

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



WPR24FA123

WRECKAGE EXAMINATION REPORT

April 15, 2024

A. ACCIDENT

Location: Derner CA
Date: April 9, 2024
Time: 14:44

Airplane: Ayres Corporation S2R-G10

B. WRECKAGE EXAMINATION REPORT

IIC	Paul Basti NTSB Seattle, WA
Subject Matter Expert	Dana Metz Honeywell Aerospace Phoenix, AZ
Supervisory Investigator	Elliott Simpson NTSB Seattle, WA
Party Member	William Mastley FAA - Reno FSDO Reno, NV

C. DETAILS OF THE INVESTIGATION

1.0 Accident Site

The airplane was found inverted on the western edge of a two feet deep water filled rice field within an open valley at an elevation 4374ft MSL.



2.0 Airframe Examination

The upper portion of the cabin structure and empennage were partially submerged in water. The airframe was intact. A 3ft outboard section of the right wing leading edge was crushed. The upper section of the rudder was crushed approx. 6 inches. All control and trim surfaces were attached. Aileron and elevator control travel was smooth and unobstructed in all directions. Both rudder cable connection was continuous from the surface to the pedals.



2.1 Survivability

Witnesses stated to the FAA that the pilot reported not feeling well and wanted to finish work early, and that the pilot was visibly slower getting in and out of the airplane.

The witness heard the crash and reached the airplane within approximately 3 minutes. Initially he could not extract the pilot and eventually broke the door hinges with a shovel.

The pilot was not secured in the seatbelt harness.

The pilot was wearing a helmet. There were no signs of damage to the helmet with the exception of minimal damage to the visor.

2.2 Fuel/Fuel System

The operator was first to arrive at the accident site. They stated removing the wing fuel caps, and did not see any fuel drain from the wings.

No evidence of fuel was seen in the water nor was there a presence of fuel odor. Both wing fuel tanks were visually inspected and did not contain fuel. Both wing tanks and an engine fuel line were drained and recovered a cumulative amount of approximately 15ml of fuel with a cloudy appearance. The fuel truck was visually examined at the nearby base of operation. The sight drain was approximately half full with clear appearance. The pump system was not equipped with fuel measuring delivery.

At the accident site, with the airplane positioned on the main landing gear, the wing tank fuel vent lines and strainer contained about 1 tablespoon of fuel combined. The fuel filler caps were tight at their respective filler necks, and the rubber gasket on each cap was pliable and free of cracks. Both fuel tanks were internally examined via their upper inboard and outboard inspection panels. There was no evidence of fuel, or foreign objects when viewed from each panel.

The fuel senders remained attached at their respective fittings on the inboard side of each tank. Both senders could be moved freely by hand and did not appear to be hung up on any part of the tank structure. The senders were removed, and their resistance tested with an Ohmmeter. Both registered about 0.4 ohms at the lower tank stop, and between 29.7 and 30.4 ohms at the upper stop. Both demonstrated progressive and repeatable variations in resistance throughout their range, with no dead areas.

The red fuel strainer bypass button was in the actuated position. It could be pushed down with light finger pressure and sprung back up when pressure was released. The line at the fuel shutoff valve was opened, and when the fuel bypass filter bowl was then opened and about 8 oz of fuel were present, along with about ¼ teaspoon of fine brown and sparkling debris. The bypass filter screen was free of debris, except for a single strand of fibrous material and a dozen visible grains of debris. There was no evidence to indicate the strainer was blocked.

The 5 gallon capacity header tank, contained 1 gallon of fuel.

The fuel shutoff valve and emergency shutoff valve cabin controls were in the open position, and their corresponding valves were in the open positions. All fuel lines from the fuel controller through to the auxiliary fuel pump and header tank were clear. All fuel line fittings and hoses were tight throughout the entire system. There was no evidence of fuel leak at any fitting, nor were any fuel streaks observed on any airframe skin.

3.0 Engine Examination

HONEYWELL GARRETT TPE331-10-511M

The Engine was intact, no visible damage. Engine mounts undamaged.

Oil filter bypass was not actuated.

Power Lever demonstrated Continuity. Power Lever on fuel control was approx. 85 deg, Propeller Pitch Control 89 degrees.

Emergency shutoff was not actuated, and connected to feather valve.

Forward plenum drain valve contained trace amount of fuel. Aft drain valve contained no fuel, with trace water.

Secondary fuel nozzles were wet with trace fuel.

Fuel filter was removed, the filter screen was wet but empty with no visible debris.

Removed tailpipe to inspect Aft turbine 3rd stage rotor, all blades displayed full geometry with normal dark coloration, debris (ingested through core at impact from rotation)

Prop rotated freely by hand, continuity between prop and 3rd stage turbine

Debris shield removed, first stage compressor blade geometry consistent, debris present at debris shield. Debris present on hub of impeller blades and outer flow path.

Fuel present in line between Fuel Shutoff Valve (FSOV) and flow divider, and between fuel control and FSOV

Removed lines to FSOV - Air flowed through valve when low pressure air was supplied to inlet.

Fuel selector was found in the open position.

4.0 Propeller Examination

The propeller hub was intact with all blades. 3 of 4 propellers were bent uniformly aft. The 4th propeller was bent in a forward orientation. Blade pitch was consistent with positive pitch angle.



5.0 Pilot Information

The pilot was 69 years of age. Basic medical history revealed chronic respiratory disease. A metered dose inhaler was found at the accident site. The pilot complained of not feeling well on the day of the accident. Family member had also stated the pilot had just undergone a cardiac stress test and found to be satisfactory. The pilot's son stated that the pilot had previously complained about flying this particular airplane but did not have specific details, and may not have been very familiar with that specific type.

6.0 Aircraft Information

The airplane was recently purchased by the operator and not all staff had flown this type which has a different engine than other similar airplanes among the fleet. The power lever position was found just below the halfway point. The Engine Speed lever position was nearly at the full position. The fuel selector valve was in the on position. The emergency fuel cutoff lever was not actuated. The Trim control lever was found within the neutral position. The forward instrument panel did not display signs of damage by occupant impact.

7.0 Meteorological Information

KAAT 092155Z AUTO VRB03KT 10SM CLR 17/M01 A3019 RMK AO2 SLP217
T01721006

Submitted by:

Paul Basti
Air Safety Investigator