

**APPAREO**

1810 NDSU Research Circle N  
Fargo, ND 58102  
Doc No: 606586-000075, Rev. 2.1

Airplane Flight Manual Supplement  
for AML STC SA04112CH

**FAA-APPROVED**

**Airplane Flight Manual Supplement**

**Appareo Stratus ES/ESG**

**ADS-B Out Transponder**

**Aircraft Make and Model:** \_\_\_\_\_

**Registration Number:** \_\_\_\_\_

**Serial Number:** \_\_\_\_\_

This supplement must be attached to the FAA-Approved Airplane Flight Manual when Stratus ES/ESG is installed in accordance with STC SA04112CH.

The information contained in this document supplements or supersedes the basic manual only in those areas listed. For limitations, procedures, performance, and loading information not contained in this supplement, consult the basic Airplane Flight Manual.

FAA-Approved



\_\_\_\_\_  
Manager, Southwest Flight Test Section, AIR-713  
Federal Aviation Administration  
Ft. Worth, Tx

Date: 11-27-18


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## Log of Revisions

Revision Number	Pages Affected	Change Description	FAA Approved	Date
1.0	All	Initial Release		
1.1	All	CM 10298		
1.2	All	CM 10631		
1.3	All	CM 10938		
1.4	All	CM 11058		
1.5	All	CM 11113		
1.6	All	CM 11317	Steve Lardinois	7/7/16
1.7	All	CM 13060	Steve Lardinois	4/12/17
2.0	All	CM 13741	Eric Kinney	9/20/17
2.1	All	Added Clarification for SW	 Manager A/R 713	11/27/18

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## Related Documentation

Information specific to the normal operation of Stratus ES/ESG can be found in the Stratus ES/ESG Pilot's Guide (Appareo document number 600890-000049). Additional information about the operation and maintenance of Stratus ES/ESG can be found in the documents below.

Document Number	Title
600840-000032	Stratus ES/ESG Installation Instructions
600845-000025	Stratus ES/ESG Instructions for Continued Airworthiness
601837-000024	Stratus ES/ESG Installation Drawings and Wiring Diagrams

To view the most current version of this document, go to [appareo.com/dealer-portal](http://appareo.com/dealer-portal) or [www.appareo.com/resources](http://www.appareo.com/resources).

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## Chapter 1. General

Stratus ES/ESG by Appareo is an ADS-B Out transponder designed to help pilots meet the FAA 2020 mandate. Stratus ES/ESG responds to legacy Mode A/C interrogations and Mode S interrogations from both ground radar and airborne collision avoidance systems. Stratus ES/ESG are 1090 ES transponders, where Stratus ES connects to an external GPS and Stratus ESG has a certified WAAS GPS in the same box.

## Chapter 2. Operating Limitations

- Stratus ES/ESG meets 14 CFR 91.227 ADS-B Out equipment performance requirements. Ensure that the system is functioning properly, including verifying the following items:
  - Stratus ES/ESG transponder display is functional.
  - GPS integrity is assured. The  icon will display if GPS integrity is assured.
  - No built-in-tests (BITs) were detected by the system. If a BIT failure is detected, the  icon will display along with an error message describing the BIT code.
- The Stratus ES/ESG Pilot's Guide (600890-000049) must be immediately available to crew members whenever Stratus ES/ESG is in operation.
- This AFMS is applicable for the versions of software and embedded hardware identified in the table below.

Software	Part number	Revision (or later FAA approved)
Embedded Hardware (FPGA)	501010-000109	R04
Software (DSC)	501010-000113	R06

## Chapter 3. Emergency Procedures

No change.

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## Chapter 4. Normal Procedures

- When directed by ATC to suppress pressure altitude reporting, use Stratus ES/ESG's **ON** key.

See the Stratus ES/ESG Pilot's Guide (Appareo document number 600890-000049) for a full description of Stratus ES/ESG's function.

## Chapter 5. Abnormal Operating Procedures

- The location of the circuit breaker will generally be located on the avionics circuit breaker panel. Location of the breaker may vary with each aircraft. The breaker has a rating of 5 amps and is labeled "XPNDR."
- **If the circuit breaker opens, it may be reset only once.**
- Use the table below to troubleshoot possible problems with Stratus ES/ESG.

Problem	Troubleshooting Steps
GPS information is not being received	Verify that the aircraft has a clear view of the sky. <b>NOTE:</b> Initial GPS fix could take up to 20 minutes.
The power key does not power on Stratus ES/ESG	1. Verify that the power key is not stuck. 2. Verify that the circuit breaker has not tripped. <b>If it has tripped:</b> Reset the circuit breaker switch and try the power key again. <b>NOTE:</b> If the circuit breaker opens it may be reset only once. <b>If it did not trip:</b> Contact your dealer for further assistance.

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<p>The screen displays a BIT failure</p> <p>The display screen will display a warning message and degraded state indicator ▲ if any of Stratus ES/ESG's BITs fail.</p>	<p>The Stratus ES/ESG screen might display a warning message with one of these instructions. See below for how to assess the failure:</p> <ul style="list-style-type: none"><li>• <b>PRESS FUNC TO CLEAR:</b> A non-critical error has been detected. Stratus ES/ESG will run in a degraded state until the error is resolved. Contact your dealer for further assistance.</li><li>• <b>PLEASE RESTART UNIT:</b> A critical error has been detected. Restarting the unit might fix the error. If the message returns after restarting, contact your dealer for further assistance.</li><li>• <b>PLEASE SHUTDOWN UNIT:</b> A critical error has been detected. Power off the unit and do not turn it back on. Contact your dealer for further assistance.</li><li>• <b>WAITING TO BE UNSTUCK:</b> A key has been depressed for more than 20 seconds. If a key is stuck, try to unstick the key.</li><li>• <b>WAITING FOR RELEASE:</b> The external suppression input is constantly in a suppressed state. Contact your dealer for further assistance.</li><li>• <b>ATTEMPTING TO RECOVER:</b> A squitter rate error has been detected. The transponder may recover itself, but if it does not, restart the unit. If the message returns after restarting, contact your dealer for further assistance.</li></ul>
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## **Chapter 6. Performance**

No change.

## **Chapter 7. Mass and Balance/Equipment Lists**

See aircraft Weight & Balance information for current Basic Empty Weight, Center of Gravity (CG), and Moment.

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