

NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

October 31, 2019

Wing Examination

Factual Report
By Adam M. Gerhardt

1. EVENT DETAILS

Location: Covington, Tennessee
Date: September 1, 2018
Aircraft: Experimental, Amateur-built, JETEZ
Registration: N815EY
Operator: Individual
NTSB Number: ERA19FA240

2. SUMMARY

On September 1, 2018, about 1720 central daylight time, an experimental amateur-built JETEZ, N815EY, was destroyed when it experienced an in-flight breakup and impacted terrain while maneuvering at low altitude near Covington Municipal Airport (M04), Covington, Tennessee. The airline transport pilot was fatally injured. The airplane was operated by the pilot as a personal flight conducted under the provisions of Title 14 Code of Federal Regulations Part 91. Day visual meteorological conditions prevailed, and no flight plan was filed for the local flight.

3. EXAM ATTENDEES

Adam Gerhardt
Air Safety Investigator
National Transportation Safety Board

Brian Murphy
Aerospace Engineer - Structures
National Transportation Safety Board

Dan Merrell
Airworthiness Inspector
Federal Aviation Administration – Memphis FSDO

4. DETAILS OF INVESTIGATION

On October 30, 2019, the JETEZ wings were examined at the Tipton County Sheriff's Office Evidence Warehouse in Covington, Tennessee. The wreckage had not been moved since it was originally recovered to this location from the accident site. This factual report was prepared from the examination notes and photographs produced by the attendees during the examination.

5. WING EXAMINATION

Examination of both wings revealed that they each displayed material transfer between the blue foam wing core between the upper and lower wing skins, and upper and lower wing spars.

5.1. LEFT WING

The left wing had fragmented into several pieces. Portions of the left wing's upper skin plys displayed evidence of fiber material transfer from the lower wing skin. Portions of the left wing's upper spar cap and upper wing skin had a glossy appearance with no obvious evidence of fiber material transfer. The left winglet skin panels showed evidence of fiber material transfer between the winglet skin and the winglet spar caps.

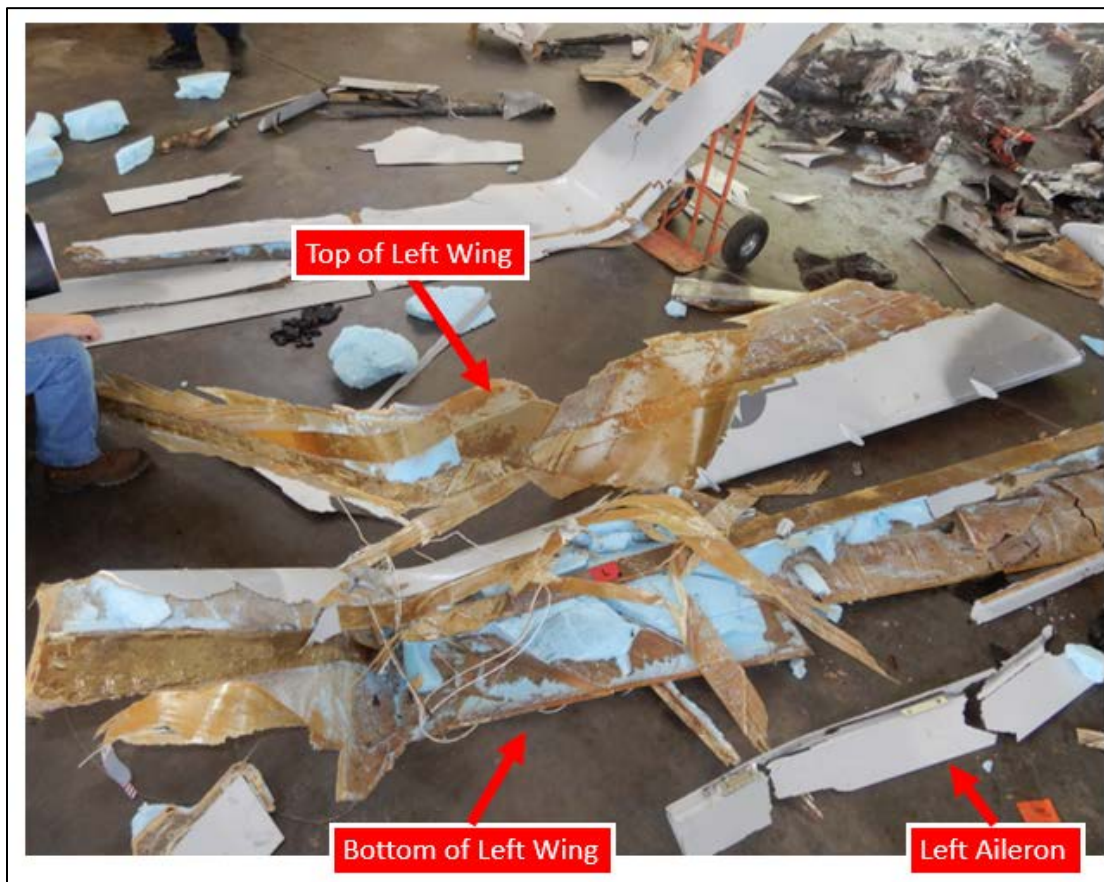


Figure 1: Overview of left-wing fragments, laid out after recovery from accident site



Figure 2: Overview of Internal Left-Wing Skin



Figure 3: Overview of portion of left-wing spar cap



Figure 4: Overview of portion of the left-wing upper and lower skin and wing spar

5.1.1. LEFT AILERON

The left aileron was fragmented into multiple pieces. The inboard bracket displayed fire damage and was the only bracket to display fire damage, and still had wing skin attached to it. The outboard and middle bracket had pulled through the wing skin. All screws were found on the brackets. The leading-edge balance weight was bent upwards at the inboard edge of the outboard hinge, consistent with wingtip upward bending. The aileron control rod also had evidence of wing upward bending. The aileron fragments were consistent with overload.



Figure 5: Overview of Left Aileron

5.2. RIGHT WING

The right wing had fragmented into several pieces. There was evidence of fiber material transfer between the wing upper skin plies throughout the wing area.



Figure 6: Overview of right wing laid out after recovery from accident site

5.2.1. RIGHT AILERON

The right aileron remained intact in one piece but had separated from the right wing. The inboard bracket separated from the wing skin. The middle and outboard brackets remained attached to the wing skin. All screws were found on the brackets.



Figure 7: Right Aileron

6. LEFT WING SECTION, MATERIALS LAB EXAMINATION

The left wing was measured from the winglet toward the inboard portion of the wing. With the winglet marking the start of the measurement, of 0 inches, a section of the upper spar cap and mating upper wing skins were removed for examination in NTSB Materials Laboratory in Washington, DC. The section removed began at 41 inches inboard of the winglet, continuing to 100 inches inboard of the left winglet. Reference the NTSB Materials Laboratory factual report for additional information.



Figure 8: Area Removed for Materials Lab Examination