



Memorandum For Record

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Eastern Region

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NTSB Accident Number: ERA20LA129

Following the airplane being shipped to Cirrus Aircraft in Minnesota, the Genesys-Aerosystems (formerly S-TEC) components consisting of the Altitude Transducer, part number (P/N) 0111-, serial number (S/N) 22675A, marked with, "P550-5017" and "D1703-032.", Autopilot Processor P/N 01192-34-61T-30, S/N 5963, Pitch Servo, P/N 0108-15-P4, S/N 0345-12554, Code BCDEFH, and Turn Coordinator, P/N 6405-8-28L, S/N 0350-15069 G were shipped on December 14, 2020, to Genesys-Aerosystems via UPS 2nd Day Air UPS airbill 1ZA3978T0391562549 and were delivered 2 days later where they remained secured pending examination.

A virtual examination of the components was started on January 12, 2021, beginning at 1000 hours EST. Present for the examination were personnel from Genesys-Aerosystems and NTSB.

The turn coordinator was examined first. Twenty-Eight volts DC was applied to the instrument and allowed to warm up for 3 minutes. All tests were within limits except test point 2.6(a), which according to the manufacturer was a test checking across gyro signal and gyro signal reference. The representative reported it is checking the gyro when level for centering. The turn coordinator can't be adjusted in the field, but the pilot can take out this offset with the 55X computer roll centering adjustment.

The pitch servo was examined next. Because the electrical cable was cut, the electrical wires were spliced to allow it to be connected electrically to the test bench. Following the repairs, the motor voltage at start up was 4 volts (their cutoff is 2 volts). The representative indicated that the startup voltage being higher than the cutoff would result in a small delay in the servo reacting to commands from the computer. This delay would potentially cause a small pitch oscillation of approximately 1° to 2°. This type of oscillation could be noticeable to the pilot if he is watching the attitude indication closely. This possible low magnitude pitch oscillation would present no flight hazard. The unit passed all the test points.

Visual inspection of the computer/programmer revealed no damage. The unit was connected to the test bench and the readings were recorded. As part of the procedure the computer had the roll centering adjustment set to compensate for the turn coordinator for test point 2.6.11.2 in Section 2. The centering adjustment had to be taken out (nuled) for the computer test. That setting was left where set for the rest of the test. The unit passed all test points but it was noted that the back lighting was dim.

The pressure transducer was tested and passed all tests.

The retained components were returned on May 27, 2021, to the facility that purchased the wreckage.

Also retained for the investigation was the Globe Motors, Inc., Roll Motor with Limit Switches and Cam, part number P/N 317A386, Date Code 0347M, also marked with "11796-002". The component was shipped from Cirrus Aircraft via UPS 2nd Day Air UPS airbill 1ZA3978T0292969315 on February 24, 2021, and was delivered to Globe Motors, Inc., on February 26, 2021, where it remained secured pending examination.

A virtual examination of the components was started on March 9, 2021, starting at 1500 hours EST. Present for the examination were personnel from Globe Motors and NTSB.

The part had 2 limit switches installed and a cam. The motor wires were cut to separate the airframe wires, and the base was removed to fully test the motor. The motor was visually inspected and there was no obvious impact damage. It was then operationally tested and passed the Acceptance Testing Process.

The retained component was returned on May 27, 2021, to the facility that purchased the wreckage.