

WRECKAGE EXAMINATION
NTSB Accident Number
ERA22FA015

ACCIDENT

Location:	Titusville, Florida
Date:	October 14, 2021
Time:	1551 EDT
Aircraft:	Velocity SE RG
Registration	N755V

PARTICIPANTS (On Scene)

Robert J Gretz
Sr. Air Safety Investigator
National Transportation Safety Board
Eastern Region Aviation

Laura Burns
Aviation Safety Inspector
FAA Orlando FSDO

Scott Swing
Velocity Aircraft
Sebastian, FL

HISTORY OF FLIGHT

On October 14, 2021, about 1551 eastern daylight time, an experimental, amateur-built Velocity SE RG, was destroyed when it was involved in an accident near Titusville, Florida. The pilot was fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

According to witness statements, radar data and airport surveillance video, the airplane flew uneventfully to Sebastian, Florida (X26) during the day of the accident. While there at the airplane kit manufacturer facility, the airplane owner/pilot replaced a gear up switch fuse as the landing gear was not retracting. The replacement corrected the issue and then the pilot removed the pilot seat and rear seat behind the pilot seat. He left the rear seat behind so that maintenance technicians could match color and specifications as the pilot planned to have the interior aesthetics renovated the following month. He then reinstalled the pilot seat himself and departed X26 uneventfully at 1528 for Titusville, Florida (TIX). As the airplane approached runway 9 at TIX, on short final approach, it pitched up, climbed about 300 ft, then descended nose-down. The airplane impacted a grass area to about 400 ft right of runway centerline, and about 2,000 ft from the beginning of the runway. A postcrash fire consumed a majority of the wreckage.

PERSONNEL INFORMATION

Pilot information provided to NTSB IIC by FAA inspector Laura Burns. A request was made to the pilot's widow for pilot logbooks.

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AIRCRAFT INFORMATION

The experimental, amateur-built airplane was assembled in 2006 and currently equipped with a Lycoming IO-390-A, 215-hp engine, driving a three-bladed MTV-12 constant speed composite propeller. A request was made to the pilot's widow for maintenance logbooks.

METEOROLOGICAL INFORMATION

KTIX 141947Z 08009KT 7SM SCT060 32/21 A2991

COMMUNICATIONS

Audio copies were received of TIX Tower communications.

FLIGHT RECORDERS

N/A

WRECKAGE AND IMPACT INFORMATION

The wreckage came to rest upright, oriented about a 230° magnetic heading, and no debris path was observed. The cockpit and cabin were mostly consumed by fire. The flight control stick was not recovered. The pilot's seat was identified, and the four bolts and their respective hard points remained attached. The pilot's seat pin was also identified, but the seat frame was bent and separated, consistent with impact. A Grand Rapids PFD and MFD were recovered and retained for data download.



The left aileron separated from the wing and was recovered near the wing. The right aileron also separated from the right wing and recovered near its wing. The left aileron exhibited more fire damage than the right aileron. Aileron control continuity was confirmed from the separated ailerons through cables, to a bellcrank, to torque tubes, to the cockpit. The canard spar remained intact and free of fire damage; however, the left and right elevators were not recovered and presumed destroyed. The elevator pushrod section that

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connected to the control stick was recovered with no threaded rod end engaged, and the rod end was not recovered. The pushrod section was retained for metallurgical examination. Continuity of the elevator was confirmed through torque tubes, with the exception of the retained component, to the cockpit. The elevator trim actuator was destroyed, and measurement of its worm screw could not be determined. The left rudder was identified, and the right rudder was not recovered and presumed destroyed. The left rudder bellcrank remained intact and its cable exhibited a broomstraw separation.

The engine came to rest upright, separated from the airframe. The three composite propeller blades remained attached to the hub and all three blades separated about 12 in from their respective roots. Following recovery to a salvage facility, the top spark plugs were removed; their electrodes were intact and light gray in color. Borescope examination of the cylinders did not reveal any anomalies. The rear accessory section sustained thermal damage. The propeller was rotated about 180° and then seized with no movement in either direction.

The engine was examined again at the recovery facility on 12/2/22, with the assistance of a representative from the engine manufacturer. Once the rear accessory section was removed, the crankshaft rotated 360°. Crankshaft, camshaft, and valve train continuity were confirmed to the rear accessory section of the engine, and thumb compression was attained on all cylinders. Due to thermal damage, the ignition and fuel system could not be tested.



MEDICAL AND PATHOLOGICAL INFORMATION

TBD.

WITNESS STATEMENTS AND CONTACT INFORMATION

Witness statements obtained by FAA.

ADDITIONAL INFORMATION

Wreckage Recovery: Florida Air Recovery, Ft Pierce