

APPAREO

1810 NDSU Research Circle N
Fargo, ND 58102
Doc No: 606586-000112, Rev. 1.1

FAA-APPROVED

Rotorcraft Flight Manual Supplement

For The

Aircraft Identified In AML STC SR04453CH

With

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 Rotorcraft Flight Manual when Stratus ES/ESG is installed in accordance with STC SR04453CH.

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 Rotorcraft Flight Manual.

FAA-Approved

for



Manager, Southwest Flight Test Section, AIR-713
Federal Aviation Administration
Ft. Worth, TX

Date: 03/09/2020

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Log of Revisions

Revision Number	Pages Affected	Change Description	FAA Approved	Date
1.1	All	Initial Release	<u>Z. M. Wood for</u> Manager AIR-713	03/09/2020

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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
600840-000059	Stratus ES/ESG Helicopter Installation Instructions
600890-000049	Stratus ES/ESG Pilot's Guide
600845-000030	Stratus ES/ESG Helicopter Instructions for Continued Airworthiness
601837-000050	Stratus ES/ESG Helicopter Installation Drawings and Wiring Drawings

To view the most current version of this document, go to appareo.com/dealer-portal or www.appareo.com/resources.

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Chapter 1. General

Stratus ES/ESG by Appareo is an ADS-B Out transponder designed to FAA 2020 ADS-B out 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, the Stratus ES derives position data from an external connected GPS; the Stratus ESG uses an internal certified WAAS GPS to derive position data.

Chapter 2. Operating Limitations

- This RFMS 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	R05
Software (DSC)	501010-000113	R07

Chapter 3. Emergency Procedures

No change.

Chapter 4. Normal Procedures

- The Stratus ES/ESG Pilot's Guide (600890-000049) should be immediately available to crew members whenever Stratus ES/ESG is in operation.

Mode Selection Keys



Mode	Key	Description
Off	PWR	Stratus ES/ESG is powered off.
Standby	SBY	Stratus ES/ESG is powered on and does not send responses to any ATC interrogations.

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Mode	Key	Description
Altitude	ALT	Stratus ES/ESG is powered on and responds to all Mode A/C/S interrogations. Altitude is reported.
Ground	(none)	Stratus ES/ESG is powered on and in ALT or On mode, but does not report altitude. Ground mode is automatically detected. Press the ALT or ON key to override Ground mode. Press SBY to remove this override.
On	ON	Stratus ES/ESG is powered on and responds to all Mode A/C/S interrogations, but altitude reporting is suppressed.

- 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 failed 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.
- 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.

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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. NOTE: 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. If it has tripped: Reset the circuit breaker switch and try the power key again. NOTE: If the circuit breaker opens it may be reset only once. If it did not trip: Contact your dealer for further assistance.

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Problem	Troubleshooting Steps
<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">• PRESS FUNC TO CLEAR: 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.• PLEASE RESTART UNIT: 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.• PLEASE SHUTDOWN UNIT: A critical error has been detected. Power off the unit and do not turn it back on. Contact your dealer for further assistance.• WAITING TO BE UNSTUCK: A key has been depressed for more than 20 seconds. If a key is stuck, try to unstick the key.• WAITING FOR RELEASE: The external suppression input is constantly in a suppressed state. Contact your dealer for further assistance.• ATTEMPTING TO RECOVER: 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.

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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.