

FAA APPROVED
ROTORCRAFT FLIGHT MANUAL SUPPLEMENT
FOR THE
ROBINSON MODEL R44 II

Serial Number: _____

Registration Number: _____

This Supplement must be attached to the FAA Approved Rotorcraft Flight Manual dated October 3, 2002 when the rotorcraft is modified by installation of an **EIT Avionics FODR System** in accordance with STC SR04411NY.

The information contained herein supplements or supersedes the basic manual only in those areas listed. For limitations, procedures and performance information not contained in this supplement, consult the basic FAA Approved Rotorcraft Flight Manual.

FAA Approved: _____

William Witzig, Manager

Northeast Flight Test Section

Federal Aviation Administration

Burlington, MA

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RFM Supplement for Robinson R44 II equipped with EIT
FODR System.

Rev	Pages Affected	Description	Date	FAA Approval
A	1 to 12	Initial Release	18 Oct 2019	William Witzig
B	1 to 12	Page 8: Add note to wear headset Page10: Add crosscheck of Flight Screen, Add radar altitude call outs.	21 Apr 2020	William Witzig

Signatures provided for the most recent approval of this document only. Signatures are on file for past document revisions.

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SECTION 1 GENERAL

INTRODUCTION

This supplement contains the changes and additional data applicable when the EIT Avionics Flight Operations and Data Recorder (FODR) system is installed. There are two principle units in the FODR system, the FODR Computer and the Enhanced Situational Awareness Information Display (ESAID).

The FODR system consists of two distinct configurations. These configurations are:

FODR: The FODR is a rotorcraft operations data recorder that records certain airframe, engine and rotor system parameters. The system is transparent to the pilot except for a green annunciator in the center console that informs the pilot the system is operating. The pilot has no access to the FODR during flight.

FODR & ESAID: The introduction of the ESAID with the FODR provides information for the pilot that can be used to allow the pilot to operate the aircraft safely as defined by the RFM.

Refer to SECTION 7 for a more detailed system description.

Refer to EIT Avionics document number 93277 titled "FODR System Pilots Guide" for more details on system operation.

SECTION 2 LIMITATIONS

The data presented by the aircraft primary instruments takes precedence over the ESAID display. The ESAID display may not replace any existing instrument or indicator required by type design or operating limits.

PLACARDS

The following placard is required when the ESAID is installed:

Located on the ESAID bezel: **"NOT FOR USE AS A PRIMARY INSTRUMENT FOR FLIGHT"**

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Located near the FODR Status Indicator: **“FODR STATUS”**

SECTION 3 EMERGENCY PROCEDURES

ALERTS

This section defines the pilot alerts provided when the ESAID is installed. The pilot alerts are intended to assist with situational awareness. When an alert is present the pilot must look at primary instruments and displays to ensure the alert is valid.

ALERT	AUDIBLE COMPONENT	CONDITION	Pilot Action
VNE	Attention tone + “Warning: VNE Exceeded”	Exceeding Vne	Reduce speed
MCP	Attention tone	Operation above maximum continuous power	Monitor power setting
	Attention tone + “Warning: MCP Duration Exceeded”	More than 5 minutes of operation above maximum continuous power	Reduce power if possible
5MP	Attention tone + “Warning: Five Minute Power Exceeded”	Exceeded five-minute power, power limits	Reduce power if possible
DAHI	Attention tone + “Warning: Max Density Altitude Exceeded”	Maximum density altitude limits exceeded	Reduce altitude if possible

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ALERT	AUDIBLE COMPONENT	CONDITION	Pilot Action
OGE	Attention tone	Operation above OGE maximum density altitude	Avoid OGE hover at or above current altitude
	Attention tone + "Warning: OGE Hover Exceeded"	OGE hover attempt above OGE hover maximum density altitude	Avoid OGE hover at current altitude
IGE	Attention tone	Operation above IGE maximum density altitude	Avoid IGE hover at or above current altitude
	Attention tone + "Warning: IGE Hover Exceeded"	IGE hover attempt above maximum IGE density altitude	Avoid IGE hover at current altitude
FRZ	No audible component.	Freezing conditions possible	Monitor OAT and avoid visible moisture
LO-G	Attention tone + "Warning: Low G"	Low G event detected	Apply gentle aft cyclic to increase G loads to normal levels. See Robinson RFM Section 2 Flight and Maneuver Limitations.
EHI	Attention tone + "Warning: Engine Over-speed"	Engine over-speed detected	Reduce engine RPM's
RHI	Attention tone + "Warning: Rotor Over-speed"	Rotor over-speed detected	Reduce rotor RPM's

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ALERT	AUDIBLE COMPONENT	CONDITION	Pilot Action
SLIP	Attention tone + "Warning: Clutch Belt Slippage"	Clutch belt slippage detected	Reduce power and land as soon as practical
CLCH	Attention tone + "Warning: Clutch Over-tension"	Clutch motor operation exceeds 10 seconds in flight	Pull clutch CB and land as soon as practical See Robinson RFM Section 3 CLUTCH warning note.
FUEL	Attention tone + "Warning: Low Fuel"	Low fuel detected	Verify fuel quantity and land as necessary to avoid fuel exhaustion
EXC	No audible component.	Exceedance detected	Check exceedance list and take appropriate action.
GWT	Attention tone	Gross weight is unconfirmed or out of range	Enter correct gross weight into ESAID
SINK	Attention tone + "Warning: Sink Rate, Sink Rate."	Excessive descent rate (>2000FPM)	Manage descent rate appropriately

Exceedances: The FODR system records exceedances for review after the flight. The Exceedance alert provides an indication to the pilot that the FODR data should be downloaded and checked to verify the exceedance condition and the maintenance required, if any.

SECTION 4 NORMAL PROCEDURES

See the EIT Avionics document 93277, FODR System Pilots Guide for more details about system operation.

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Note: The pilot must wear a headset to hear the FODR system
aural annunciations and altitude call outs

DAILY OR PREFLIGHT CHECKS







1. Visually inspect the ESAID for security.
2. Visually inspect the OAT on the bottom of
the aircraft for security and damage.
3. Visually inspect the GPS antenna on the
top of the aircraft for security and
damage.
4. Apply power to ESAID, verify power on
self test.
5. Observe any ALERTS in the Alert Display
area
6. If alerts are visible, select
SUPPLEMENTAL INFORMATION.....
 - a. Note Alerts and Exceedances.
 - b. Download FODR data for review.
 - c. Ensure all Exceedances are
disposed before continuing.
 - d. If dispositioned, select CLEAR
EXCEEDENCES



AFTER STARTING ENGINE

1. ESAID's GROSS WEIGHT..... Enter current
value or accept
default
2. Press..... OK
3. Select SETTING SCREEN.....

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4. Select brightness setting..... Adjust to meet flight conditions
5. Select aural levels..... Adjust to meet flight conditions
6. Test Aural Levels.....  Select as necessary
7. DOOR(S) OFF..... Select as necessary
8. FIXED FLOATS..... Select as necessary
9. OPERATION ON WATER..... Select as necessary
10. Select Settings Page 2.....  Select as necessary
11. POPOUTS DEPLOYED..... Select as necessary
12. POPOUTS ARMED..... Select as necessary
13. Allow Screen to time out or select..... 
14. INFO SCREEN will now display.
15. Observe any ALERTS in the Alert Display area.
16. If alerts are visible, select SUPPLEMENTAL INFORMATION.... 
 - a. Note Alerts and Exceedances.
 - b. Download FODR data for review.
 - c. Ensure all Exceedances are dispositioned before continuing.
 - d. If dispositioned, select CLEAR EXCEEDENCES..... 
17. Select INFO SCREEN..... 

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18. Crosscheck INFO SCREEN values with existing OAT, correct Gross Weight, calculated Density Altitude and performance data from Approved Rotorcraft Flight Manual.

19. Select FLIGHT SCREEN.....



20. Crosscheck FLIGHT SCREEN values with existing primary instruments and current conditions.

CRUISE

Select tabs as desired



DESCENT, APPROACH, AND LANDING:

Radar altitude call outs are made when descending from above 400 ft AGL. On descent, the radar height will not repeat a height callout unless the aircraft climbs back above the next higher callout in provided table, or 400 Ft AGL. The callouts will be made regardless of the tab selected on ESAID.

RA Height Callouts (ft)
300
200
100
60
15

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POST FLIGHT PROCEDURES

1. Observe any ALERTS in the Alert Display area from last flight.
2. If alerts are visible, select SUPPLEMENTAL INFORMATION..... 
3. Note Alerts and Exceedances.
4. Download FODR data for review.
5. Ensure all Exceedances are dispositioned before continuing.
6. When exceedances are dispositioned select CLEAR EXCEEDENCES..... 

SECTION 5 PERFORMANCE

No Change

SECTION 6 WEIGHT AND BALANCE

No Change

SECTION 7 SYSTEMS DESCRIPTION

For a complete system description see the EIT Avionics document 93277, FODR System Pilots Guide.

FODR SYSTEM

The FODR system consists of the FODR and ESAID. The FODR is located behind the aft seat in a location where it is not accessible to the pilot. The ESAID is located in the cockpit where it is accessible by the pilot.

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The FODR collects data from aircraft systems, and communicates with ESAID. It is also a data recorder for all information it receives. The FODR system uses its own GPS data to determine aircraft location, and its own OAT probe to obtain OAT. The FODR OAT is used in the density altitude calculations. The FODR also has its own pitot and static inputs for calculating airspeed and altitude data. If optional radar altimeter is installed, radar altitude data is collected, stored, and provided to ESAID.

When interfaced with the ESAID, the FODR provides sensed data for the ESAID to calculate the operational limitations for the flight based on the pilot entered information and the limitations defined in the RFM.

The ESAID will display the information from the FODR to the pilot as well as providing visual and aural alerts. The ESAID provides a means for the pilot to input flight information on the ground so the FODR can develop a flight envelop based on the data provided in the RFM. If optional radar altimeter is installed, ESAID displays radar altitude and provides height callouts.

SECTION 8 HANDLING AND MAINTENANCE

No Change

SECTION 9 SUPPLEMENTS

No Change

SECTION 10 SAFETY TIPS AND NOTICES

No Change