain range into the Minden area.

The nearest weather reporting station was MEV, about 4 miles south of the accident site. According to recorded information at 1115, the winds were 350 degrees at 15 knots, gusting to 29 knots, visibility 10 statute miles or greater, sky clear, temperature -2° C, dew point -13° C, and an altimeter setting of 29.82 inches of mercury. Satellite imagery 30 minutes prior to the accident revealed extensive cloud coverage over the region but also significant breaks in the

cloud cover where the ground can be seen. A pilot reported about 30 minutes after the accident, about 10 miles east of the accident site, clouds between 9,500 and 13,000 ft msl.

The wreckage was relocated to a secure facility for further examination.

Note:

The airplane was modified in accordance with Robertson Aircraft Supplemental Type Certificate (STC), SA154NW, which installed full span flaps by removing the ailerons and changing the deployment route of the flaps. Spoilers are mounted above the outboard sides of the flaps and an anti-balance rudder tab. Unknown if the optional conical cambered wing tips were installed.

B. PARTICIPANTS

Andrew Swick-NTSB IIC
Frank J. Vavra FAA-FSDO
Jon Hirsch-Piper Aircraft

C. DETAILS OF THE INVESTIGATION

1.0 Accident Site Examination

Main Wreckage: N39° 3'3", W-119° 47'39" – Elevation: 4,664 feet

Accident site was about 4 miles northwest of Minden Tahoe Airport, Minden, Nevada



Figure 1- Accident Site, Main Wreckage

Examination of the accident site was conducted on February 20 and 21, 2018, by the NTSB-IIC, FAA-IIC, representatives from Piper Aircraft and Continental Motors Group, and revealed the

airplane impacted the ground in an inverted, wings level, slightly nose down attitude. There was no debris path located within the vicinity of the main wreckage. The nose cone assembly, empennage, right wing outboard full-span-flap assembly, and left outboard wing section were not located with the main wreckage. A debris field was located about .5 mile south of the main wreckage and contained the separated airplane parts. The debris field was 800 ft wide by 3,128 ft long.

Prior to the examination, first responders had cut several areas of the fuselage to facilitate the removal of the occupant.

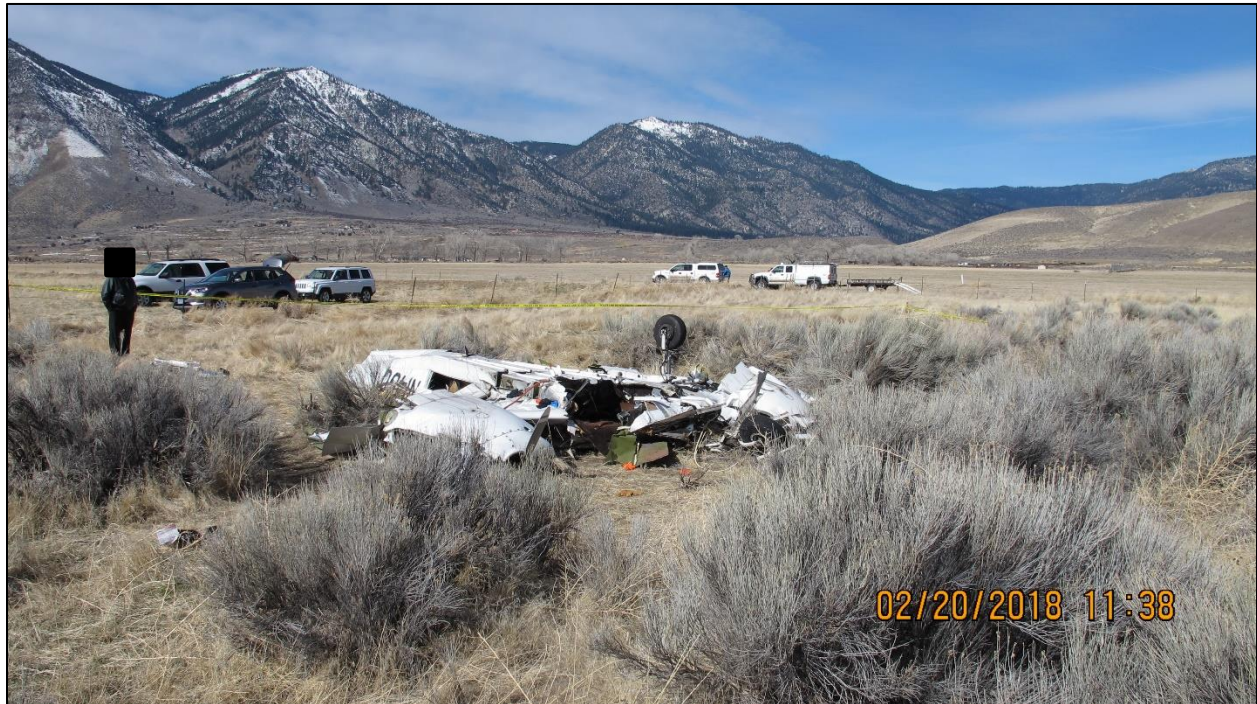


Figure 2- Accident Site, Main Wreckage



Figure 3-Lower Fuselage

The fuselage lower surface had several black transfer marks, impact damage and punctures. The right-side step was cut by first responders, and the mount was partially separated. The skid rails had black transfer marks and impact damage to their right facing sides. The vent fairing located aft of the skid rails was crushed.



Figure 4-Forward Fuselage, Cabin Area

The forward lower fuselage, center console and seats were removed by first responders, exposing the cabin area. The instrument panel was crushed. The throttle quadrant remained attached to the center console, was crushed and positions unknown. Oxygen system tubing was visible in the cabin area.



Figure 5-Left Wing, Lower Side View

The left wing remained partially attached to the fuselage. The forward and aft spars separated near the wing root area. The outboard section of the left wing separated about midspan. The forward and aft spars were bent downward. The upper wing skin had buckling and deformation. A section of the forward spar upper cap separated from the webbing and was not located with the main wreckage. The spar separation surfaces revealed 45-degree shearlips. The spoiler cables remained attached to the spoiler bellcrank and was continuous to the cabin controls through impact damage and cable cuts by first responders. The spoiler interconnect cable was continuous through to the right wing. The left main landing gear was found in the retracted position with damage to the trunnion and supporting pins area. The landing gear was loose but could not be removed due to the position in the damaged wheel well.

The left engine was partially attached to the wing with damage to its mounting assembly. The cowling had impact damage revealing the sides of the engine. The propeller assembly remained attached to the engine and one blade was exposed and undamaged.



Figure 6-Right Wing-Lower Side View

The right wing remained attached to the main wreckage. The outboard section (from the inboard fuel tank to the tip) of the wing remained attached by control cables and tubing. The outboard full span flaps and associated attachments separated from the outboard section of the wing. About 4 ft of black colored transfer marks were visible on the lower surface of the wing forward of the outboard full span flaps. The outboard section of wing was buckled throughout. The leading edge of the wing had impact damage. The spar separation surfaces revealed 45-degree shearlips. The fuel tanks were breached, and a pillowing signature was visible on the inboard side of the inboard tank. A deep impression was visible aft of the right engine and is consistent in size with the pillowing signature of the inboard fuel tank. The right main landing gear was in the down position, and impact damage was noted in the wheel well area. The upper side of the outboard wing section had slight buckling and marking, compared to the lower surface. The fuel cap was removed and was unremarkable.

Empennage flight control cable continuity was confirmed through overload signatures in the aft fuselage and cable cuts by first responders in the forward fuselage to the cabin controls. Continuity of movement of both the left and right seat controls were attained.

2.0 Debris Field Examination

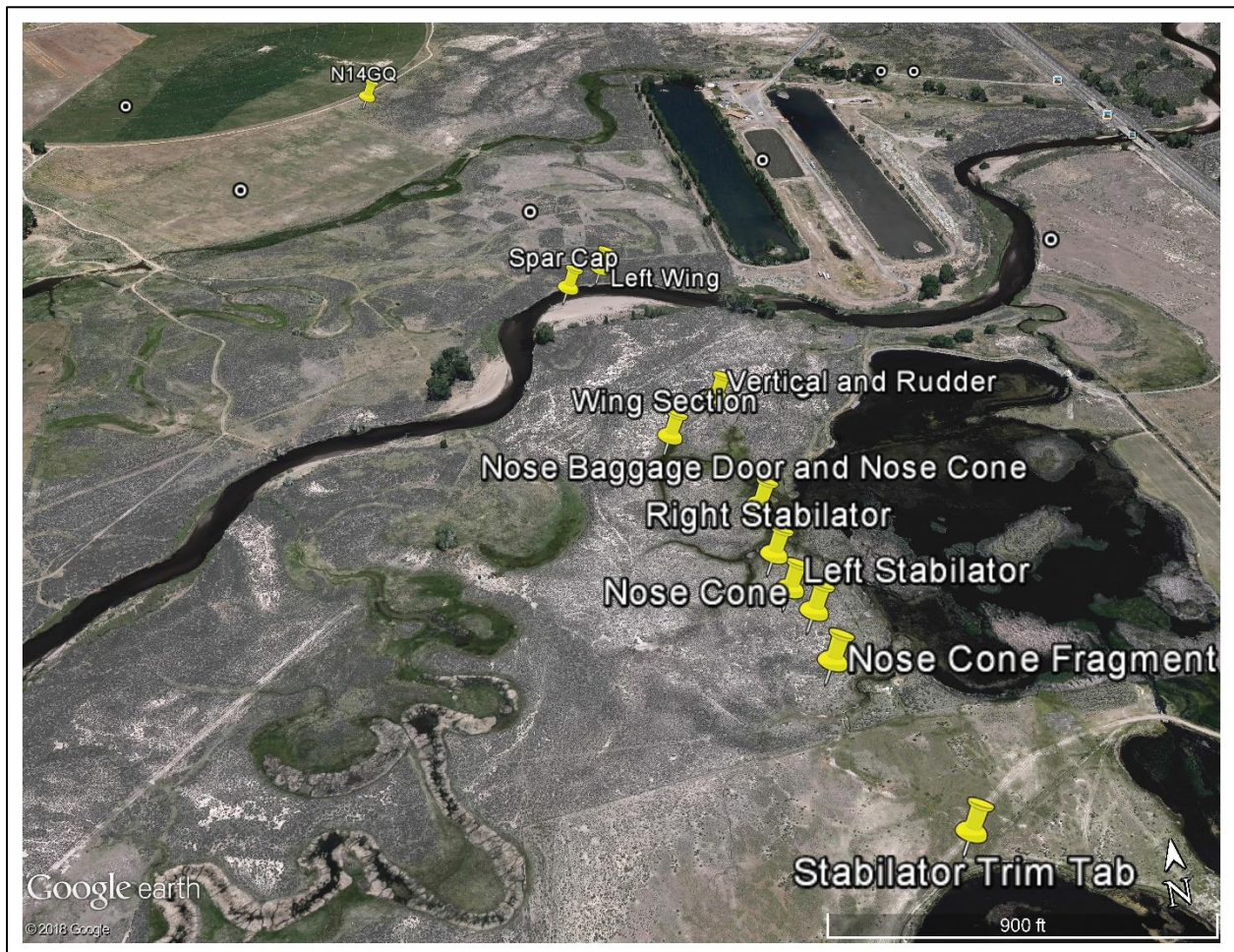


Figure 7-Debris Field, Aerial View

A debris field was located about .5 mile south of the main wreckage and contained the separated airplane parts. The parts were found in a linear pattern. The debris field was 3,128 ft in length and on a 172° magnetic heading from the main wreckage.



Figure 8-Left Wing

The left wing was located on the bank of Carson River and was the first item in the debris field. The outboard flap section and spoiler remained attached. The leading edge had impact damage and paint transfer marks. The outboard fuel tank and wing tip separated from the wing. The main spar was bent downward near the mid-span separation.



Figure 9-Left Wing, Main Spar



Figure 10-Vertical Stabilizer and Rudder

The vertical stabilizer and rudder were found about 1,000 ft down the debris field. The upper portion of the rudder, including the rudder balance weight, separated from the rudder and were not found. Rudder cables remained attached to the bellcrank and the cable ends had overload signatures. The rudder stops showed normal contact.



Figure 11-Left Wing, Outboard Fuel Tank

The left wing outboard fuel tank was found about 300 ft further down the debris field. The fuel tank was buckled and breached.



Figure 12-Right Stabilator

The right stabilator was found about 700 ft further down the debris field and was partially attached to a section of the tailcone. The trim tab control linkage was partially attached to the trim tab. The stabilator was buckled downward on both upper and lower sides.



Figure 13-Left Stabilator

The left stabilator was found 160 ft further down the debris field and was torn open from the trailing edge. The leading edge had impact damage.



Figure 14-Nose Cone Section

A large section of the nose cone was found about 100 ft further down the debris field. Several other smaller sections of the nose cone were found throughout the debris field.



Figure 15-Stabilator Trim Tab

About 900 ft further, a section of the left stabilator trim tab remained attached to a small section of stabilator. This was the furthest piece of wreckage found in the debris field.



Figure 16-Appareo Status Unit

An Appareo Stratus unit, a flight data monitoring device, was found near the right engine and remained attached to power cables from the glare shield cabin area. The device was obtained by the NTSB IIC, for download of possible flight data.

The wreckage was recovered on February 21, 2018, to Air Transport in Phoenix, Arizona for further examination.