

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



WPR24FA083

NTSB ONSCENE EXAMINATION REPORT

February 9, 2024

TABLE OF CONTENTS

A. ACCIDENT.....	3
B. PARTICIPANTS.....	3
C. SUMMARY	4
D. DETAILS OF THE EXAMINATION.....	4
1.0 ACCIDENT SITE	4
2.0 AIRFRAME EXAMINATION.....	6
2.1 Fuselage.....	6
2.2 Empennage	6
2.3 Wings	7
2.4 Cockpit.....	7
2.5 Fuel/Fuel System.....	7
3.0 ENGINE EXAMINATION	7
4.0 RECORDING DEVICES	9

A. ACCIDENT

Location: Westwater, Utah
Date: February 7, 2024
Time: 1048 mountain standard time
1748 UTC
Airplane: Hawker 900XP (N900VA)

B. PARTICIPANTS

IIC	Stephen Stein National Transportation Safety Board Federal Way, Washington
Party Member	Ricardo Asensio Textron Aviation Wichita, Kansas
Party Member	Ryan Roth Textron Aviation Wichita, Kansas
Party Member	Jay Eller Honeywell Phoenix, Arizona
Party Member	Camp Morton Honeywell Phoenix, Arizona
Party Member	Dondi Pangalangan Clay Lacy Van Nuys, California
Party Member	Ed Mirzakhanian Clay Lacy Van Nuys, California
Party Member	Allen McReynolds West Star East Alton, Illinois

FAA Melanie Barillaro
Federal Aviation Administration
Washington, D.C.

FAA Patrick Lusch
Federal Aviation Administration
Washington, D.C.

C. SUMMARY

On February 7, 2024, about 1048 mountain standard time, a Hawker 900XP, N900VA, was destroyed when it was involved in an accident near Westwater, Utah. The captain and co-pilot were fatally injured. The airplane was operated as a Title 14 Code of Federal Regulations Part 91 flight test.

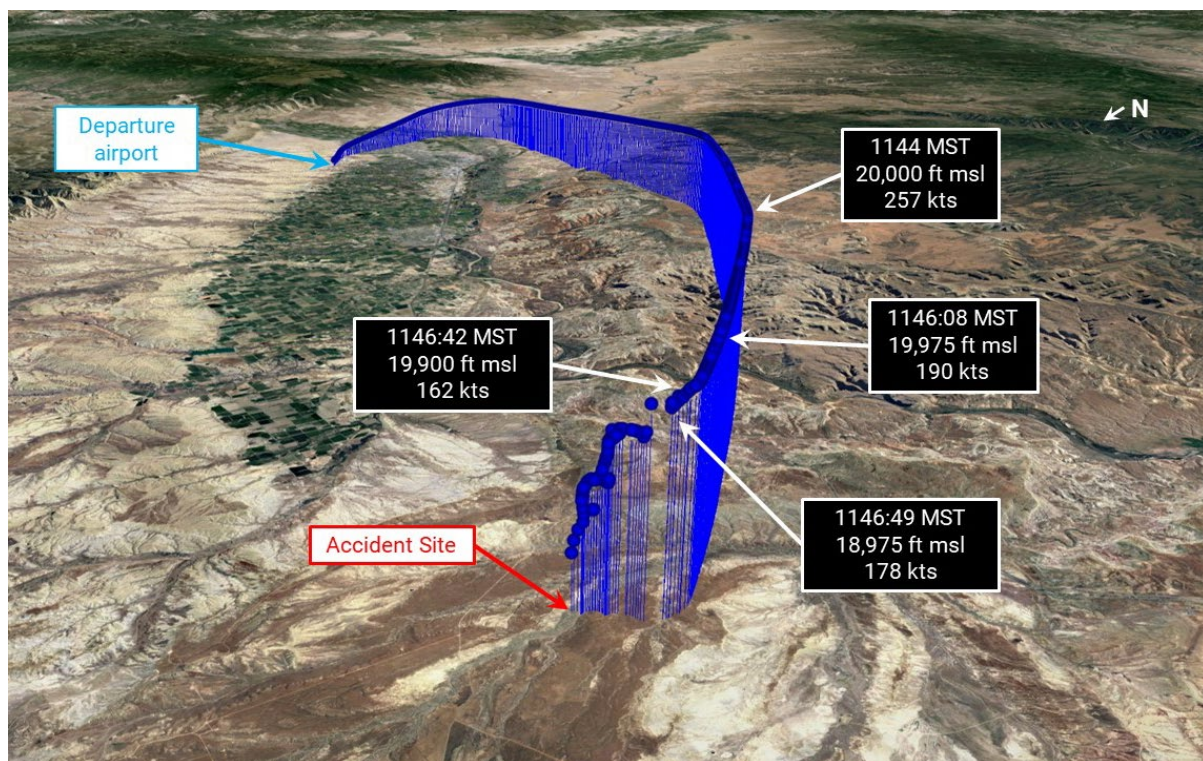


Figure 1: Accident airplane flight track

D. DETAILS OF THE EXAMINATION

1.0 Accident Site

The airplane came to rest in flat open terrain about 25 nm northwest of Grand Junction Regional Airport (GJT), Grand Junction, Colorado at a field elevation of about 4,800 ft mean sea level and oriented on a west heading. The airplane's major

structures were all accounted for at the accident site. A debris path was traced from the main wreckage to the end of a burn area that was about 200 ft long and 175 ft wide at the widest point, oriented on a magnetic heading of 345°. A silhouette of the left wing, fuselage and both engines was located about 10 ft south of the main wreckage.



Figure 2: Accident site main wreckage

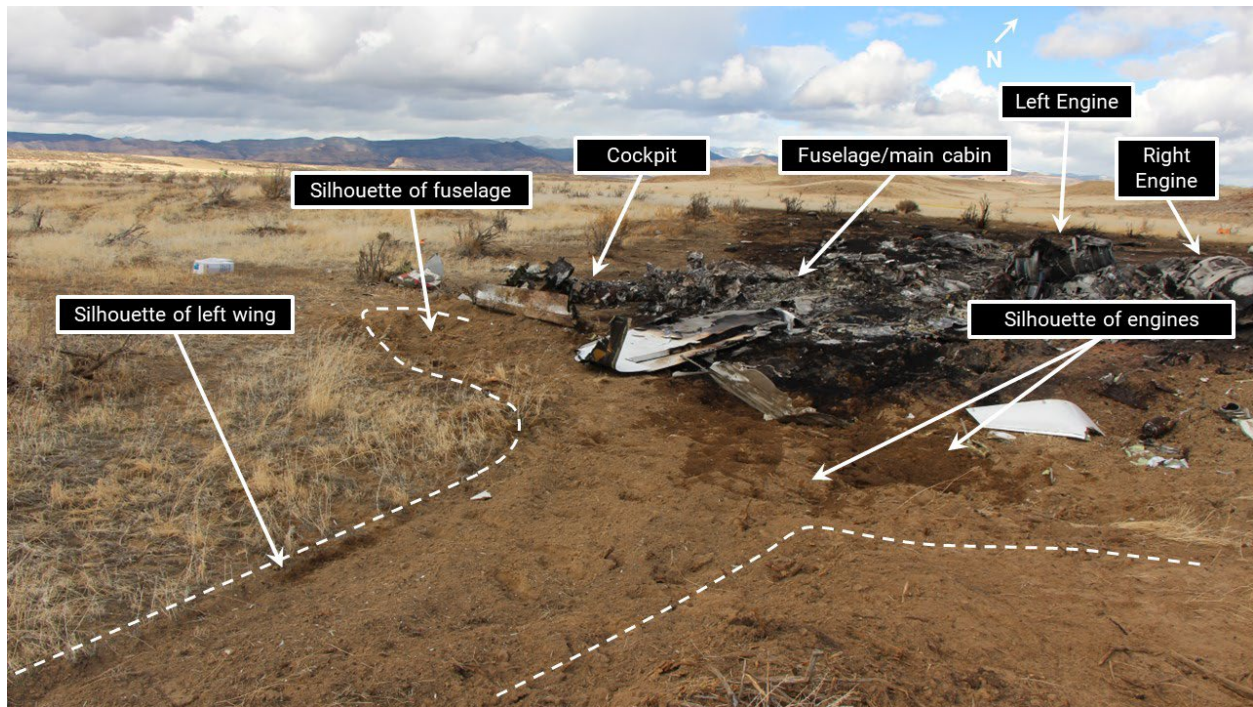


Figure 3: Accident site with ground signatures

2.0 Airframe Examination

The airplane came to rest in its normal configuration with the cockpit in the most forward position relative to the rest of the airplane followed by the main cabin, fuselage, and engines; all of which were destroyed by postcrash fire.

2.1 Fuselage

The fuselage was also consumed by fire. Both main landing gear were in the retracted position.

2.2 Empennage

The empennage was located about 75 ft east of the main wreckage and was comprised of the vertical stabilizer, rudder, and the left horizontal stabilizer with part of the elevator and elevator trim tab attached. The left horizontal was bent downward at the wing root and the right horizontal stabilizer was separated from and located beneath the vertical stabilizer, which was crushed and displayed a horizontal tear on the right side about midspan. The rudder was separated about midspan, but remained attached to the vertical stabilizer at its hinges.

Continuity was confirmed from the elevator bellcrank to the aft fuselage/forward empennage and the cables exhibited signatures consistent with overload separation.

The elevator trim tab actuator measured 16 inches and the elevator trim cable was continuous to the aft fuselage/forward empennage connection.

The rudder bell crank had separated and was found near the engines with the rudder bias actuators from both engines attached. Short segments of cable remained attached to the rudder bell crank. Rudder trim was continuous from the actuator to the aft fuselage/forward empennage section, but the chain had been pulled from the actuator sprocket.

2.3 Wings

The left wing was consumed by postcrash fire from the wing root to about midspan with some thermal damage outboard. The left aileron remained attached to the left wing, but was thermally damaged. A portion of the left winglet leading edge had separated. The left flap was located about 15 ft forward of the left wing silhouette, behind the left wing, and the flap jackscrew was separated from the flap.

The right wing came to rest on the right side of the airplane about 20 ft northwest of the main wreckage and was positioned forward of its normal swept position. The aileron remained attached to remnants of the wing, which was mostly consumed by postcrash fire. The right wing flap was located beneath the engines.

Aileron continuity was observed from both the right and left aileron bellcranks to the fuselage. The aileron trim system was continuous from the actuator in the left wing to the fuselage and the actuator measured 9 inches. The aileron flight control cables and the aileron trim cables either exhibited signatures consistent with overload separation or were thermally damaged by postcrash fire.

2.4 Cockpit

The cockpit and instruments were destroyed by postcrash fire.

2.5 Fuel/Fuel System

The fuel system was consumed by postcrash fire.

3.0 Engine Examination

The airplane was equipped with two Honeywell TFE731-50R-1H, turbofan engines that delivered 4,750 lbs of thrust each. Both engines came to rest behind the main cabin; the left engine was positioned parallel to the longitudinal axis of the airplane while the right engine came to rest nearly perpendicular to the longitudinal axis of the airplane in its resting position at the accident site. The two engines were positioned at approximately 60° from each other. The left engine thrust reverser was

collocated with the main wreckage and was crushed along the bottom of the outer shroud. The bottom of the left engine diffuser was also crushed along the bottom.

Left Engine

Model: TFE731-50R-1H (s/n P-122144)

TSN: 4686.2 (as of 12/20/23)

CSN: 2116 (as of 12/20/23)

The left engine came to rest inverted and had separated from its airframe engine mounts. The engine was damaged by postcrash fire and displayed black soot along the surfaces. Most of the fan blades were broken at the fan hub and some blades were bent opposite the direction of rotation. Rotational scoring was observed on the fan spinner. The forward tip of the fan spinner was not present and the afterbody was separated. None of the inlet stator vanes were present. The oil tank was crushed. Each of the low pressure, third stage, and power turbine rotor blade tips were broken and some of the blades were curled. The exhaust mixer nozzle was separated from the engine and the housing was crushed vertically. The bottom of the air inlet housing was also crushed vertically.

The engine's N1 Digital Electronic Engine Control (N1 DEEC) was located within the main wreckage between both engines. The N1 DEEC separated from its mounting structure and was thermally damaged by postcrash fire and the housing was punctured, which exposed the internal circuitry. The connector with its associated wiring harness remained attached to the unit, but was cut by the investigative team to recover the unit for further examination.

Right Engine

Model: TFE731-50R-1H (s/n P-122145)

TSN: 4537 (as of 12/20/23)

CSN: 2017 (as of 12/20/23)

The right engine remained upright in the wreckage and was attached to the engine strut at the inner engine mount. Soot was observed along the surfaces of the engine, which was thermally damaged by postcrash fire. The engine was partially separated just aft of the main frame. Most of the fan blades were broken at the fan hub and some of the blades were bent opposite the direction of rotation. Several broken fan blades were located on the ground in front of the engine inlet. All the inlet stator vanes had separated. The afterbody, exhaust mixer nozzle, and bottom of the air inlet housing were crushed vertically. The engine dataplate was identified in the wreckage below the right engine, which identified the manufacturer (Honeywell), the s/n P-122145, 99193 (a designated code for engines designed and manufactured in Phoenix, Arizona).

The engine's N1 Digital Electronic Engine Control (N1 DEEC) was located in the main wreckage between both engines. The N1 DEEC was not affixed to its mounting structure, but was present on the right side position of the mount. The N1 DEEC was damaged by postcrash fire and soot was observed along its exterior surfaces. The connector associated with the wiring harness remained attached to the unit. An outward "bubble" shape was observed on the bottom of the N1 DEEC. The unit was removed from the wreckage and retained for further examination.

4.0 Recording Devices

The airplane cockpit voice recorder and flight data recorder were found in the fuselage wreckage collocated with both engines. Both units were thermally damaged and retained for further examination.



Figure 4: Cockpit voice recorder (left) and flight data recorder (right)

Submitted by:

Stephen Stein
Senior Aviation Accident Investigator