

# National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



ERA23LA009

## WRECKAGE EXAMINATION SUMMARY

August 20, 2024

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## **A. ACCIDENT**

Location: Greensboro, North Carolina  
Date: October 6, 2022  
Time: 1621 EDT  
2021 coordinated universal time (UTC)  
Airplane: N655WP, Fisher Celebrity

## **B. WRECKAGE EXAMINATION SUMMARY**

IIC Timothy W. Monville  
NTSB-OAS/ERA  
Washington, DC

Party Coordinator Sarah E. Allen  
FAA Flight Standards District Office  
Greensboro, North Carolina

## **C. SUMMARY**

On October 6, 2022, about 1621 eastern daylight time, an experimental, amateur-built Fisher Celebrity airplane, N655WP, formerly N917LS, was substantially damaged when it was involved in an accident near Greensboro, North Carolina. The commercial pilot sustained minor injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot stated that prior to his first flight that day he verified 8.5 gallons of fuel in the airplane's header tank and that no water was present in the fuel system. After engine start while taxiing, he noted a brake issue and returned to the hangar. After repairing the issue, he ran the engine to 2,400 rpm and noted the brakes were not capable of keeping the airplane stationary. He taxied to runway 23R and when cleared for takeoff applied partial power then full throttle which was 3,000 rpm. The airplane climbed and the pilot entered the airport traffic pattern, maintaining full power while climbing to the same altitude as the airplane ahead of him. He was instructed by the tower controller to extend the downwind leg when the engine "stumbled slightly." He then turned the auxiliary fuel pump on and, the airplane experienced a total loss of engine power as if it had run out of the fuel. He verified the fuel shutoff valve was fully open, retarded the throttle and engaged the electric primer two to three times. The engine restarted and operated normally for about 20 to 30 seconds but would not sustain power. The pilot realized that airplane could not reach the runway and maneuvered for a forced landing on a golf course. While maneuvering the right wing impacted a tree causing the airplane to yaw to the right. The airplane descended and

impacted the side of a house. The pilot evacuated the airplane and there were no reported ground injuries.

## D. DETAILS OF THE INVESTIGATION

### 1.0. General Airplane Information

#### 1.1 Airplane Description

The Fisher Celebrity was a two-seat, conventional landing gear, single engine, biplane kit aircraft designed for construction by amateur builders.

#### 1.2 Airplane Airworthiness Information, Flight Test, and Modification Entries

A Federal Aviation Administration (FAA) Application For Airworthiness Certificate was made on April 25, 2006, It was approved by a FAA Designated Airworthiness Representative - Maintenance (DAR-T) on June 25, 2006. At the time of the airworthiness certificate issuance, it was equipped with a Rotec Engineering R2800 engine and a Rotec Engineering propeller.

#### 1.3 Airframe Maintenance

A review of the maintenance records revealed the airplane's last condition inspection was signed off by the pilot/owner/airframe and powerplant mechanic on July 9, 2022<sup>1</sup>.

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7/9/2022 | 7/9/2022 Fisher Celebrity CLBR N655WP S/N CE-130<br>Hobbs 154.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|          | <ul style="list-style-type: none"><li>• Aircraft N # changed from N917LS to N655WP, See FAA letter dated 3/29/2022</li><li>• Removed engine to install Rotec Mk I TBI &amp; repair motor mount (rust) Had mount powder coated gun metal.</li><li>• Leak tested Pitot system to 100MPH. There is no static system installed.</li><li>• Installed Rotec NOS MKI 40-S TBI and added Mixture control cable. Removed previous choke cable</li><li>• Installed Rotec fuel pressure regulator. With electric solenoid for manual enrichment.</li><li>• Fabricated and install TBI air filter connector bracket (4 hole flanged to round)</li><li>• Replaced throttle cable with new (4 inches longer)</li><li>• Changed oil and filter (FRAM PH3600). Added 8 qts Castrol 20w-50w.</li><li>• Adjusted carburetor cable and added WOT Throttle stop at pilot's quadrant.</li><li>• Bled R/H brakes and added fluid. Tightened fitting at top of R/H Grove spring gear assy.</li><li>• Perform Cylinder leak down check all cylinders 1-7 80%</li><li>• Flight controls checked, checked</li></ul> |
|          | I certify this airplane engine and propeller have been inspected in accordance with A/M Manual & manufacturers directives and found to be in accordance with Airworthiness Condition Inspection.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|          | I certify this airplane has been inspected and found to be in a condition for safe operation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|          | <div style="text-align: center;">[Redacted Signature]</div> <div style="display: flex; justify-content: space-between;"><span>Wesley H Parker A/P</span><span>7 / 9 / 2021</span></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

**Figure 1: Last Condition Inspection Entry.**

<sup>1</sup> Note, the date at the upper left was handwritten which matched the typed date at the top of the entry, but the typed date next to the signature reflected 2021.

## 2.0. General Engine Information

### 2.1 Engine Description

The Rotec R2800 engine was a 7-cylinder radial engine that produced 110 horsepower at 3,700 rpm<sup>2</sup> at Take Off/Maximum Continuous and 110 horsepower at 2,450 propeller rpm for Rated power.

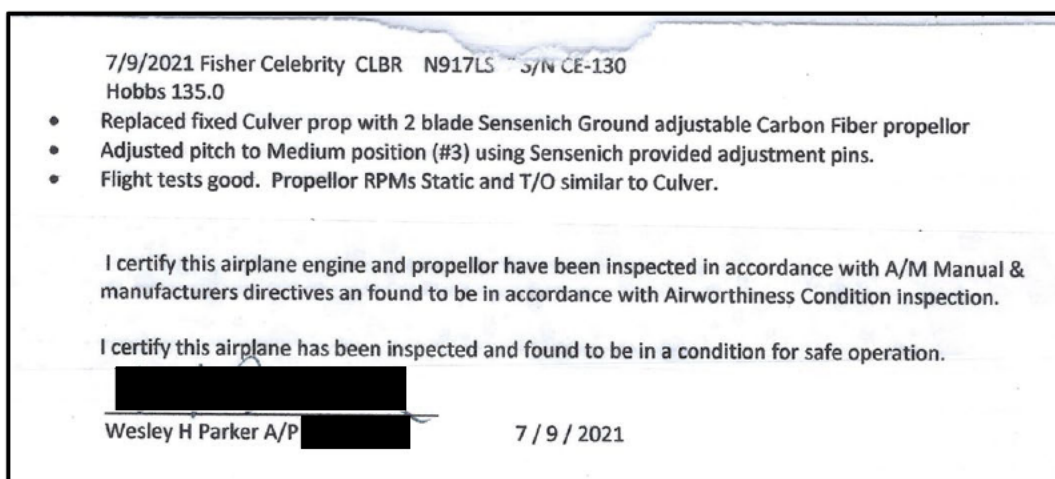
### 2.2 Engine Maintenance History

At the airplane's last condition inspection, a Rotec NOS MKI 40-S throttle body injector (TBI) was installed along with a mixture control cable. At the same time the throttle cable was adjusted and a wide-open throttle (WOT) stop was added at the "pilot's quadrant" Figure 1.

## 3.0. General Propeller Information

### 3.1 Propeller Information

A review of the maintenance records revealed that on July 9, 2021, at hour meter reading 135.0<sup>3</sup>, the Culver Fixed Pitch propeller was removed and a Sensenich Ground-Adjustable Carbon Fiber propeller was installed by the pilot/owner/airframe and powerplant mechanic. The entry also indicated that the propeller pitch was adjusted to "...Medium position (#3) using Sensenich provided adjustment pins. Flight tests good. Propeller RPMs Static and T/O similar to Culver", Figure 2.



7/9/2021 Fisher Celebrity CLBR N917LS S/N CE-130  
Hobbs 135.0

- Replaced fixed Culver prop with 2 blade Sensenich Ground adjustable Carbon Fiber propellor
- Adjusted pitch to Medium position (#3) using Sensenich provided adjustment pins.
- Flight tests good. Propellor RPMs Static and T/O similar to Culver.

I certify this airplane engine and propellor have been inspected in accordance with A/M Manual & manufacturers directives an found to be in accordance with Airworthiness Condition Inspection.

I certify this airplane has been inspected and found to be in a condition for safe operation.

Wesley H Parker A/P [Redacted Signature] 7 / 9 / 2021

**Figure 2: Propeller Installation Entry.**

<sup>2</sup> Per the Rotec Aerosport Radial Engine Operations Manual.

<sup>3</sup> The hour meter reading at the time of the accident was 154.0.

## **4.0. General Header Fuel Tank Information**

### **4.1 Header Fuel Tank Description**

The aluminum header fuel tank<sup>4</sup>, installed forward of the pilot's seat, was plumbed to provide a path of fuel to the fuel strainer, electric fuel pump, mechanical fuel pump, fuel pressure regulator, then to the TBI. The tank was equipped with a fuel quantity sending unit, that provided a reading to a gauge on the right side of the rear seat instrument panel.

### **4.2 Header Fuel Tank Maintenance History**

The pilot reported to the FAA inspector that in the summer of 2022, he replaced the fuel sending unit in the header tank<sup>5</sup>. As part of that process, he indicated that he enlarged the hole of the fuel sending unit, vacuumed out the fuel tank to remove all shavings, and then flushed the tank with water.

## **5.0. On-Scene Header Fuel Tank Documentation**

### **5.1 Header Fuel Tank Fuel Quantity**

As part of the wreckage recovery process on October 7, 2022, the header fuel tank was removed from the airplane then drained<sup>6</sup>. The individual associated with the salvage recovery crew advised that he drained an estimated 3 to 4 gallons of blue colored fuel consistent with 100 low lead (100LL) fuel with no signs of water contamination<sup>7</sup>.

### **5.2 Header Fuel Tank Fuel Quality and Foreign Object**

FAA inspector Sarah Allen who was on-scene when the header fuel tank was removed and drained reported the fuel had a chemical smell, like "...lacquer thinner." She later asked the pilot whether he added any additives to the fuel and he reported to the inspector that he had used Marvel Mystery Oil® to the fuel but had not done that in "quite some time." During the header tank removal and draining process, visual inspection of the tank interior revealed a red/orange colored foreign object (Figure 3).

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<sup>4</sup> Although the pilot reported the capacity of 13 gallons, a placard on the cap specified 12 gallons.

<sup>5</sup> Refer to FAA and NTSB Record of Conversations which are contained in the NTSB public docket.

<sup>6</sup> The pilot reported that neither wing fuel tank contained fuel at the time of the flight. He added that the header fuel tank contained an estimated 8.5 gallons. Refer to NTSB Record of Conversation with the pilot on November 3, 2022 contained in the NTSB public docket for the investigation.

<sup>7</sup> Refer to NTSB Record of Conversation contained in the NTSB's public docket for this investigation.



**Figure 3: View of Foreign Object Removed From Header Fuel Tank.**

### 5.3 On-Scene Header Fuel Tank Fuel Sender Inspection

Examination of the header fuel tank fuel sender revealed it was in-place and secured. The sender remained secured by all five bolts and partially electrically secured but one electrical wire was pulled from the terminal fitting (Figure 4). Red/orange colored sealant was noted extruded from the base on the sending unit.



**Figure 4: View of the Fuel Sender Unit.**

## 6.0. On-Scene Airframe and Engine Documentation

### 6.1 General Accident Site, and Airframe Description

Examination of the accident site (house in a residential area) was performed by an airworthiness inspector on October 6<sup>th</sup> and 7<sup>th</sup>, 2022. Initial examination of the impacted house revealed damage to one window and several areas of structure adjacent to the window (Figure 5). Additional damage to a portion of a fence, and air conditioner was noted. The left wings of the airplane were adjacent to the house with portions of wing spar embedded into the house (Figure 6).



**Figure 5: View Showing Damage to House.**



**Figure 6: View of the Airplane At the Accident Site.**

## 6.2 Airframe

Examination of the fuselage in the rear seat cockpit area revealed minimal deformation (Figure 7).



**Figure 7: Right Side View of Fuselage and Rear Cockpit.**

## 6.3 Engine and Propeller

Examination of the engine with attached propeller revealed displacement of the engine relative to their normal orientation (Figure 8).



**Figure 8: Displaced Engine with Attached Propeller.**

#### 6.4 Propeller(s)

Refer to Engine and Propeller Examination Summary in NTSB public docket for this investigation for a description of propeller damage.

#### 6.5 Wings

Both upper and lower wings associated with the left wing and both upper and lower wings associated with the right wing sustained structural damage (Figures 9 and 10).



**Figure 9: Left Wings**



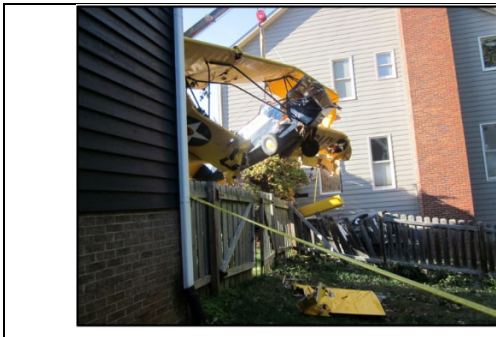
**Figure 10: Right Wings**

#### 6.6 Flight Controls and Flaps

The pilot did not report any discrepancies for the roll, pitch, or yaw flight controls.

#### 6.7 Landing Gear

Both main landing gears were displaced aft (Figure 11) while the tailwheel appeared undamaged (Figure 12).



**Figure 11: Both Main Landing Gears**



**Figure 12: Tailwheel**

## 6.8 Cockpit

Examination of the rear seat cockpit revealed the occupiable space remained intact.

## 6.9 Survivability/Restraints

No discrepancies were reported with the rear seat restraint.

## 6.10 Video Recording(s)

A Go-Pro camera with SD card were found among the wreckage.

# 7.0 Follow-Up Engine Examination

## 7.1 Engine Examination Information

Follow-up examination of the engine was performed by a mechanic with NTSB supervision. Refer to NTSB Engine Examination Summary notes contained in the NTSB public docket for the investigation.

# 8.0. PARTS RETENTION

An Appareo Stratus ESG Transponder, and a Secure Digital (SD) card from a Go-Pro camera that was mounted on the left wing were retained by NTSB for read-out at the Vehicles Recorder Laboratory<sup>8</sup>.

# 9.0. PENDING INFORMATION

Summary of the Go-Pro video. The NTSB subject matter expert indicated that the Appareo transponder did not store internal historical data.

Submitted by:

Timothy W. Monville  
Sr. Air Safety Investigator

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<sup>8</sup> Refer to NTSB Wreckage Release and Evidence Control Forms in the public docket for this investigation.