



G500/G600 TXi Part 23 AML STC Maintenance Manual

Contains Instructions for Continued Airworthiness
for STC SA02571SE

Aircraft make, model, registration number, and serial number, along with the applicable STC configuration information, must be completed in Appendix A and saved with aircraft permanent records.

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RECORD OF REVISIONS

Revision	Revision Date	Description
1	11/17/17	Initial Release
2	8/15/2018	Revised to address changes for the version 2.20 STC update.

DESCRIPTION OF CHANGES

Section	Description
2.1.1	Updated to include GDU 700L functionality as a PFD.
2.1.6	Added Note regarding Installer Unlock Card requirement to load settings to SD card.
2.2.1	Added MFD/EIS display to GDU 700P display options. Added image of MFD/EIS display to Figure 2-2 GDU 700P MFD, PFD, EIS, and MFD/EIS Display Configurations.
2.2.2	Added explanation of GDU 700L display functionality. Updated Figure 2-4 GDU 700L PFD, EIS, and MFD/EIS Display Configurations to show all display configurations.
2.2.6	Updated to include GDU 700L with optional integrated ADAHRS.
3.1	Changed ODA STC Unit Administrator.
3.3	Updated AHRS Magnetic Field Model Update row in Table 3-1 to include GDU 700L.
4.2.1	Updated title of section to "GDU 700/1060". Added tables for J5/P5 Connector and J6/P6 Connector.
4.2.6	Added caption for J431/P431 Connector table.
4.2.7	Added caption for J432/P432 Connector table. Added “*Indicates Active-Low” below J432/P432 table. Added caption for J433/P433 Connector table.
4.2.8	Added caption for J1101/P1101 Connector table. Added caption for J1102/P1102 Connector table.
4.2.9	Added caption for J541/P541 Connector table.
4.2.10	Added caption for J441/P441 Connector table.
5.1	Updated title of section to "GDU 700/1060".
A.7	Updated instructions in Appendix Section A.7 Print Configuration Log.
A.9	Added Figure A-3 GDU 700P MFD/EIS Gauge Layout Template.
A.10	Added Figure A-5 GDU 700L MFD/EIS Gauge Layout Template.

DEFINITIONS OF WARNINGS, CAUTIONS, AND NOTES



WARNING

Warnings indicate that injury or death is possible if the instructions are disregarded.



CAUTION

Cautions indicate that damage to the equipment is possible.



NOTE

Notes provide additional information.



WARNING

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WARNING

Perchlorate Material – special handling may apply.

Refer to www.dtsc.ca.gov/hazardouswaste/perchlorate.



WARNING

Failure to properly configure the EIS gauges per the POH/AFM and other approved data could result in serious injury, damage to equipment, or death.



CAUTION

To avoid damage to the GDU 700()/1060, take precautions to prevent electrostatic discharge (ESD) when handling the unit, connectors, and associated wiring. ESD damage can be prevented by touching an object of the same electrical potential as the unit before handling the unit itself.



CAUTION

The GDU 700()/1060 has a special anti-reflective coated display that is sensitive to skin oils, waxes, and abrasive cleaners. CLEANERS CONTAINING AMMONIA WILL HARM THE ANTI-REFLECTIVE COATING. Clean the display with a clean, lint-free cloth, and a cleaner that is safe for anti-reflective coatings.



CAUTION

Do not store any G500/G600TXi component in or near water.

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1 INTRODUCTION

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1.1 Purpose

This document is designed for use by the installing agency of the Garmin G500/G600 TXi PFD/MFD/EIS system as a Maintenance Manual and Instructions for Continued Airworthiness in response to FAR Part 23.1529 and Part 23 Appendix G. This ICA includes information required by the operator to adequately maintain the Garmin G500/G600 TXi system installed under AML STC.

1.2 Scope

This document provides maintenance instructions and identifies the Instructions for Continued Airworthiness for the modification of the aircraft for installation of the Garmin G500/G600 TXi PFD/MFD/EIS system installed under the AML STC.

1.3 Organization

The following outline briefly describes the organization of this manual:

Section 2.1: System Overview

Provides a description of the G500/G600 TXi system equipment installed by this STC.

Section 2.2: LRU Description, Control, and Operation

Provides basic control and operation information specifically tailored to maintenance practices.

Section 3: Instructions for Continued Airworthiness

Provides Instructions for Continued Airworthiness of the G500/G600 TXi system LRUs.

Section 4: Troubleshooting

Provides troubleshooting information, including connector information, pinouts, and flowcharts to aid in diagnosing and resolving problems with G500/G600 TXi system equipment.

Section 5: Equipment Maintenance and Checkout Procedures

Provides instructions for the removal and replacement of G500/G600 TXi system LRUs, including system checkout procedures.

Appendix A: Installation-Specific Information

Provides a template to record aircraft-specific installation and configuration data for the G500/G600 TXi system.

1.4 Applicability

This document applies to all aircraft with the G500/G600 TXi system installed in accordance with AML STC SA02571SE. Modification of an aircraft by this STC obligates the aircraft operator to include the maintenance information provided by this document in the operator's Aircraft Maintenance Manual and the operator's Aircraft Scheduled Maintenance Program.

1.5 Publications

In addition to this manual, the following documents are recommended for performing maintenance on the G500/G600 TXi system. It is the responsibility of the owner/operator to ensure the latest applicable versions of these documents are used during operation, servicing, or maintenance of the G500/G600 TXi system.

Table 1-1 Reference Documentation

Document	Garmin P/N
<i>G500/G600 TXi Part 23 AML STC Equipment List</i>	005-00795-D1
<i>AFMS, G500/G600 TXi Part 23 AML STC</i>	190-01717-B2
<i>G500/G600 TXi Part 23 AML STC Installation Manual</i>	190-01717-B3

1.6 Revision and Distribution

This document is required for maintaining the continued airworthiness of the aircraft. Garmin dealers may obtain the latest revision of this document at the Garmin [Dealer Resource Center](#) website. Dealers are notified of manual revision changes via Garmin Service Bulletins posted to the Dealer Resource Center. Owners and operators may obtain the latest revision of this document at [flyGarmin.com](#) or by contacting a Garmin dealer. Garmin contact information is available at [flyGarmin.com](#).

1.7 Terminology and Acronyms

1.7.1 Terminology

Except where specifically noted, references made to the “GDU 700/1060” will apply to the GDU 700P, GDU 700L, and GDU 1060 equally.

Except where specifically noted, references made to the “G500/G600 TXi system” will apply to an installed system with one or more GDU 1060s or GDU 700s and all LRUs interfaced to the GDUs.

Except where specifically noted, references made to Garmin products with a “(0)” designation after the model number refer to all sub-models in that series (e.g., a reference to GDU 700() refers to both the GDU 700P and the GDU 700L variants).

Throughout this document, references will be made to metallic aircraft. For the purposes of this manual, metallic aircraft will be those with an aluminum skin. Nonmetallic aircraft refers to all other aircraft (e.g., wooden aircraft, aircraft with composite skin, or aircraft with tube-and-fabric construction).

Unless otherwise stated, all units of measure are US standard units.

1.7.2 Acronyms

The following terminology is used within this document.

AC	Alternating Current	ICA	Instructions for Continued Airworthiness
ADAHRS	Air Data Attitude Heading Reference System	ILS	Instrument Landing System
ADC	Air Data Computer	LCD	Liquid Crystal Display
ADF	Automatic Direction Finder	LOC	Localizer
ADS-B	Automatic Dependent Surveillance Broadcast	LRU	Line Replaceable Unit
AFMS	Aircraft Flight Manual Supplement	MFD	Multi-Function Display
AHRS	Altitude and Heading Reference System	NPT	National Pipe Taper
AML	Approved Model List	OAT	Outside Air Temperature
A/P	Autopilot	ODA	Organization Designation Authorization
ASI	Airspeed Indicator	PFD	Primary Flight Display
BIT	Built-In Test	POH	Pilot's Operating Handbook
CFR	Code of Federal Regulations	PPS	Pulse Per Second
CHT	Cylinder Head Temperature	RNAV	Area Navigation
DC	Direct Current	RPM	Revolutions Per Minute
DME	Distance Measuring Equipment	RVSM	Reduced Vertical Separation Minimum
EGT	Exhaust Gas Temperature	SBAS	Satellite Based Augmentation System
EIS	Engine Indicating System	SD	Secure Digital
ES	Extended Squitter	SDI	Source/Destination Identifiers
FAA	Federal Aviation Administration	STC	Supplemental Type Certificate
FAR	Federal Aviation Regulation	TAS	Traffic Advisory System
FD	Flight Director	TAWS	Terrain Awareness System
FIS-B	Flight Information Services Broadcast	SSM	Sign/Status Matrix
GAD	Garmin Interface Adapter	TCAS	Traffic Collision Avoidance System
GBB	Garmin Backup Battery	TCAD	Traffic Collision Avoidance Device
GCU	Garmin Control Unit	TIS	Traffic Information Service
GDC	Garmin Data Computer	TSO	Technical Standard Order
GDU	Garmin Display Unit	UAT	Universal Access Transceiver
GEA	Garmin Engine Adapter	UTC	Coordinated Universal Time
GMU	Garmin Magnetometer Unit	VOR	VHF Omni-Directional Range
GPS	Global Position System	WAAS	Wide Area Augmentation System
GSR	Garmin Services	WXR	Weather Radar
GRS	Garmin Reference System		
GTP	Garmin Temperature Probe		
GWX	Garmin Weather Radar		
HSI	Horizontal Situation Indicator		
IAS	Indicated Air Speed		

2 SYSTEM DESCRIPTION

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2.1 System Overview

The G500/G600 TXi installation can provide PFD, MFD, and EIS functions. Three display models, the GDU 700P, GDU 700L, and GDU 1060, are used to convey the information. The G500/G600 TXi system utilizes engine sensors and the GEA 110 Engine Adapter to provide EIS functions.

2.1.1 PFD Functionality

The primary flight display provides attitude, heading, airspeed, altitude, and vertical speed. Optional features, such as Synthetic Vision, autopilot control and annunciation, HSI map overlays, and more, can also be provided by the PFD. The minimum PFD installation consists of:

- GDU 700/1060 display
- ADAHRS capability (must have one of the following):
 - GRS 77 AHRS and GDC 74() ADC
 - GRS 79 AHRS and GDC 72() ADC
 - GSU 75() ADAHRS
 - Internal ADAHRS (part of the GDU)
- GMU 44 Magnetometer
- GTP 59 Temperature Probe
- External WAAS GPS navigation source

2.1.2 MFD Functionality

The multi-function display provides at a minimum a moving map display. The display can optionally provide traffic, terrain, audio, and weather functions depending on installed equipment. Additionally, the MFD can be used as an integrated standby PFD when installed in accordance with the integrated standby configuration described in *G500/G600 TXi Part 23 AML STC Installation Manual* (P/N 190-01717-B3). The MFD minimum system installation consists of:

- GDU 700P or GDU 1060 display
- External WAAS GPS navigation source

2.1.3 EIS Functionality

The EIS is an optional feature for single- and twin-engine reciprocating engine equipped aircraft. The EIS will display 4 and 6 cylinder engine data and select airframe parameters. The EIS can display engine and airframe operating parameters on the GDU. The EIS gauges include optional gauges and those required by the aircraft POH and manufacturer.

This manual only provides information for the EIS sensors installed per the *G500/G600 TXi AML STC*. Table 2-1 lists the sensors that are maintained in this manual. Refer to the applicable maintenance data and/or TSO manual for other sensors that are interfaced to the EIS.

Table 2-1 AML STC Installed Sensors

Function	Manufacturer P/N	Garmin P/N
Oil Press	Garmin 150 PSIG pressure, (Brass)	011-04202-30
	Kulite APT-20GX-1000-150G (Stainless)	494-30032-00
Oil Temp	UMA T3B3-2.5G	494-70009-00
Manifold Press	Garmin 30 PSIA Press, (Brass)	011-04202-00
	Kulite APT-20GX-1000-25A	494-30030-00
Fuel Press	Garmin 75 PSIG Press, (Brass)	011-04202-20
	Garmin 15 PSIG Press, (Brass)	011-04202-10
	Kulite APT-20GX-1000-50G	494-30031-00
	Kulite APT-20GX-1000-15G	494-30029-00
Fuel Flow	EI FT-60	494-10001-00
	EI FT-90	494-10001-01
RPM	N/A (Magneto P-lead)	N/A
Carb Air Temp	UMA T3B10-SG	494-70010-00

2.1.4 Entering Configuration Mode

The Configuration mode of the GDU 700/1060 can be accessed by holding down the inner knob located at the bottom-right of the unit, as shown in Figure 2-1, upon initial power-up. The knob must be pressed until the splash screen shown in Figure 2-1 disappears and the configuration menu appears.



Figure 2-1 Entering the Configuration Mode on the GDU

2.1.5 SD Card Location Options

The GDU 700/1060 has two SD card slots that can be used for various tasks. The following list describes what tasks can be performed from which SD card slot:

- Either slot
 - Installer unlock
 - Feature enablement
 - Screen shots (if a card is present in both slots, the screen shot will print to the top slot only)
 - Update databases
- Top/left slot only
 - Software updates
 - GSU/GRS log downloads
 - Flight log download
 - Save configuration to SD card
 - Save error log to SD card
 - Load configuration from SD card
- Bottom/right slot
 - Update databases (faster)

2.1.6 Save/Load SD

The aircraft configuration settings can be saved to an SD card, as well as loaded from an SD card using the following procedures:

To save your aircraft configuration settings to an SD card:

1. Insert an SD card into the top/left slot of any GDU 700/1060 in the system.
2. Power on all GDUs in the G500/G600 TXi system in Configuration mode.
3. From the **Home** screen, select **SD save**.
4. Enter the name you would like the configuration saved as.
5. Select **Enter**.

To load your aircraft configuration settings from an SD card:



NOTE

An Installer Unlock Card is required to load configuration settings to an SD card.



NOTE

Loading the system configuration from an SD card will overwrite the current system configuration and is not reversible. It is recommended to always save your current configuration to the SD card first before loading a new configuration.

1. Insert an SD card into the top/left slot of any GDU 700/1060 in the system.
2. Power on all GDUs in the G500/G600 TXi system in Configuration mode.
3. Ensure you have set the GDU IDs, SYS ID Sources, and feature enablements before continuing.
4. From the **Home** screen, select **SD load**.
5. Select the **Aircraft Configuration File** you want to load.
6. Select the **To GDU** to which you want to load configuration settings.

**NOTE**

Information not contained in the selected Aircraft Configuration File will be grayed out and cannot be selected.

7. Select the check box next to the configuration to be loaded.
8. Select **SD Load**.
9. Verify the loaded configuration(s) is identical to those recorded in the aircraft's permanent records.
10. Perform the Configuration Ground Check in Section 5.15.1. If any interfaces have a yellow triangle present on the system summary after loading a configuration from the SD card, verify the interface settings match the configuration settings stored with the permanent aircraft records. If the settings do not match, the configuration must be corrected by a Garmin dealer.

2.1.7 Electrical Load Information

Electrical load information for the G500/G600 TXi system LRUs is provided below. Appendix A of this document contains details specific to the load changes for the specific aircraft installation.

Table 2-2 G500/600 TXi LRU Electrical Load

LRU	14 Volt Current Draw		28 Volt Current Draw	
	Typical	Maximum	Typical	Maximum
GDU 700()	3.0 A	6.0 A	1.5 A	3.0 A
GDU 1060	5.0 A	8.0 A	2.5 A	4.0 A
GRS 79/GMU 44	480 mA	958 mA	240 mA	479 mA
GRS 77/GMU 44	600 mA	1.0 A	300 mA	1.0 A
GSU 75()/GMU 44/GTP 59	760 mA	958 mA	380 mA	479 mA
GDC 72/GTP 59	420 mA	958 mA	210 mA	479 mA
GDC 74()/GTP 59	410 mA	480 mA	200 mA	235 mA
GAD 43	410 mA	720 mA	210 mA	350 mA
GAD 43e	790 mA	1.22 A	390 mA	590 mA
GCU 485	120 mA	357 mA	64 mA	179 mA
GEA 110	0.30 A	0.60 A	0.15 A	0.30 A

2.2 LRU Description, Control, and Operation

2.2.1 GDU 700P Display

The GDU 700P is a 7-inch LCD portrait-oriented panel mount control and display unit. The GDU 700P can be configured as a PFD, MFD, EIS, or MFD/EIS display. The GDU 700P is available with or without an integrated ADAHRS. The GDU 700P requires a compatible GPS/SBAS navigator for MFD and PFD functionality.



Figure 2-2 GDU 700P MFD, PFD, EIS, and MFD/EIS Display Configurations

The GDU 700P has numerous features and controls, as shown in Figure 2-3. These features and controls are as follows:

- **Power Button** - Pressing and releasing the power button with the unit powered on will cause a dialog box to appear that allows the display to be powered off or, under certain circumstances, switched to a backup display layout. Pressing and holding the button for 5 seconds will power off the display with no further prompt
- **Photocell** - The photocell may be configured to be used by the display to automatically adjust the display backlighting in reference to ambient light conditions
- **Top Card Slot** - A card slot in the display that accepts standard SD cards. See Section 2.1.5 for more information on SD card options
- **Bottom Card Slot** - A card slot in the display that accepts standard SD cards. See Section 2.1.5 for more information on SD card options
- **Dual Concentric Knobs** - Control knobs that can be used to scroll and select through various options on the display. The outer knob is used to scroll through available screens on the PFD or MFD. Pressing the knob acts as an enter or selection of the currently highlighted information

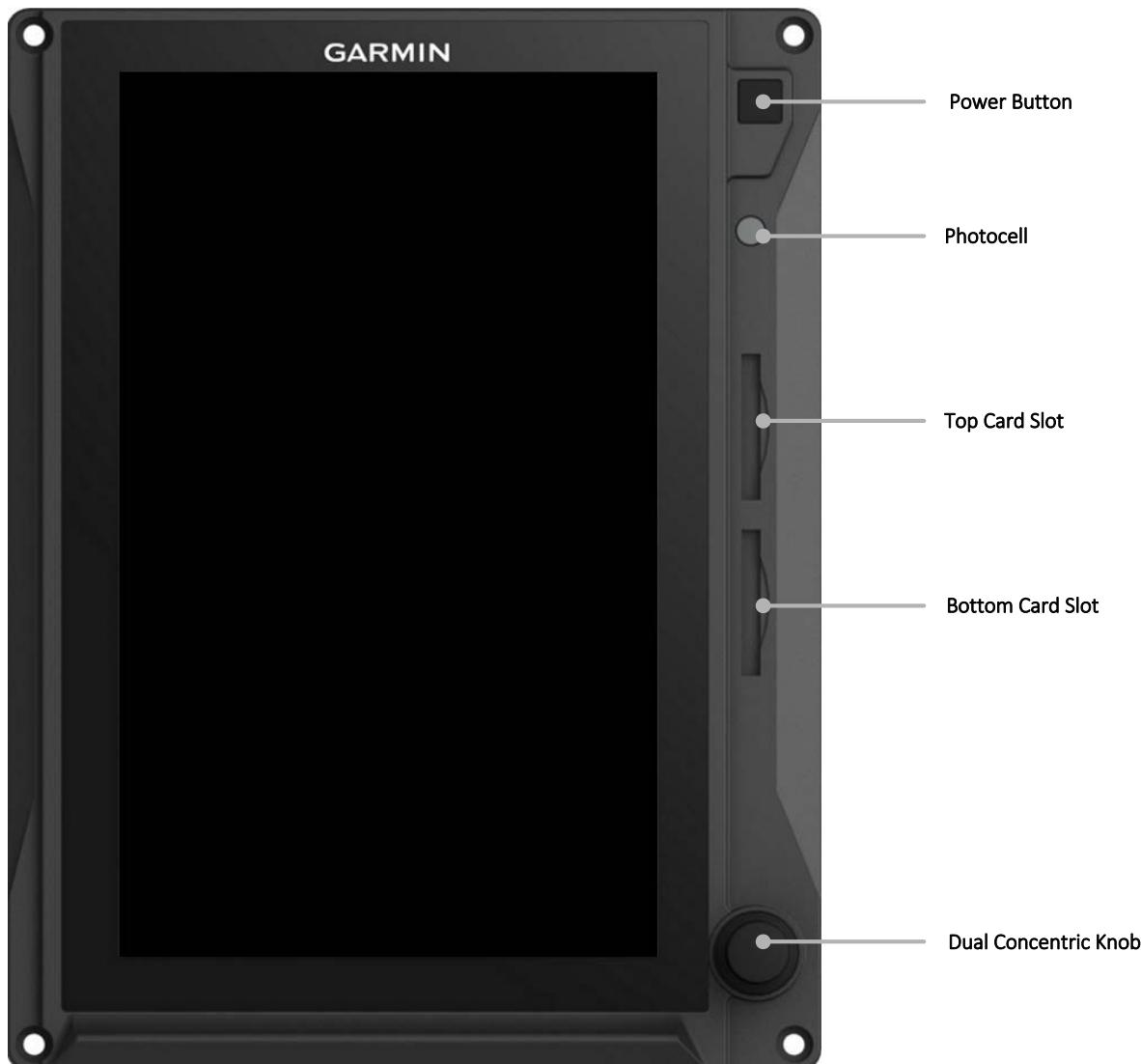


Figure 2-3 GDU 700P Features and Controls

2.2.2 GDU 700L Display

The GDU 700L is a 7-inch LCD landscape-oriented panel mount control and display unit. The GDU 700L can be configured as a PFD, EIS, or MFD/EIS split display. The GDU 700L is available with or without an integrated ADAHRS. The GDU 700L requires a compatible GPS/SBAS navigator for MFD and PFD functionality.



Figure 2-4 GDU 700L PFD, EIS, and MFD/EIS Display Configurations

The GDU 700L has numerous features and controls, as shown in Figure 2-5. These features and controls are as follows:

- **Power Button** - Pressing and releasing the power button with the unit powered on will cause a dialog box to appear that allows the display to be powered off or, under certain circumstances, switched to a backup display layout. Pressing and holding the button for 5 seconds will power off the display with no further prompt
- **Photocell** - The photocell may be configured to be used by the display to automatically adjust the display backlighting in reference to ambient light conditions
- **Left Card Slot** - A card slot in the display that accepts standard SD cards. See Section 2.1.5 for more information on SD card options
- **Right Card Slot** - A card slot in the display that accepts standard SD cards. See Section 2.1.5 for more information on SD card options
- **Dual Concentric Knobs** - Control knobs that can be used to scroll and select through various options on the display. Pressing the knob acts as an enter or selection of the currently highlighted information

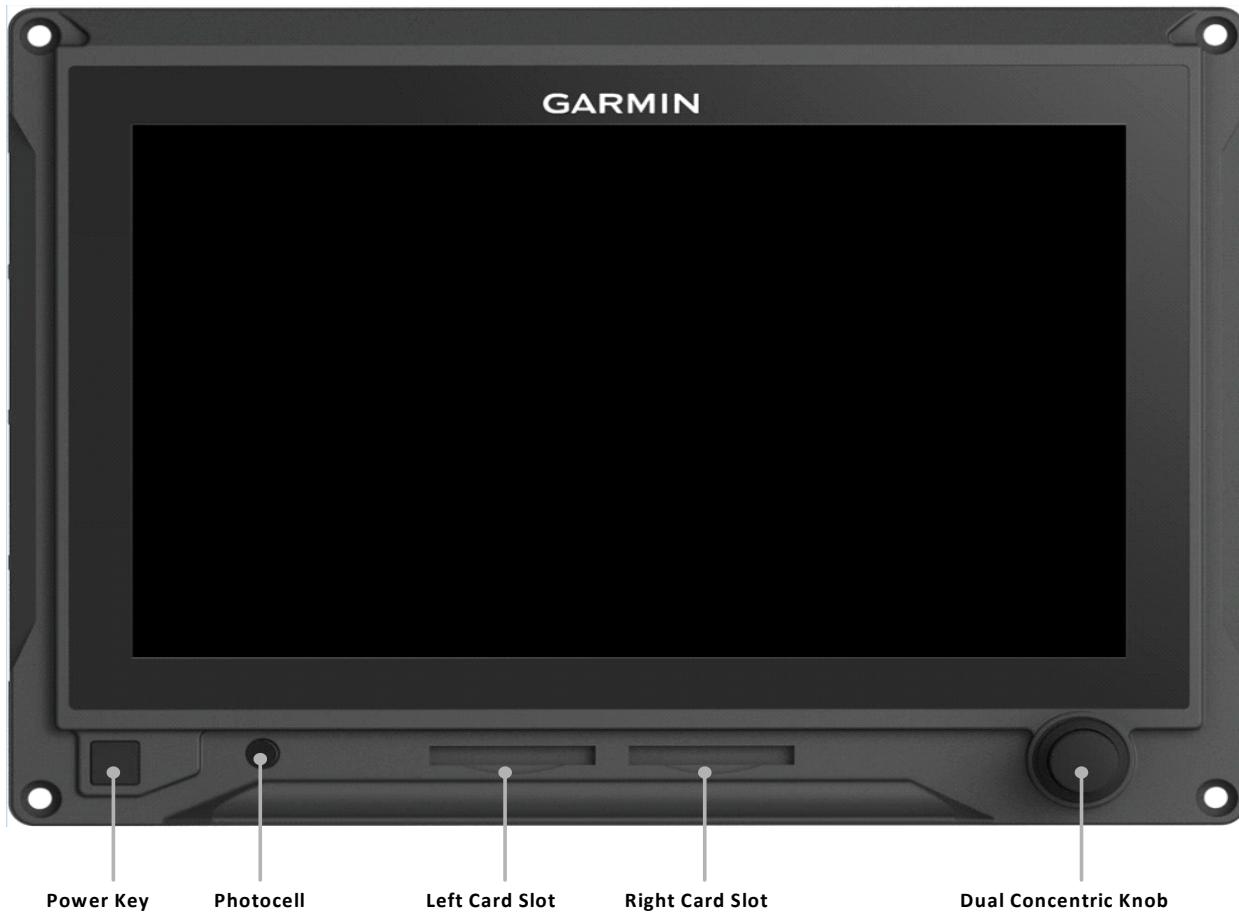


Figure 2-5 GDU 700L Features and Controls

2.2.3 GDU 1060 Display

The GDU 1060 is a 10.6-inch LCD panel mount control and display unit capable of displaying PFD and MFD data with optional EIS display. The GDU 1060 may be optionally equipped with an integrated ADAHRS or must be interfaced to an external ADC/AHRS LRU. Shown below is a combined PFD/MFD/EIS display. The GDU 1060 requires interface with a compatible GPS/SBAS navigator.



Figure 2-6 GDU 1060 MFD/PFD and MFD/PFD/EIS Display Configurations

The GDU 1060 has numerous features and controls, as shown in Figure 2-7. These features and controls are as follows:

- **Power Button** - Pressing and releasing the power button with the unit powered on will cause a dialog box to appear that allows the display to be powered off or, under certain circumstances, switched to a backup display layout. Pressing and holding the button for 5 seconds will power off the display with no further prompt
- **Photocell** - The photocell may be configured to be used by the display to automatically adjust the display backlighting in reference to ambient light conditions
- **Top Card Slot** - A card slot in the display that accepts standard SD cards. See Section 2.1.5 for more information on SD card options
- **Bottom Card Slot** - A card slot in the display that accepts standard SD cards. See Section 2.1.5 for more information on SD card options
- **Dual Concentric Knobs** - Control knobs that can be used to scroll and select through various options on the display



Figure 2-7 GDU 1060 Features and Controls

2.2.4 GCU 485 Control Unit

The GCU 485 is a panel mount remote control unit that provides an alternate method of controlling the G500/G600 TXi PFD display parameters. The GCU 485 Control Unit is available in variations containing different numbers of buttons. All variations contain three knobs in the same configuration as shown below. The GCU 485 installation is optional.



**Figure 2-8 GCU 485
(P/N 011-03582-01 Shown)**

2.2.5 Backup GPS Antenna

GDU 1060 and GDU 700 PFD and MFD displays have an optional backup GPS. If a backup GPS antenna is installed, the backup GPS is automatically used when the primary GPS source is lost. The backup GPS antenna is located on the instrument panel glareshield.



Figure 2-9 Garmin Backup GPS Antenna

2.2.6 Integrated ADAHRS Unit

The GDU 700/1060 has an optional integrated ADAHRS unit that provides flight altitude, vertical speed, airspeed, attitude, OAT, and heading data for flight instrumentation. The AHRS portion is contained internally within the GDU 700/1060. An Integrated ADC module is then plugged into the AHRS board and attached to the back of the GDU 700/1060. The internal ADAHRS receives data from the GMU 44 and GTP 56 that are connected to the GDU 700/1060. The integrated ADAHRS utilizes GPS signals sent from the GPS/SBAS navigator. Attitude, heading, and air data can be sent using ARINC 429 digital signals to external LRUs and the GAD43/43e.

2.2.7 GSU 75() ADAHRS Unit

The GSU 75/75B ADAHRS is a remote LRU that provides flight altitude, vertical speed, airspeed, attitude, OAT, and heading data for flight instrumentation. The GSU 75/75B receives data from the GMU 44 Magnetometer and GTP 59 OAT Probe. The GSU 75/75B utilizes GPS signals sent from the GPS/SBAS navigator. Attitude, heading, and air data is sent using ARINC 429 digital signals to the GDU 1060/700P and GAD 43/43e. An RS-232 digital connection is used for maintenance and configuration information. The GSU 75B is configured through the GDU 700P/1060 using a feature unlock card that contains airframe specific air data corrections suitable for RVSM functionality in select applications.



Figure 2-10 GSU 75() ADAHRS Unit

2.2.8 GRS 79 AHRS Unit

The GSU 79 AHRS is a remote LRU that provides attitude and heading data for flight instrumentation. The GSU 79 receives data from the GMU 44 Magnetometer. The GSU 79 utilizes GPS signals sent from the GPS/SBAS navigator. Attitude and heading data is sent using ARINC 429 digital signals to the GDU 700P/1060 and GAD 43/43e. An RS-232 digital connection is used for maintenance and configuration information.



Figure 2-11 GRS 79 AHRS Unit

2.2.9 GDC 72 ADC Unit

The GDC 72 Air Data Computer receives information from the existing aircraft pitot-static system and the GTP 59 OAT Probe. The GDC 72 provides pressure altitude, airspeed, vertical speed, and OAT data to the G500/G600 TXi system. The GDC 72 provides data to the G500/G600 TXi using ARINC 429 digital interfaces, as well as RS-232 for maintenance and configuration information.



Figure 2-12 GDC 72 ADC Unit

2.2.10 GMU 44 Magnetometer

The GMU 44 Magnetometer senses magnetic field information and sends the data to the GSU 75/75B, integrated ADAHRS, or GRS 77/79 AHRS to determine aircraft magnetic heading. This unit receives power directly from the AHRS source and communicates with the AHRS using an RS-485 digital interface.



Figure 2-13 GMU 44 Magnetometer

2.2.11 GTP 59 OAT Probe

The GTP 59 is a remote mount temperature probe that interfaces to the ADC for OAT display and true airspeed computations. The GTP 59 is mounted externally on the aircraft, usually near or inside air inlet ducts, the underside of wing access panels, or on the empennage below the horizontal stabilizer.



Figure 2-14 GTP 59 Outside Air Temperature Probe

2.2.12 GBB 54 Backup Battery

The GBB 54 supplies power to the GDU 700P, internal ADAHRS, essential EIS sensors, and a single GEA 110 in the event of total electrical power loss.



Figure 2-15 GBB 54 Backup Battery

2.2.13 GEA 110 Engine Interface

The GEA 110 is a remote mount engine interfacing and monitoring module used for gathering sensor input parameters from the engine and processing the signals for the G500/G600 TXi system. The GEA 110 can be mounted to the back assembly of the GDU 1060 or it can be remotely mounted in the fuselage or in the engine compartment. The GEA 110 communicates with the G500/G600 TXi using an RS-485 digital interface.



Figure 2-16 GEA 110 Engine Interface

2.2.14 GAD 43/43e Adapter

The GAD 43 Adapter is an optional adapter that provides attitude, heading, and yaw input information for third-party autopilot systems. It also provides a synchro heading output that can be used to provide synchro heading to other systems.

The GAD 43/43e can provide the following information in analog format:

- Pitch and roll for the autopilot (synchro)
 - Pitch and roll for weather radar stabilization (50 and 200 mV/degree)
 - Heading (synchro)
 - Yaw rate (100, 200, 333, and 600 mV/degree/sec)
- OR**
- The GAD 43/43e can provide an analog baro-correction output like the Honeywell KEA 130/130A and KEA 346 (P/Ns 006-0362-0008 through -0011 only) encoding altimeters

With the GDU 700/1060 in Configuration mode, the GAD 43/43e also allows the installer to set the analog attitude and heading outputs to specific values without the need for removing any gyros and using a tilt table.

The GAD 43e provides all of the functions of the GAD 43. In addition, it allows the G500/G600 TXi to receive data from marker beacon receivers, synchro (ARINC 407) ADF receivers, DME systems, and analog radar altimeters. It also allows the G500/G600 TXi to provide altitude preselect and vertical speed control to compatible autopilots.

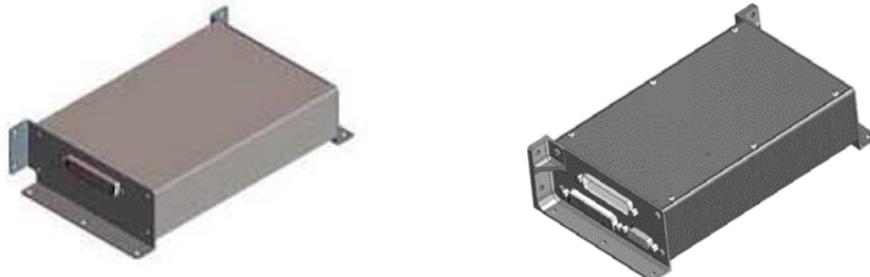


Figure 2-17 GAD 43 (Left) and GAD 43e (Right)

2.2.15 EIS Components

2.2.15.1 Engine Annunciator

An engine annunciator will only be installed if the EIS display is not installed within 8 inches of the center of the pilot's field-of-view.



Figure 2-18 Engine Annunciator

2.2.15.2 Carburetor Temperature Probe

The carburetor temperature probe is a Type-K thermocouple (Chromel and Alumel) probe.



Figure 2-19 Carburetor Temperature Probe

2.2.15.3 Oil Temperature Probe

The oil temperature probe is a Type-K thermocouple (Chromel and Alumel) probe.

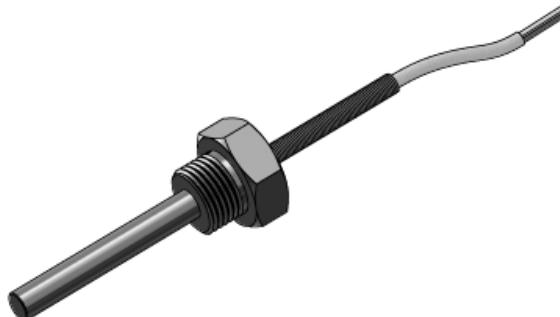


Figure 2-20 Oil Temperature Probe

2.2.15.4 Fuel Flow Sensors

The fuel flow sensor is incorporated in an aluminum housing that is installed in-line to the engine fuel supply. There are two STC approved options available for installation to suit most aircraft applications.



Figure 2-21 Fuel Flow Sensor FT-60 (Left) and FT-90 (Right)

2.2.15.5 Brass Pressure Sensors

The brass pressure sensors are small sensors that are supplied with a compatible plug. Depending on the installation, these sensors may be used to measure oil, fuel, and manifold pressure.



Figure 2-22 Brass Pressure Sensor

2.2.15.6 Stainless Steel Pressure Sensors

The stainless pressure sensors are unamplified, high-reliability sensors for harsh installation environments. There are four sensors available to measure oil, fuel, and manifold pressure.



Figure 2-23 Stainless Steel Pressure Sensor

2.2.15.7 P-Lead RPM Pickup

A wire with two parallel resistors in-line connects from each P-lead, at the Magneto or the ignition switch, to the GEA 110 to sense RPM.

3 INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

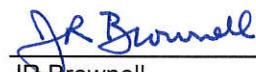
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3.1 Airworthiness Limitations

There are no new (or additional) airworthiness limitations associated with this equipment and/or installation.

The Airworthiness Limitations section is FAA approved and specifies maintenance required under §§ 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

FAA APPROVED



JR Brownell

16-AUG-2018

Date

ODA STC Unit Administrator
ODA-240087-CE

3.2 Servicing Information

There are no servicing requirements for the G500/G600 TXi system. In the event of a system or LRU failure, troubleshoot the G500/G600 TXi system in accordance with Section 4.

3.2.1 Periodic Maintenance Instructions

G500/G600 TXi system LRUs are designed to detect internal failures. A thorough self-test is executed automatically upon application of power to the units, and built-in tests are continuously executed while the LRUs are operating. Detected errors are indicated on the GDU 700/1060 display via failure annunciations, system messages, or a combination of the two. A list of reported errors for the system can be printed in the form of a maintenance log using the instructions provided in Section 4.1.

3.2.2 Special Tools

A milliohm meter with an accuracy of $\pm 0.1 \text{ m}\Omega$ (or better) is required to measure the electrical bonding between the G500/G600 TXi system components and aircraft ground.

A pitot-static ground tester is required for ADC and standby instrument checkout procedures and maintenance.

3.3 Maintenance Intervals

Table 3-1 Periodic Maintenance

Item	Description/ Procedure	Interval
G500/G600 TXi System Visual Inspection	All installed system LRUs, switches, knobs, and wiring harnesses must be inspected to ensure continued integrity of the installation. The inspection must be performed in accordance with Section 3.4.	12 Calendar Months
GBB 54 Backup Battery Check	Perform a Backup Battery Check as described in Section 5.13.5. If the GBB 54 does not pass the Backup Battery Check, the battery cell must be replaced using the procedure found in Section 5.8.2.	12 Calendar Months
EIS Annunciator Lamp Check	If an EIS annunciator is installed, perform a check of the annunciator lamps using the following procedure: <ol style="list-style-type: none">1. Power on the GDU 700/1060 in Configuration mode per the instructions in Section 2.1.4.2. Navigate to Diagnostics → Discrete Outputs.3. Toggle the state of the Engine Caution and Engine Warning discrete outputs to ON (the bar at the bottom of the State button on the GDU will illuminate green).4. Verify that the respective engine annunciator lights have illuminated.5. Toggle the state of the Engine Caution and Engine Warning discrete outputs to OFF.	12 Calendar Months
RVSM Checks (TBM 700/850 Only)	Perform the air data checks and autopilot altitude hold checks as specified in Section 3.6.	24 Calendar Months
AHRS Magnetic Field Model Update	The GSU 75(), GRS 79, and GDU 700/1060 Integrated ADAHRS utilize an Earth magnetic field model that is updated once every 5 years as part of the Aviation Database maintained by the owner/operator. If the magnetic model is not up-to-date, the unit will issue an alert upon start-up indicating the model has expired. A Service Bulletin containing the updated magnetic field model and instructions for installation can be obtained from the Dealer Resource Center or by contacting Garmin.	Every 5 years
Electrical Bonding Check	Perform an electrical bonding check of the G500/G600 TXi system LRUs in accordance with Section 3.5.	Every 2000 flight hours or 10 years, whichever comes first

Item	Description/ Procedure	Interval
GDU 700/1060 Cooling Fan Replacement	<p>It is recommended that the cooling fan on the GDU 700/1060 be replaced every 3000 fan-operating hours. The number of hours the fan has been operating can be viewed using the following procedure:</p> <ol style="list-style-type: none"> 1. Power on the GDU 700/1060 in Configuration mode per the instructions in Section 2.1.4. 2. Navigate to Diagnostics → Temp & Power Stats. 3. The cooling fan operating hours can be found under Power Statistics as “Fan OPER Hours”. <p>The cooling fan replacement procedure is contained in Section 5.1.2.</p>	Recommended every 3000 fan-operating hours
Altimeter Checks	<p>Test according to 14 CFR §43 Appendix E.</p> <p>See the pitot-static checkout procedure in Section 5.15.2 for system specific checkout procedure.</p>	Interval must be in accordance with Title 14 CFR §91.411 and 91.413
Lightning Damage Check	Conduct an inspection of the G500/G600 TXi system in accordance with Section 3.8.	After a suspected or actual lightning strike
Equipment Removal and Replacement	Removal and replacement of the G500/G600 TXi system LRUs can be accomplished by referring to Section 5 for instructions.	On Condition
Cleaning GDU 700/1060 Front Panel	The front bezel, keypad, and display can be cleaned with a soft cotton cloth dampened with clean water. DO NOT use any chemical cleaning agents. Care should be taken to avoid scratching the surface of the display.	On Condition
Display Backlight	The display backlight LEDs are rated by the manufacturer as having a usable life of at least 36,000 hours. This life may be more or less than the rated time depending on the operating conditions of the GDU 700/1060. Over time, the backlight lamp may dim and the display may not perform as well in direct sunlight conditions. The user must determine by observation when the display brightness is not suitable for its intended use. Contact a Garmin factory repair station when the backlight lamp requires service.	On Condition

3.4 Visual Inspection

Operation of the G500/G600 TXi system is not permitted unless an inspection, as described in this section, has been completed within the preceding 12 calendar months. Conduct the following visual inspection of the G500/G600 TXi system LRUs and associated wiring harnesses to ensure installation integrity:



WARNING

Ensure the GBB 54 vent tube is not pointed towards personnel or equipment before blowing shop air through the tube. Any obstructions in the tube will be ejected at high speed and can cause serious injury or property damage.

1. Inspect all units for security of attachment, including visual inspection of brackets and other supporting structure attaching all units to the airframe.
2. Inspect all switches, annunciators, knobs, and buttons for legibility.
3. Visually inspect each unit's wiring (including electrical bonding straps), overbraid, and connectors for chafing, deterioration, damage, or wear.
4. Visually check for any signs of corrosion.
5. Visually inspect the GBB 54 vent tube and connectors for damage/corrosion and ensure there are no obstructions in the vent tube. The vent tube can be checked for obstructions by disconnecting the vent tube from the GBB 54 and blowing shop air through the tube from the battery connector side to the exterior of the aircraft.

3.4.1 Aluminum Foil Tape (Non-metallic Aircraft Only)

Any aluminum foil tape used in the G500/G600 TXi installation for grounding of a GSU 75/75B, GDC 72, GRS 79, GAD 43/43e, or GEA 110 (refer to Appendix A of this document) must be inspected every 12 calendar months.

The inspection must verify that the foil tape is not torn, damaged, or showing signs of corrosion. If any of these conditions are found, the tape must be replaced in accordance with Section 4 of *G500/G600 TXi Part 23 AML STC Installation Manual*.

3.5 Electrical Bonding Check

G500/G600 TXi LRU electrical bonding must be checked every 2,000 flight hours or 10 years, whichever occurs first. During the check, any cables normally attached to the LRU must be disconnected from the LRU. Resistance must be measured from a bare metal portion of the LRU to an airframe grounding location. The airframe grounding location should be as close to the LRU as possible, unless otherwise noted in the following table. If the measured resistance is greater than applicable values in the following table, bonding must be improved to meet applicable requirements for a new installation in accordance with Section 4 of *G500/G600 TXi Part 23 AML STC Installation Manual*.

Table 3-2 Electrical Bonding Requirements

LRU	Maintenance Requirement
GDU 700/1060 GCU 485 Engine Annunciator	20 mΩ
GSU 75/75B GDC 72 GRS 79 GAD 43/43e	5 mΩ
GEA 110	5 mΩ (remote-mounted) N/A (GDU 1060 mounted)
GTP 59	5 mΩ (or electrically isolated per Appendix D of <i>G500/G600 TXi Part 23 AML STC Installation Manual</i>)
GMU 44	10 mΩ (or electrically isolated per Appendix D of <i>G500/G600 TXi Part 23 AML STC Installation Manual</i>)

Notes:

- [1] For remote LRUs bonded to the back of the instrument panel via an installed aluminum foil ground plane, the bonding measurement must be taken between the remote LRU and the instrument panel.

3.6 RVSM Periodic Maintenance (Socata TBM 700/850 Only)

Maintain all RVSM equipment in accordance with the manufacturer's maintenance and performance requirements. The encoding altimeter must be checked as specified in the *Socata Maintenance Manual* Section 05-10-01, ATA Chapter 34. The RVSM critical areas must be inspected as specified in *Socata Maintenance Manual* Section 05-10-01, ATA Chapter 53.

The air data systems must be checked within the preceding 24 months, as specified in the *Socata Maintenance Manual* Section 34-11-00, except for the altitude displays and altitude alerter. The altitude displays and altitude alerter must be checked in accordance with Section 5.15.3 of this manual. *Socata Maintenance Manual* test procedures may be adapted to complete all other air data system checks required in Section 5.15.2.

The autopilot altitude hold performance must be checked within the preceding 24 months in accordance with the RVSM In-flight altitude hold check described in Section 5.15.3.3.

3.7 Overhaul Period

The system does not require overhaul at a specific time period. Power on self-test and continuous BIT will monitor the health of the G500/G600 TXi system. If any LRU indicates an internal failure, the unit may be removed and replaced. See Section 4 of this document for fault corrective actions.

3.8 Special Inspection Requirements

After a suspected lightning strike, the following actions must be performed for the specified LRU.

GTP 59 OAT

Inspect the GTP 59 OAT for signs of lightning damage. Check the self-sealing washer (P/N 212-00026-00) used on the probe tip outside of the aircraft for any evidence of melting or lack of seal. Replace the washer if damaged. If there is evidence of lightning strike to the OAT or any lightning damage, replace the GTP 59 OAT.

Tube-and-fabric aircraft must replace the OAT bond strap (if installed) in accordance with Section 4.6.2 of *G500/G600 TXi Part 23 AML STC Installation Manual*.

GMU 44

Aircraft with a GMU mounted in the wingtip of metallic aircraft with non-metallic wingtip covers must inspect the magnetometer installation for the following conditions:

1. Check the GMU 44 Magnetometer body and mount for scorching, soot, melting, pitting, denting, or discoloration.
2. Check P441 and J441 for melting or pin damage.
3. Check the cable overbraid for pinching, melting, or evidence of arcing.
4. Check the lug for evidence of arcing and verify that the lug is still secured to the overbraid.
5. Check electrical bonding between the GMU 44 overbraid and adjacent aircraft structure. Resistance should be less than $5\text{ m}\Omega$.
6. If any of these checks shows evidence of a lightning strike, replace the overbraid assembly in accordance with Figure 4-54 of *G500/G600 TXi Part 23 AML STC Installation Manual*.

Perform the Magnetic Interference Check in accordance with Section 6.6.4 of *G500/G600 TXi Part 23 AML STC Installation Manual*. The purpose of this check is to ensure the structure around the GMU 44 did not get magnetized by the lightning event to the point of affecting GMU 44 performance.

GBB 54 Battery Vent Tube

Aircraft with a GBB 54 battery must inspect the battery vent tube using the following procedure:

1. Gain access to the GBB 54 and both ends of the vent tube.
2. Check the battery vent grounding strap for evidence of arcing or damage.
3. Check the end of the vent tube that protrudes through the aircraft skin for scorching, soot, melting, pitting, denting, or discoloration.

If any of these checks show evidence of a lightning strike, replace the vent tube and grounding strap in accordance with Section 4.5.6 of *G500/G600 TXi Part 23 AML STC Installation Manual*.

3.9 Application of Protective Treatments

None.

3.10 Data Relative to Structural Fasteners

Data relative to structural fasteners, such as type, torque, and installation requirements can be found in Section 5 of this manual.

3.11 Additional Instructions

None.

4 TROUBLESHOOTING

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This section provides information to assist troubleshooting if fault codes are displayed on the GDU or problems occur after completing system maintenance. See Appendix A of this document retained in the aircraft permanent records for a list of the interfaced equipment and system configuration data. When troubleshooting the G500/G600 TXi system, refer to wire routing drawings and interconnect diagrams retained in Appendix A of this document or with the aircraft's permanent records.

4.1 General System Troubleshooting

Before troubleshooting the G500/G600 TXi system, use the configuration log tool to print the current configuration log to ensure that system configuration settings match those recorded in the aircraft's permanent records.

If the current aircraft configuration does not match the configuration log retained with the aircraft permanent records, load the saved configuration from the SD card retained with the aircraft records. If this cannot be accomplished, or does not correct the configuration, the configuration must be corrected by a Garmin dealer using an Installer Unlock Card and the configuration instructions provided in Section 5 of *G500/G600 TXi Part 23 AML STC Installation Manual* (P/N190-01717-B3). Basic troubleshooting of the G500/G600 TXi system can be accomplished using the instructions provided in Table 4-1.

Table 4-1 G500/G600 TXi Failures

Symptom	Recommended Action
GDU 700/1060 Blank	1) Check power/ground wiring for GDU. 2) Press the Power button until the Garmin logo is visible.
Configuration mode pages grayed out with an Installer Unlock Card	1) Ensure a GDU master configuration module is selected. 2) Ensure a functional configuration module is present. 3) Ensure the GDU IDs are set for all GDUs.
EIS Gauge Fault/Failure	Troubleshoot the problem using the EIS gauge troubleshooting flowchart provided in Section 4.3.
An Alert message is displayed on the GDU or present in the maintenance log	Troubleshoot the alert message using the flowcharts provided in Section 4.3.

4.1.1 System Maintenance Log

The G500/G600 TXi system has a maintenance and error log that can be accessed or printed to assist with system maintenance and troubleshooting.

The maintenance and error log can be accessed using the following procedure:

1. Power all GDU 700/1060 units into Configuration mode in accordance with Section 2.1.4.
2. On GDU #1, navigate to **Diagnostics** → **Maintenance / Error Log** → **Maintenance Log**.

The maintenance and error log can be printed using the following procedure:

1. Power all GDU 700/1060 units into Configuration mode in accordance with Section 2.1.4.
2. Insert an SD card into the top/left SD card slot.
3. Press the **SD Save** button.
4. Enter a name for the configuration file to be saved as, and then select **Enter**.
5. Once the save process is completed, eject the SD card from the GDU and insert it into a computer.
6. On the computer, navigate to the SD card drive and open the “maintenance_logs” directory.
7. Open the .htm file with the name that you entered in step 4.
8. The file should open in your computer internet browser and can be printed using your selected internet browser print function (in most cases, pressing the **Ctrl** and **P** buttons simultaneously will access this function).

The maintenance log will display reported system faults. The alert message that is displayed on the GDU for that fault (if any) will display frequency, most recent occurrence time of the fault, and any additional information about the fault that might be helpful. If any faults are reported on the maintenance log, refer to the troubleshooting flowcharts contained in Section 4.3.

4.2 Connector Information

This section contains connector information and description of pin functions for all LRUs that can be installed as part of G500/G600 TXi STC.

All D-sub connectors follow a similar pin numbering scheme as that shown in Figure 4-1.

(view is from the contact side of the connector)

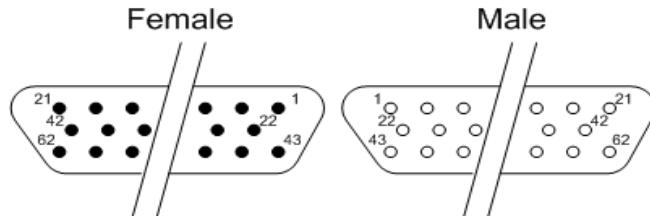


Figure 4-1 62 Pin D-sub Connectors Numbering Scheme for Female/Male Contacts

4.2.1 GDU 700/1060



NOTE

GDU 700 and GDU 1060 displays have identical connectors and pin functions.

GDU 700 and GDU 1060 displays have seven connectors:

- J1/P1 - 26 pin female contact HD D-sub
- J2/P2 - 44 pin female contact HD D-sub
- J3/P3 - 62 pin female contact HD D-sub
- J4/P4 - 78 pin female contact HD D-sub
- J5/P5 - TNC connector (not used)
- J6/P6 - TNC connector (not used)
- J7/P7 - TNC connector

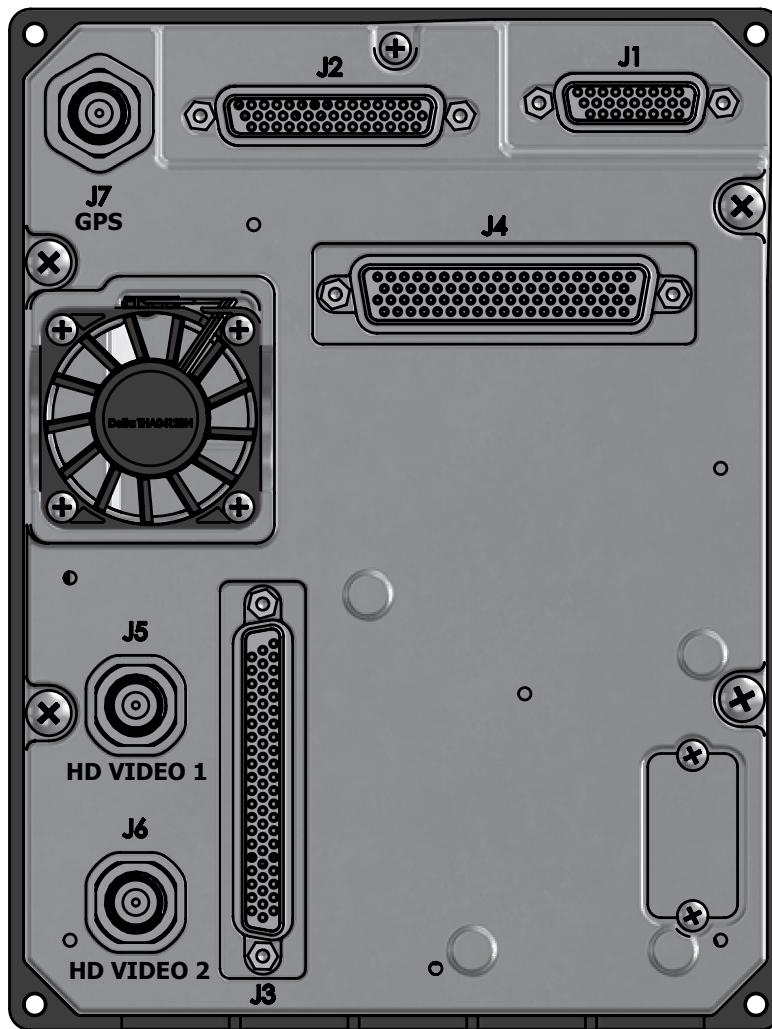


Figure 4-2 GDU 700P Connectors

J1/P1 Connector

Pin	Function	I/O
1	AIRCRAFT POWER 2	IN
2	AIRCRAFT POWER 2	IN
3	AIRCRAFT POWER 2	IN
4	AIRCRAFT POWER 2	IN
5	BATTERY CHARGE OUT	OUT
6	BATTERY GROUND	--
7	BATTERY RS-232 IN	IN
8	BATTERY GROUND	--
9	BATTERY POWER IN	IN
10	AIRCRAFT GND	--
11	AIRCRAFT GND	--
12	AIRCRAFT GND	--
13	AIRCRAFT GND	--

Pin	Function	I/O
14	BATTERY CHARGE OUT	OUT
15	BATTERYGND	--
16	BATTERY RS-232 GND	--
17	USE BATTERY OUT	OUT
18	BATTERY POWER IN	IN
19	AIRCRAFT POWER 1	IN
20	AIRCRAFT POWER 1	IN
21	AIRCRAFT POWER 1	IN
22	AIRCRAFT POWER 1	IN
23	BATTERY GND	--
24	BATTERY RS-232 OUT	OUT
25	STANDBY POWER IN	IN
26	BATTERY POWER IN	IN

J2/P2 Connector

Pin	Function	I/O
1	RS-485 1A	I/O
2	RS-485 1B	I/O
3	LIGHTING BUS HI	IN
4	LIGHTING BUS LO	IN
5	OAT POWER	OUT
6	OAT PROBE IN HI	IN
7	OAT PROBE IN LO	IN
8	COMPOSITE VIDEO IN 2	IN
9	AUDIO OUT LO	OUT
10	AUDIO OUT HI	OUT
11	GND	--
12	RS-232 GND 2	--
13	RS-232 GND 1	--
14	COMPOSITE VIDEO IN 1	IN
15	CONFIG MODULE PWR	OUT
16	ETHERNET IN 1A	IN
17	ETHERNET OUT 1A	OUT
18	ETHERNET IN 2A	IN
19	ETHERNET OUT 2A	OUT
20	ETHERNET IN 3A	IN
21	ETHERNET OUT 3A	OUT
22	ETHERNET IN 4A	IN

Pin	Function	I/O
23	ETHERNET OUT 4A	OUT
24	GND	--
25	RESERVED	--
26	MAGNETOMETER GND	--
27	RS-232 IN 2	IN
28	RS-232 IN 1	IN
29	CONFIG MODULE GND	--
30	CONFIG MODULE CLOCK	OUT
31	ETHERNET IN 1B	IN
32	ETHERNET OUT 1B	OUT
33	ETHERNET IN 2B	IN
34	ETHERNET OUT 2B	OUT
35	ETHERNET IN 3B	IN
36	ETHERNET OUT 3B	OUT
37	ETHERNET IN 4B	IN
38	ETHERNET OUT 4B	OUT
39	DEMO MODE SELECT*	IN
40	LRU POWER OUT 1	OUT
41	MAGNETOMETER PWR OUT	OUT
42	RS-232 OUT 2	OUT
43	RS-232 OUT 1	OUT
44	CONFIG MODULE DATA	I/O

* Indicates Active-Low

J3/P3 Connector

Pin	Function	I/O
1	DISC OUT 3 HI	OUT
2	DISC OUT 4 HI	OUT
3	RS-232 OUT 3	OUT
4	RS-232 IN 3	IN
5	RS-232 OUT 4	OUT
6	RS-232 IN 4	IN
7	VERTICAL SUPERFLAG OUT	OUT
8	LATERAL SUPERFLAG OUT	OUT
9	LATERAL +LEFT OUT	OUT
10	LATERAL + RIGHT OUT	OUT
11	LATERAL +FLAG OUT	OUT
12	VERTICAL +FLAG OUT	OUT
13	VERTICAL +UP OUT	OUT
14	VERTICAL +DOWN OUT	OUT
15	A/P COURSE ERROR LO	--
16	A/P COURSE ERROR HI	OUT
17	A/P HEADING ERROR LO	--
18	A/P HEADING ERROR HI	OUT
19	FD ROLL LEFT	IN
20	FD ROLL RIGHT	IN
21	FD PITCH DOWN	IN
22	LRU POWER OUT 2	OUT
23	GND	--
24	GND	--
25	RS-232 GND 3	--
26	RS-232 GND 4	--
27	LRU POWER OUT 3	OUT
28	TIME MARK IN 2A	IN
29	TIME MARK IN 2B	IN
30	TIME MARK IN 1A	IN
31	TIME MARK IN 1B	IN

Pin	Function	I/O
32	LATERAL - FLAG OUT	OUT
33	VERTICAL - FLAG OUT	OUT
34	DISC IN 1 LO	IN
35	DISC IN 2 LO	IN
36	DISC IN 3 LO	IN
37	DISC IN 4 LO	IN
38	ANALOG IN 1B	IN
39	ANALOG IN 1A	IN
40	A/P AC REF LO	IN
41	A/P AC REF HI	IN
42	FD PITCH UP	IN
43	DISC OUT 1 LO	OUT
44	RS-485 2A	I/O
45	RS-485 2B	I/O
46	RS-485 3A	I/O
47	RS-485 3B	I/O
48	DISC OUT 7 LO	OUT
49	DISC OUT 2 LO	OUT
50	DISC OUT 5 LO	OUT
51	DISC OUT 6 LO	OUT
52	RESERVED	--
53	DISC OUT 2 HI	OUT
54	DISC OUT 1 HI	OUT
55	DISC OUT 3 LO	OUT
56	DISC OUT 4 LO	OUT
57	DISC IN 1 HI	IN
58	DISC IN 2 HI	IN
59	DISC IN 3 HI	IN
60	DISC IN 4 HI	IN
61	RS-485 4A	I/O
62	RS-485 4B	I/O

J4/P4 Connector

Pin	Function	I/O
1	ARINC 429 IN 1A	IN
2	ARINC 429 IN 2A	IN
3	ARINC 429 IN 3A	IN
4	ARINC 429 IN 4A	IN
5	ARINC 429 IN 5A	IN
6	ARINC 429 IN 6A	IN
7	ARINC 429 IN 7A	IN
8	ARINC 429 IN 8A	IN
9	ARINC 429 IN 9A	IN
10	ARINC 429 IN 10A	IN
11	ARINC 429 IN 11A	IN
12	RS-232 GND 7	--
13	RS-232 IN 7	IN
14	RS-232 OUT 7	OUT
15	RS-232 GND 6	--
16	RS-232 IN 6	IN
17	RS-232 OUT 6	OUT
18	RS-232 GND 5	--
19	RS-232 IN 5	IN
20	RS-232 OUT 5	OUT
21	ARINC 429 IN 1B	IN
22	ARINC 429 IN 2B	IN
23	ARINC 429 IN 3B	IN
24	ARINC 429 IN 4B	IN
25	ARINC 429 IN 5B	IN
26	ARINC 429 IN 6B	IN
27	ARINC 429 IN 7B	IN
28	ARINC 429 IN 8B	IN
29	ARINC 429 IN 9B	IN
30	ARINC 429 IN 10B	IN
31	ARINC 429 IN 11B	IN
32	RESERVED	--
33	RS-232 GND 8	--
34	RS-232 IN 8	IN
35	RS-232 OUT 8	OUT
36	DISC IN 5 LO	IN
37	DISC IN 6 LO	IN
38	DISC IN 7 LO	IN
39	DISC IN 8 LO	IN

Pin	Function	I/O
40	GLIDESLOPE #2 +FLAG	IN
41	GLIDESLOPE #2 -FLAG	IN
42	GLIDESLOPE #1 +FLAG	IN
43	GLIDESLOPE #1 -FLAG	IN
44	ANALOG OUT 1B	OUT
45	ANALOG OUT 1A	OUT
46	RS-485 5A	I/O
47	ARINC 708/453 IN 1A	IN
48	ARINC 708/453 IN 1B	IN
49	ARINC 708/453 IN TERM A	
50	ARINC 708/453 IN TERM B	--
51	DISC OUT 9 LO	OUT
52	DISC OUT 10 LO	OUT
53	ARINC 429 OUT 1A	OUT
54	ARINC 429 OUT 2A	OUT
55	ARINC 429 OUT 3A	OUT
56	ARINC 429 OUT 4A	OUT
57	ADF X/COS IN	IN
58	ADF Y/SIN IN	IN
59	ADF DC REF IN	IN
60	DISC OUT LOW 13	OUT
61	DISC OUT LOW 8	OUT
62	GLIDESLOPE #2 +UP IN	IN
63	GLIDESLOPE #2 +DN IN	IN
64	GLIDESLOPE #1 +UP IN	IN
65	GLIDESLOPE #1 +DN IN	IN
66	RS-485 5B	I/O
67	VOR/LOC COMPOSITE #1 LO	IN
68	VOR/LOC COMPOSITE #1 HI	IN
69	VOR/LOC COMPOSITE #2 LO	IN
70	VOR/LOC COMPOSITE #2 HI	IN
71	DISC OUT LO 11	OUT
72	DISC OUT LO 12	OUT
73	ARINC 429 OUT 1B	OUT
74	ARINC 429 OUT 2B	OUT
75	ARINC 429 OUT 3B	OUT
76	ARINC 429 OUT 4B	OUT
77	ARINC 429 OUT 5A	OUT
78	ARINC 429 OUT 5B	OUT

J5/P5 Connector

Pin	Name	I/O
N/A	HD VIDEO IN 1	--

J6/P6 Connector

Pin	Name	I/O
N/A	HD VIDEO IN 2	--

J7/P7 Connector

Pin	Name	I/O
N/A	BACKUP GPS ANT	--

4.2.2 GCU 485

The GCU 485 has a single connector:

- J4851/P4851 - 15-pin male contact HD D-Sub

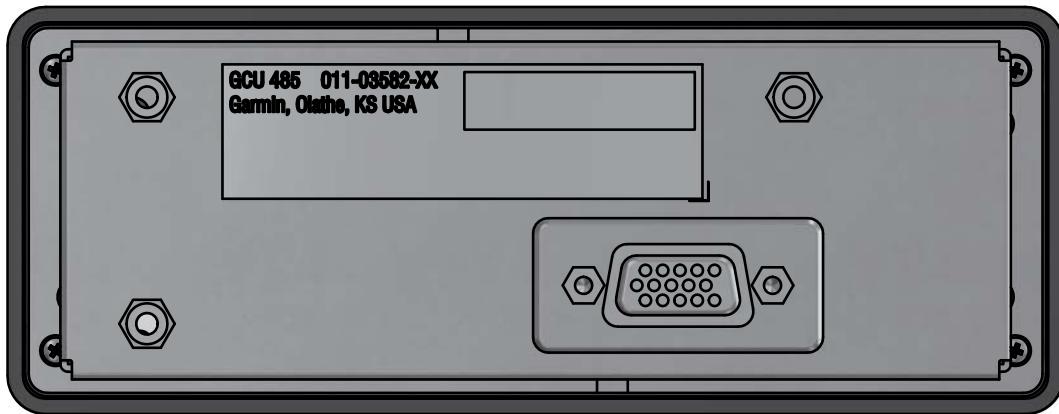


Figure 4-3 GCU 485 Connector

J4851/P4851 Connector

Pin	Function	I/O
1	RS-232 OUT 1	OUT
2	RS-232 IN 1	IN
3	RS-232 OUT 2	OUT
4	RS-232 IN 2	IN
5	POWER GROUND	--
6	SIGNAL GROUND	--
7	AIRCRAFT_POWER_1	IN
8	SIGNAL GROUND	--
9	AIRCRAFT_POWER_2	IN
10	RESERVED	--
11	LIGHTING BUS HI	IN
12	LIGHTING BUS LO	IN
13	RESERVED*	--
14	RESERVED	--
15	POWER GROUND	--

4.2.3 GDC 72

The GDC 72 has a single connector:

- J721/P721 78-pin female contact HD D-Sub

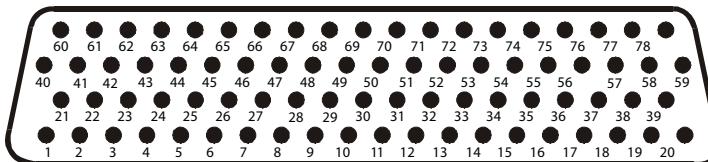


Figure 4-4 View of J721 Connector Looking at GDC 72

J721/P721 Connector

Pin	Function	I/O	Pin	Function	I/O
1	ARINC 429 OUT 1A	OUT	40	RESERVED	--
2	ARINC 429 OUT 1B	OUT	41	RESERVED	--
3	ARINC 429 OUT 2A	OUT	42	ARINC 429 IN 1A	IN
4	OAT LO	IN	43	ARINC 429 IN 1B	IN
5	OAT HI	IN	44	ARINC 429 IN 2A	IN
6	OAT POWER	OUT	45	RESERVED	--
7	ARINC 429 OUT 1B	OUT	46	RESERVED	--
8	ARINC 429 OUT 3A	OUT	47	RESERVED	--
9	ARINC 429 OUT 3B	OUT	48	SIGNAL GROUND	--
10	RESERVED	--	49	ARINC 429 OUT 2A	OUT
11	RESERVED	--	50	ARINC 429 OUT 2B	OUT
12	RESERVED	--	51	RESERVED	--
13	RESERVED	--	52	RESERVED	--
14	AIRCRAFT POWER 1	IN	53	CONFIG MODULE POWER	OUT
15	SIGNAL GROUND	--	54	CONFIG MODULE DATA	I/O
16	AIRCRAFT POWER 2	IN	55	CONFIG MODULE CLOCK	OUT
17	RS232 OUT 2	OUT	56	DISCRETE IN 1*	IN
18	RS232 IN 2	IN	57	SYS ID 2*	IN
19	RESERVED	--	58	RESERVED	--
20	RESERVED	--	59	RESERVED	--
21	ARINC 429 OUT 3A	OUT	60	RESERVED	--
22	ARINC 429 OUT 3B	OUT	61	RESERVED	--
23	ARINC 429 OUT 2B	OUT	62	ARINC 429 IN 3A	IN
24	SIGNAL GROUND	--	63	ARINC 429 IN 3B	IN
25	RESERVED	--	64	ARINC 429 IN 2B	IN
26	SIGNAL GROUND	--	65	RESERVED	--
27	ARINC 429 OUT 1A	OUT	66	RESERVED	--
28	RESERVED	--	67	RESERVED	--
29	RESERVED	--	68	SIGNAL GROUND	--
30	SIGNAL GROUND	--	69	RS 232 OUT 1	OUT
31	SIGNAL GROUND	--	70	RS 232 IN 1	IN

32	SIGNAL GROUND	--
33	SIGNAL GROUND	--
34	AIRCRAFT GROUND 1	--
35	SPARE	--
36	AIRCRAFT GROUND 2	--
37	SIGNAL GROUND	--
38	RESERVED	--
39	RESERVED	--

71	RESERVED	--
72	RESERVED	--
73	SIGNAL GROUND	--
74	CONFIG MODULE GROUND	--
75	SYS ID 1*	IN
76	DISCRETE IN 3*	IN
77	DISCRETE IN 4	IN
78	DISCRETE IN 2*	IN

*Indicates Active-Low

4.2.4 GSU 75()

The GSU 75() has a single connector:

- J751/P751 78-pin female contact HD D-Sub

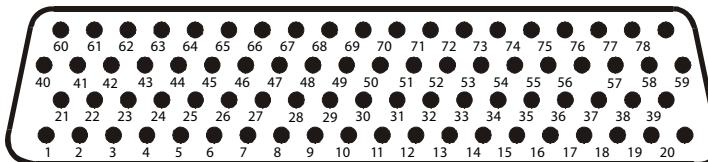


Figure 4-5 View of J751 Connector Looking at GSU 75()

J751/P751 Connector

Pin	Function	I/O
1	ARINC 429 OUT ADC 1A	OUT
2	ARINC 429 OUT ADC 1B	OUT
3	ARINC 429 OUT ADC 2A	OUT
4	OAT LO	IN
5	OAT HI	IN
6	OAT POWER	OUT
7	ARINC 429 OUT ADAHRS 1B	OUT
8	ARINC 429 OUT ADAHRS 3A	OUT
9	ARINC 429 OUT ADAHRS 3B	OUT
10	RS-422 IN A	IN
11	RS-422 IN B	IN
12	RS-232 OUT AHRS 3	OUT
13	MAGNETOMETER POWER OUT	OUT
14	AIRCRAFT POWER 1	IN
15	SIGNAL GROUND	--
16	AIRCRAFT POWER 2	IN
17	RS-232 OUT ADC 2	OUT
18	RS-232 IN ADC 2	IN
19	RESERVED	--
20	RESERVED	--
21	ARINC 429 OUT ADC 3A	OUT
22	ARINC 429 OUT ADC 3B	OUT
23	ARINC 429 OUT ADC 2B	OUT
24	SIGNAL GROUND	--
25	PPS SELECT	IN
26	SIGNAL GROUND	--
27	ARINC 429 OUT ADAHRS 1A	OUT
28	ARINC 429 OUT ADAHRS 3A	OUT
29	ARINC 429 OUT ADAHRS 3B	OUT
30	SIGNAL GROUND	--
31	RS-232 AHRS 3 GROUND	--
Pin	Function	I/O
40	PPS IN 1 B	IN
41	PPS IN 2 A	IN
42	ARINC 429 IN ADC 1A	IN
43	ARINC 429 IN ADC 1B	IN
44	ARINC 429 IN ADC 2A	IN
45	ARINC 429 IN AHRS 1A	IN
46	ARINC 429 IN AHRS 1B	IN
47	ARINC 429 IN AHRS 3A	IN
48	SIGNAL GROUND	--
49	ARINC 429 OUT ADAHRS 2A	OUT
50	ARINC 429 OUT ADAHRS 2B	OUT
51	RS-232 OUT AHRS 1	OUT
52	RS232 IN AHRS 1	IN
53	CONFIG MODULE POWER	OUT
54	CONFIG MODULE DATA	I/O
55	CONFIG MODULE CLOCK	OUT
56	DISCRETE IN 1*	IN
57	SYS ID 2*	IN
58	RESERVED	IN
59	RESERVED	I/O
60	PPS IN 1A	IN
61	PPS IN 2B	IN
62	ARINC 429 IN ADC 3A	IN
63	ARINC 429 IN ADC 3B	IN
64	ARINC 429 IN ADC 2B	IN
65	ARINC 429 IN AHRS 2A	IN
66	ARINC 429 IN AHRS 2B	IN
67	ARINC 429 IN AHRS 3B	IN
68	RS-232 ADC 1 GROUND	--
69	RS-232 OUT ADC 1	OUT
70	RS-232 IN ADC 1	IN

32	RS-232 AHRS 1 GROUND	--
33	MAGNETOMETER GROUND	--
34	AIRCRAFT GROUND 1	--
35	RESERVED	--
36	AIRCRAFT GROUND 2	--
37	RS-232 ADC 2 GROUND	--
38	RESERVED	--
39	RESERVED	I/O

71	RS-232 OUT AHRS 2	OUT
72	RS-232 IN AHRS 2	IN
73	RS-232 AHRS 2 GROUND	--
74	CONFIG MODULE GROUND	--
75	SYS ID 1*	IN
76	DISCRETE IN 3*	IN
77	DISCRETE IN 4	IN
78	DISCRETE IN 2*	IN

*Indicates Active-Low

4.2.5 GRS 79

The GRS 79 has a single connector:

- J791/P791 78-pin female contact HD D-Sub

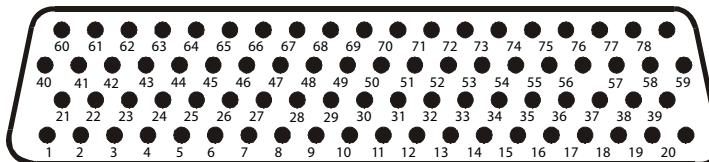


Figure 4-6 View of J791 Connector Looking at GRS 79

J791/P791 Connector

Pin	Function	I/O
1	ARINC 429 OUT 1A	OUT
2	ARINC 429 OUT 1B	OUT
3	ARINC 429 OUT 2A	OUT
4	RESERVED	--
5	RESERVED	--
6	RESERVED	--
7	ARINC 429 OUT 1B	OUT
8	ARINC 429 OUT 3A	OUT
9	ARINC 429 OUT 3B	OUT
10	RS-422 IN A	IN
11	RS-422 IN B	IN
12	RS-232 OUT 3	OUT
13	MAGNETOMETER POWER OUT	OUT
14	AIRCRAFT POWER 1	IN
15	SIGNAL GROUND	--
16	AIRCRAFT POWER 2	IN
17	RESERVED	--
18	RESERVED	--
19	RESERVED	--
20	RESERVED	--
21	ARINC 429 OUT 3A	OUT
22	ARINC 429 OUT 3B	OUT
23	ARINC 429 OUT 2B	OUT
24	SIGNAL GROUND	--
25	PPS SELECT	IN
26	SIGNAL GROUND	--
27	ARINC 429 OUT 1A	OUT
28	RESERVED	--
29	RESERVED	--
30	SIGNAL GROUND	--
31	SIGNAL GROUND	--
40	PPS IN 1 B	IN
41	PPS IN 2 A	IN
42	RESERVED	--
43	RESERVED	--
44	RESERVED	--
45	ARINC 429 IN 1A	IN
46	ARINC 429 IN 1B	IN
47	ARINC 429 IN 3A	IN
48	SIGNAL GROUND	--
49	ARINC 429 OUT 2A	OUT
50	ARINC 429 OUT 2B	OUT
51	RS-232 OUT 1	OUT
52	RS-232 IN 1	IN
53	CONFIG MODULE POWER	OUT
54	CONFIG MODULE DATA	I/O
55	CONFIG MODULE CLOCK	OUT
56	DISCRETE IN 1*	IN
57	SYS ID 2*	IN
58	RESERVED	IN
59	RESERVED	I/O
60	PPS IN 1A	IN
61	PPS IN 2B	IN
62	RESERVED	--
63	RESERVED	--
64	RESERVED	--
65	ARINC 429 IN 2A	IN
66	ARINC 429 IN 2B	IN
67	ARINC 429 IN 3B	IN
68	SIGNAL GROUND	--
69	RESERVED	--
70	RESERVED	--

32	SIGNAL GROUND	--
33	MAGNETOMETER GROUND	--
34	AIRCRAFT GROUND 1	--
35	SPARE	--
36	AIRCRAFT GROUND 2	--
37	SIGNAL GROUND	--
38	RESERVED	--
39	RESERVED	I/O

71	RS-232 OUT 2	OUT
72	RS-232 IN 2	IN
73	SIGNAL GROUND	--
74	CONFIG MODULE GROUND	--
75	SYS ID 1*	IN
76	DISCRETE IN 3*	IN
77	DISCRETE IN 4	IN
78	DISCRETE IN 2*	IN

*Indicates Active-Low

4.2.6 GAD 43/43e

The GAD 43 has a single connector:

- J431/P431 50-pin female contact D-Sub

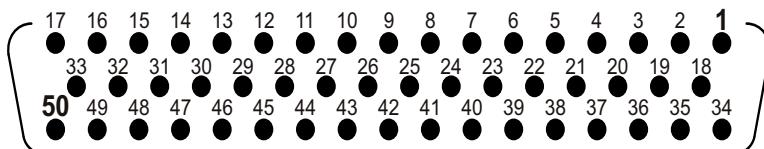


Figure 4-7 GAD 43/43e J431/P431 Connector Looking at Unit

J431/P431 Connector

Pin	Function	I/O	Pin	Function	I/O
1	RESERVED	--	26	WXR ROLL OUT LO (50 mV/deg)	--
2	HEADING VALID OUT*	OUT	27	SPARE DISC IN* 2	IN
3	ATTITUDE VALID RELAY NO	--	28	WXR ROLL OUT HI (50 mV/deg)	OUT
4	ATTITUDE VALID RELAY NC	--	29	ROLL DC OUT	OUT
5	AP INTERLOCK RELAY COMMON	--	30	ROLL SYNCHRO OUT X	OUT
6	+26 VDC OUT	OUT	31	PITCH SYNCHRO OUT X	OUT
7	HDG SYNCHRO OUT Y	OUT	32	ARINC 429 IN B	IN
8	HDG SYNCHRO OUT X	OUT	33	RS-232 OUT	OUT
9	10VAC REF IN HI	IN	34	26VAC LO	--
10	10VAC REF IN LO	IN	35	5VAC OUT LO	--
11	SPARE DISC OUT* 2	OUT	36	5VAC OUT HI	OUT
12	WXR PITCH OUT HI (50mV/deg)	OUT	37	115VAC REF IN LO	IN
13	PITCH DC OUT	OUT	38	115VAC REF IN HI	IN
14	ROLL SYNCHRO OUT Y	OUT	39	26VAC REF IN HI	IN
15	PITCH SYNCHRO OUT Y	OUT	40	YAW RATE / BARO CORRECTION GND	--
16	ARINC 429 IN A	IN	41	HDG SYNCHRO OUT Z	OUT
17	RS-232 IN	IN	42	PITCH AC OUT LO (60 Mv/DEG OR 200 Mv/DEG)	--
18	26VAC OUT HI	OUT	43	WXR PITCH OUT LO (50 mV/deg)	--
19	YAW RATE / BARO CORRECTION OUT	OUT	44	ROLL SYNCHRO OUT Z	--
20	ATTITUDE VALID RELAY COMMON	--	45	PITCH SYNCHRO OUT Z	OUT
21	AP INTERLOCK RELAY VALID NC	--	46	RS-232 GND	--
22	AP INTERLOCK RELAY VALID NO	--	47	AIRCRAFT GROUND	--
23	ROLL AC OUT HI (54 mV/deg or 200 mV/deg)	OUT	48	AIRCRAFT GROUND	--
24	PITCH AC OUT HI (60 mV/deg or 200 mV/deg)	OUT	49	AIRCRAFT POWER 1	IN
25	ROLL AC OUT LO (54 mV/deg or 200 mV/deg)	--	50	AIRCRAFT POWER 2	IN

*Indicates Active-Low

4.2.7 GAD 43e

The GAD 43e has three connectors:

- J431/P431 50-pin female contact D-Sub (same as GAD 43 J431/P431 shown in Section 4.2.6)
- J432/P432 78-pin female contact HD D-Sub
- J433/P433 26-pin female contact HD D-Sub

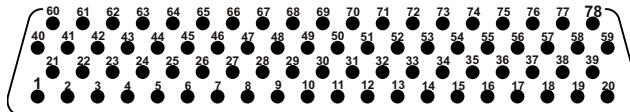


Figure 4-8 GAD 43e J432/P432 Connector Looking at Unit

J432/P432 Connector

Pin	Function	I/O	Pin	Function	I/O
1	ALTITUDE PRESELECT DATA	I/O	40	DME RQST HI / DME SYNC IN HI	I/O
2	GROUND	--	41	DME RQST LO / DME SYNC IN LO	I/O
3	RS-232 IN 2	IN	42	DME RNAV RQST OUT	OUT
4	RS-232 OUT 2	OUT	43	ARINC 429 OUT 1A	OUT
5	RS-232 GND 2	--	44	ARINC 429 OUT 1B	OUT
6	OUTER MARKER EXT LAMP IN	IN	45	GROUND	--
7	MIDDLE MARKER EXT LAMP IN	IN	46	ILS ENERGIZE #1 IN*	IN
8	INNER MARKER EXT LAMP IN	IN	47	ILS ENERGIZE #2 IN*	IN
9	RADAR ALT VALID IN	IN	48	GLIDESLOPE #1 VALID IN	IN
10	GROUND	--	49	GLIDESLOPE #2 VALID IN	IN
11	RESERVED	--	50	DME EXT TUNE K50 IN	IN
12	RESERVED	--	51	DME SUPERFLAG IN	IN
13	RESERVED	--	52	DME HOLD OUT*	OUT
14	RESERVED	--	53	ALT HOLD*	OUT
15	GROUND	--	54	GROUND	--
16	RESERVED	--	55	RESERVED	--
17	VS CMD	OUT	56	RESERVED	--
18	GROUND	--	57	RESERVED	--
19	ALTITUDE ERROR OUT +	OUT	58	PRESELECT MON+ POWER	IN
20	ALTITUDE ERROR OUT -	OUT	59	PRESELECT MON+ OUT	OUT
21	ALTITUDE PRESELECT CLOCK	I/O	60	DME CLOCK HI	I/O
22	GROUND	--	61	DME CLOCK LO	I/O
23	DME ARINC 429 IN A	IN	62	DME DATA HI	I/O
24	DME ARINC 429 IN B	IN	63	DME DATA LO	I/O
25	GROUND	--	64	AIRCRAFT GROUND	--
26	RESERVED	--	65	DME EXT TUNE M8/MA/M0 IN	IN
27	RESERVED	--	66	DME EXT TUNE M4/ME/M1 IN	IN
28	RESERVED	--	67	DME EXT TUNE M2/MC/M2 IN	IN
29	RESERVED	--	68	DME EXT TUNE M1/MD/M3 IN	IN
30	PRESELECT ADDR 0 / AP DISC SW	IN	69	DME EXT TUNE K800/KA/K0 IN	IN
31	PRESELECT ADDR 1	IN	70	DME EXT TUNE K400/KE/K1 IN	IN

32	GROUND	--
33	RESERVED	--
34	VS SELECT CTRL* / KNOB IN MOTION*	OUT
35	DME COM NAV 1* / CH 1-2 SELECT*	I/O
36	DME COM NAV 2*	I/O
37	RESERVED	--
38	GROUND	--
39	RESERVED	--
71	DME EXT TUNE K200/KC/K2 IN	IN
72	DME EXT TUNE K100/KD/K3 IN	IN
73	GROUND	--
74	RESERVED	--
75	RESERVED	--
76	GROUND	--
77	RESERVED	--
78	RESERVED	--

*Indicates Active-Low

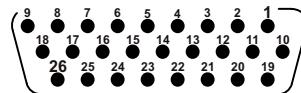


Figure 4-9 GAD 43e J433/P433 Connector Looking at Unit

J433/P433 Connector

Pin	Function	I/O
1	VOR/LOC COMPOSITE #1 HI	IN
2	VOR/LOC COMPOSITE #1 LO	IN
3	VOR/LOC COMPOSITE #2 HI	IN
4	VOR/LOC COMPOSITE #2 LO	IN
5	GROUND	--
6	GLIDESLOPE #1 +UP IN	IN
7	GLIDESLOPE #1 +DN IN	IN
8	GLIDESLOPE #2 +UP IN	IN
9	GLIDESLOPE #2 +DN IN	IN
10	RESERVED	--
11	GROUND	--
12	ADF BEARING X	IN
13	ADF BEARING Y	IN
14	ADF BEARING Z (GND)	--
15	RADAR ALT IN HI	IN
16	RADAR ALT IN LO	IN
17	GROUND	--
18	GROUND	--
19	FD PITCH UP OUT/GS #2 VALID OUT	OUT
20	FD PITCH DOWN OUT (GND)	--
21	FD ROLL RIGHT OUT/GS #1 VALID OUT	OUT
22	FD ROLL LEFT OUT (GND)	--
23	FD PITCH UP IN/GS #2 +FLAG	IN
24	FD PITCH DOWN IN/GS #2 -FLAG	IN
25	FD ROLL RIGHT IN/GS #1 +FLAG	IN
26	FD ROLL LEFT IN/GS #2 -FLAG	IN

4.2.8 GEA 110

The GEA110 has two connectors:

- J1101/P1101 15-pin female contact HD D-Sub
- J1102/P1102 78-pin female contact HD D-Sub

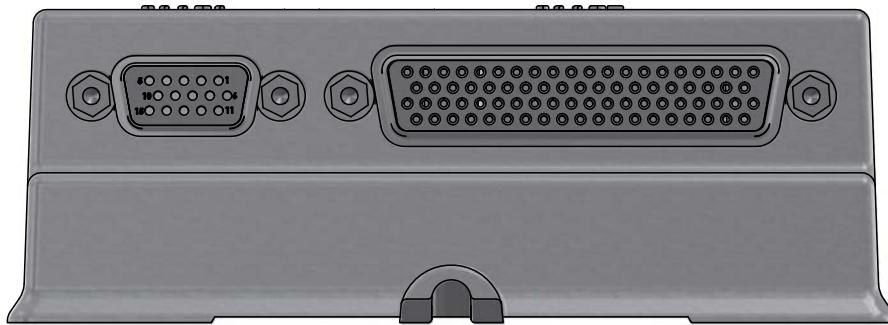


Figure 4-10 GEA 110 Connectors

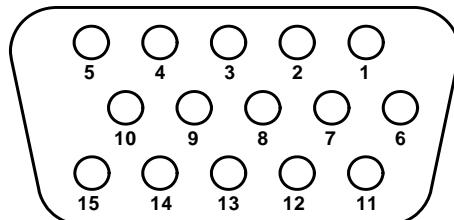


Figure 4-11 GEA 110 J1101/P1101 Connector Looking at Unit

J1101/P1101 Connector

Pin	Function	I/O
1	AV PWR IN 1	IN
2	RESERVED	--
3	DISCRETE OUT 1	OUT
4	RS 485 2A	I/O
5	RS 485 1A	I/O
6	AV PWR IN 2	IN
7	RESERVED	--
8	DISCRETE OUT 2	OUT
9	RS 485 2B	I/O
10	RS 485 1B	I/O
11	DISCRETE IN 5	IN
12	SYS ID #1	IN
13	SYS ID #2	IN
14	GND	--
15	GND	--

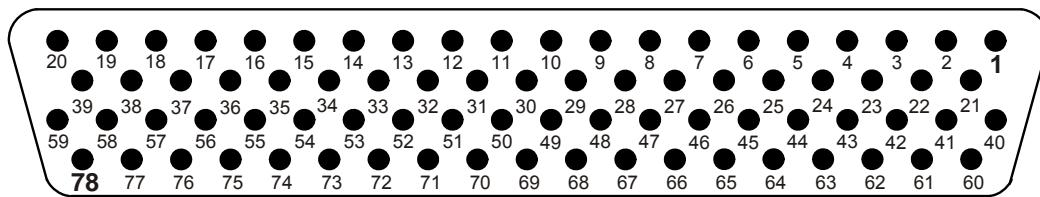


Figure 4-12 GEA 110 J1102/P1102 Connector Looking at Unit

J1102/P1102 Connector

Pin	Function	I/O
1	CHT 1 (+)	IN
2	CHT 2 (+)	IN
3	CHT 3 (+)	IN
4	CHT 4 (+)	IN
5	CHT 5 (+)	IN
6	CHT 6 (+)	IN
7	GENERAL PURPOSE 1 (+)	IN
8	GENERAL PURPOSE 2 (+)	IN
9	+10 VDC	OUT
10	FUEL PRESSURE (+)	IN
11	DISCRETE IN 1	IN
12	FUEL QUANTITY 1 / GENERAL PURPOSE 3 (+)	IN
13	FUEL QUANTITY 3 / GENERAL PURPOSE 5 (+)	IN
14	GND	IN
15	FUEL FLOW 1	IN
16	FUEL FLOW 2	IN
17	+12 VDC	OUT
18	RPM IN 1 (+)	IN
19	RPM IN 2 (+)	IN
20	CONFIG. MOD PWR	OUT
21	CHT 1 (-)	IN
22	CHT 2 (-)	IN
23	CHT 3 (-)	IN
24	CHT 4 (-)	IN
25	CHT 5 (-)	IN
26	CHT 6 (-)	IN
27	GENERAL PURPOSE 1 (-)	IN
28	GENERAL PURPOSE 2 (-)	IN
29	+5 VDC	OUT
30	FUEL PRESSURE (-)	IN

Pin	Function	I/O
40	EGT 1 (+)	IN
41	EGT 2 (+)	IN
42	EGT 3 (+)	IN
43	EGT 4 (+)	IN
44	EGT 5 (+)	IN
45	EGT 6 (+)	IN
46	CARB TEMP (+)	IN
47	OIL TEMP (+)	IN
48	OIL PRESSURE (+)	IN
49	GND	--
50	MANIFOLD PRESSURE (+)	IN
51	DISCRETE IN 3	IN
52	FUEL QUANTITY 2 / GENERAL PURPOSE 4 (+)	IN
53	FUEL QUANTITY 4 / GENERAL PURPOSE 6 (+)	IN
54	GND	--
55	SHUNT 1 (-)	IN
56	SHUNT 2 (-)	IN
57	BUS 1	IN
58	BUS 2	IN
59	CONFIG MOD CLOCK	OUT
60	EGT 1 (-)	IN
61	EGT 2 (-)	IN
62	EGT 3 (-)	IN
63	EGT 4 (-)	IN
64	EGT 5 (-)	IN
65	EGT 6 (-)	IN
66	CARB TEMP (-)	IN
67	OIL TEMP (-)	IN
68	OIL PRESSURE (-)	IN
69	+12 VDC	OUT

31	DISCRETE IN 2	IN
32	FUEL QUANTITY 1 / GENERAL PURPOSE 3 (-)	IN
33	FUEL QUANTITY 3 / GENERAL PURPOSE 5 (-)	IN
34	GND	--
35	SHUNT 1 (+)	IN
36	SHUNT 2 (+)	IN
37	RPM IN 1 (-)	IN
38	RPM IN 2 (-)	IN
39	CONFIG MOD DATA	I/O

70	MANIFOLD PRESSURE (-)	IN
71	DISCRETE IN 4	IN
72	FUEL QUANTITY 2 / GENERAL PURPOSE 4 (-)	IN
73	FUEL QUANTITY 4 / GENERAL PURPOSE 6 (-)	IN
74	GND	--
75	SPARE	--
76	+5 VDC	OUT
77	BUS 3	IN
78	CONFIG MOD GND	--

4.2.9 GBB 54

The GBB 54 has one connector:

- J541/P541 15-pin HD D-Sub

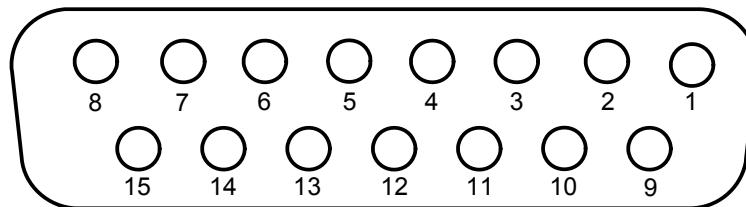


Figure 4-13 GBB 54 J541/P541 Connector

J541/P541 Connector

Pin	Function	I/O
1	POWER IN	IN
2	POWER IN	IN
3	GROUND	--
4	STANDBY	OUT
5	GROUND	--
6	GROUND	--
7	BATTERY POWER	OUT
8	BATTERY POWER	OUT
9	POWER IN	IN
10	GROUND	--
11	RS-232 TX	OUT
12	RS-232 RX	IN
13	PWR ON REQ	IN
14	GROUND	--
15	BATTERY POWER	OUT

4.2.10 GMU 44

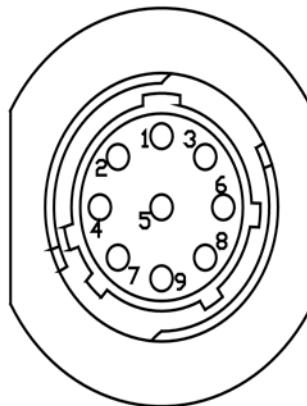


Figure 4-14 J441/P441 Connector Looking at Pigtail

J441/P441 Connector

Pin	Function	I/O
1	SIGNAL GROUND	--
2	RS-485 OUT B	OUT
3	SIGNAL GROUND	--
4	RS-485 OUT A	OUT
5	SPARE	--
6	POWER GROUND	--
7	SPARE	--
8	RS-232 IN	IN
9	+12 VDC POWER	IN

4.2.11 GTP 59

The GTP 59 Temperature Probe does not have a connector. Rather, a 3-conductor shielded cable extends from the sensor for interface with a GDU or GDC unit.

3-Conductor Shielded Cable

Conductor Color	Name	I/O
White	Probe Power Lead	IN
Blue	Resistive Element HI	OUT
Orange	Resistive Element LO	OUT

4.3 Troubleshooting Flow Charts

This section provides troubleshooting flow charts for most system failures and alert messages. It is recommended that system troubleshooting and repair only be completed by a Garmin dealer. If a specific alert or fault condition is not listed, or the fault still exists after completing the given corrective action, contact Garmin Aviation Technical Support at the number listed for your specific region on the “Support” tab of the flyGarmin.com website.

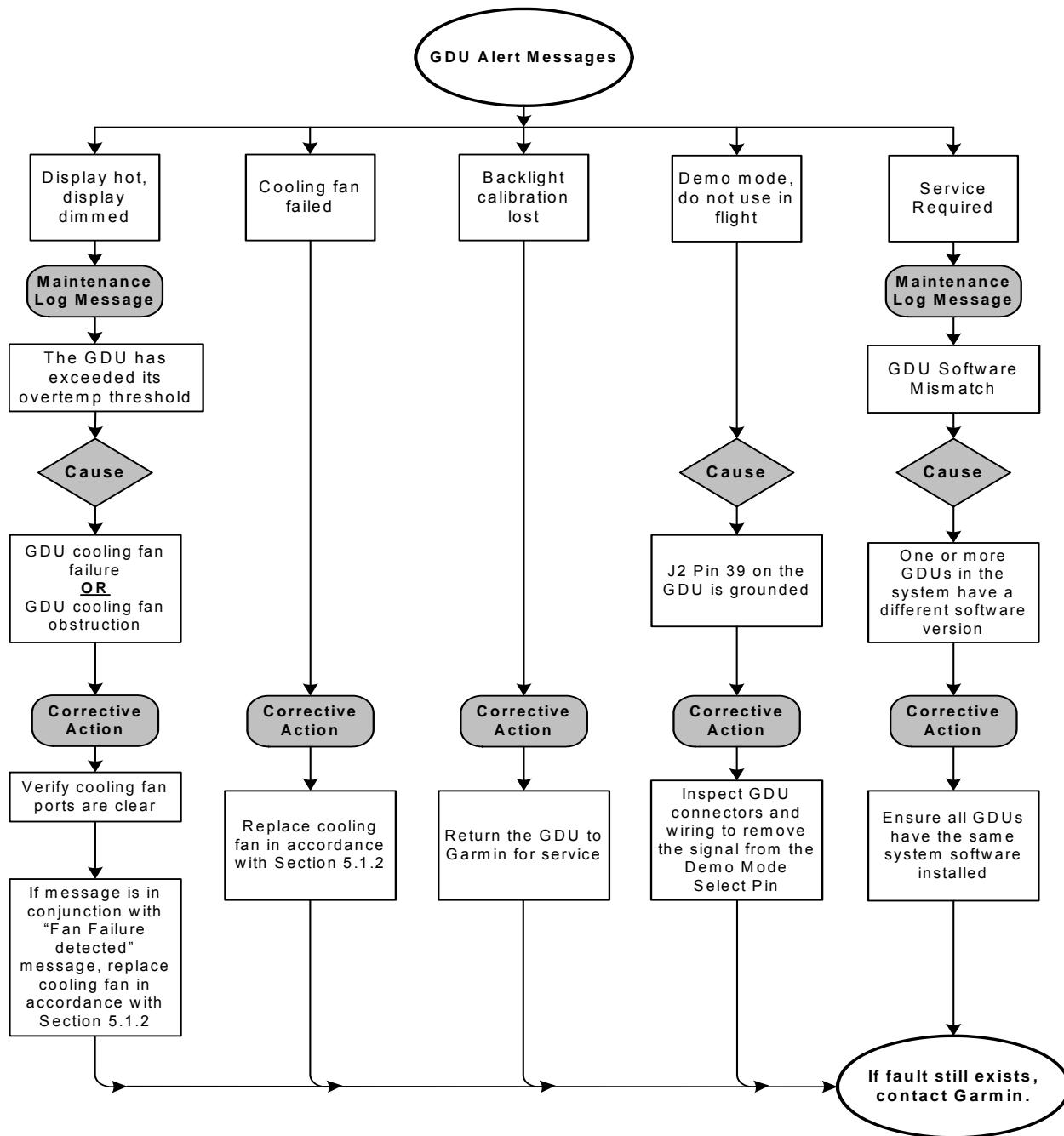


Figure 4-15 GDU Alert Message Troubleshooting

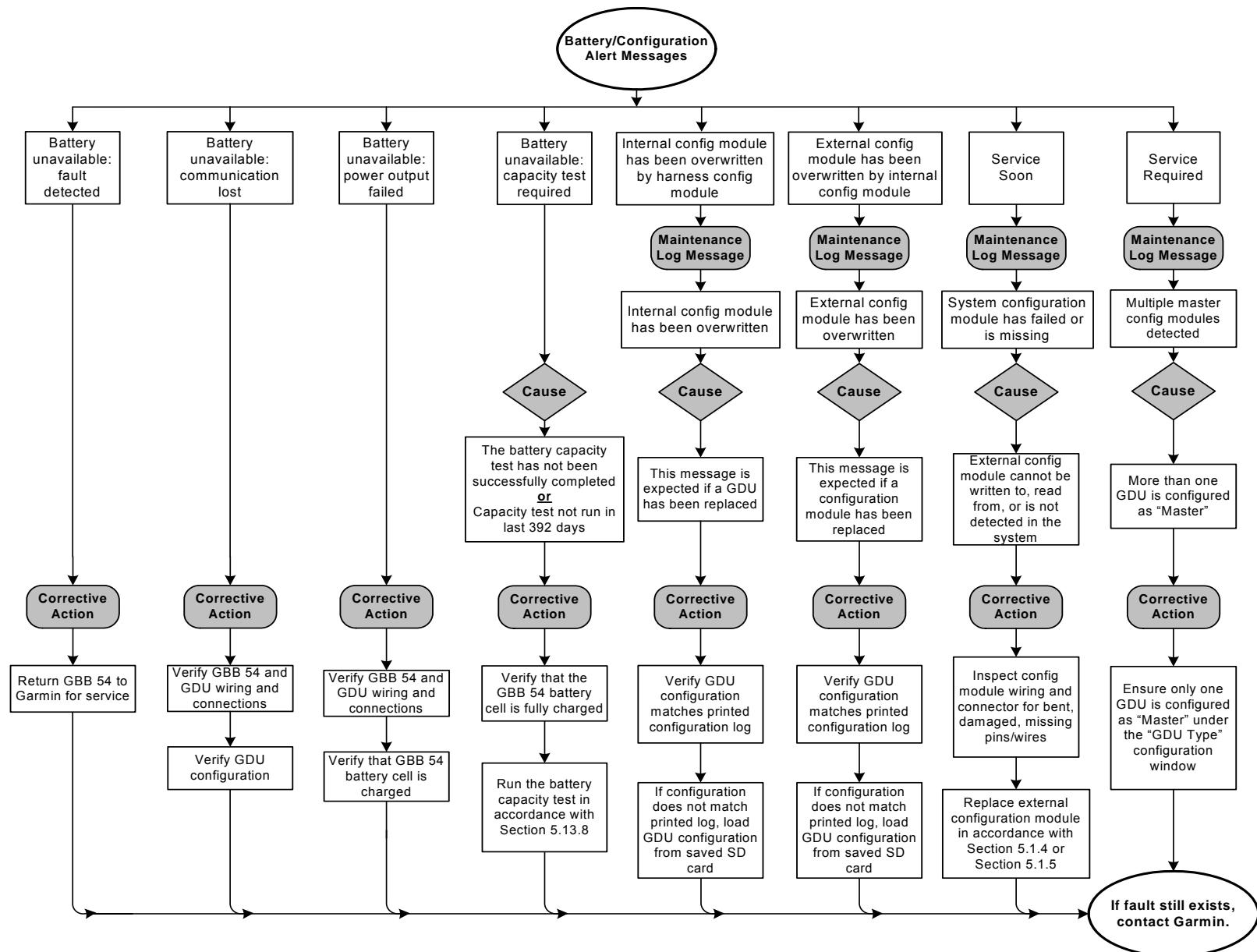


Figure 4-16 GDU Config and Battery Alert Message Troubleshooting

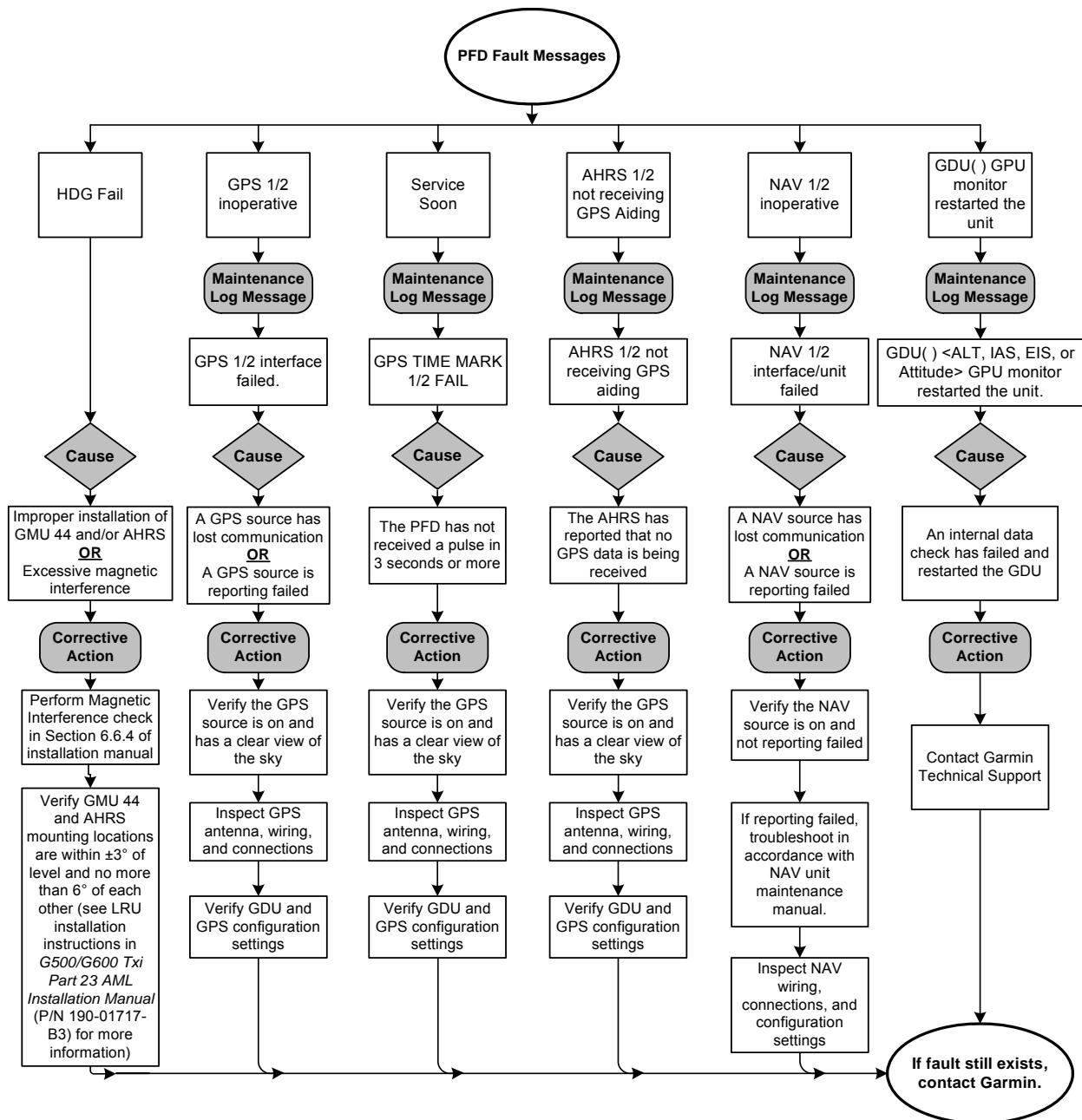


Figure 4-17 PFD Alert Message Troubleshooting

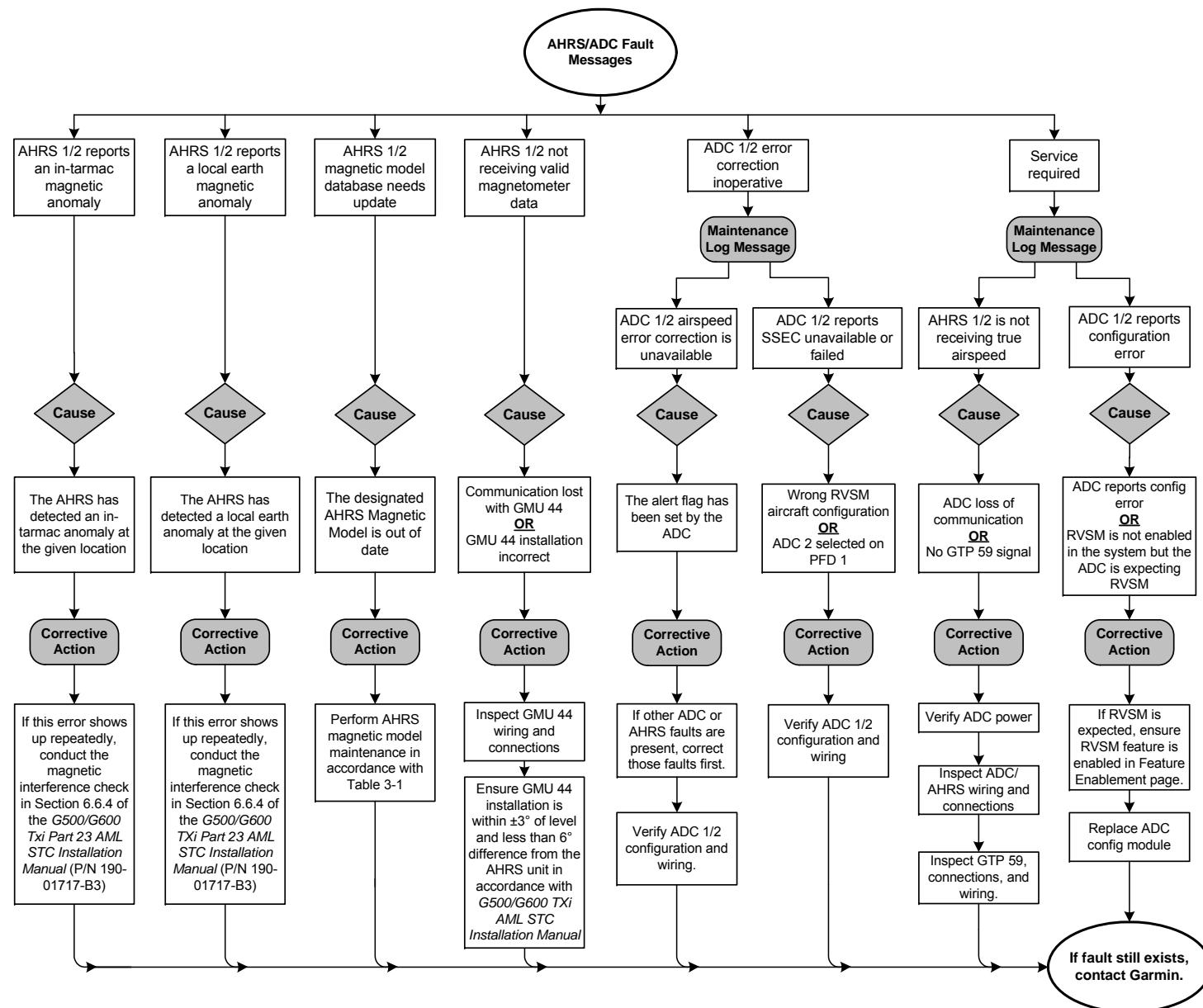


Figure 4-18 AHRS/ADC Alert Message Troubleshooting

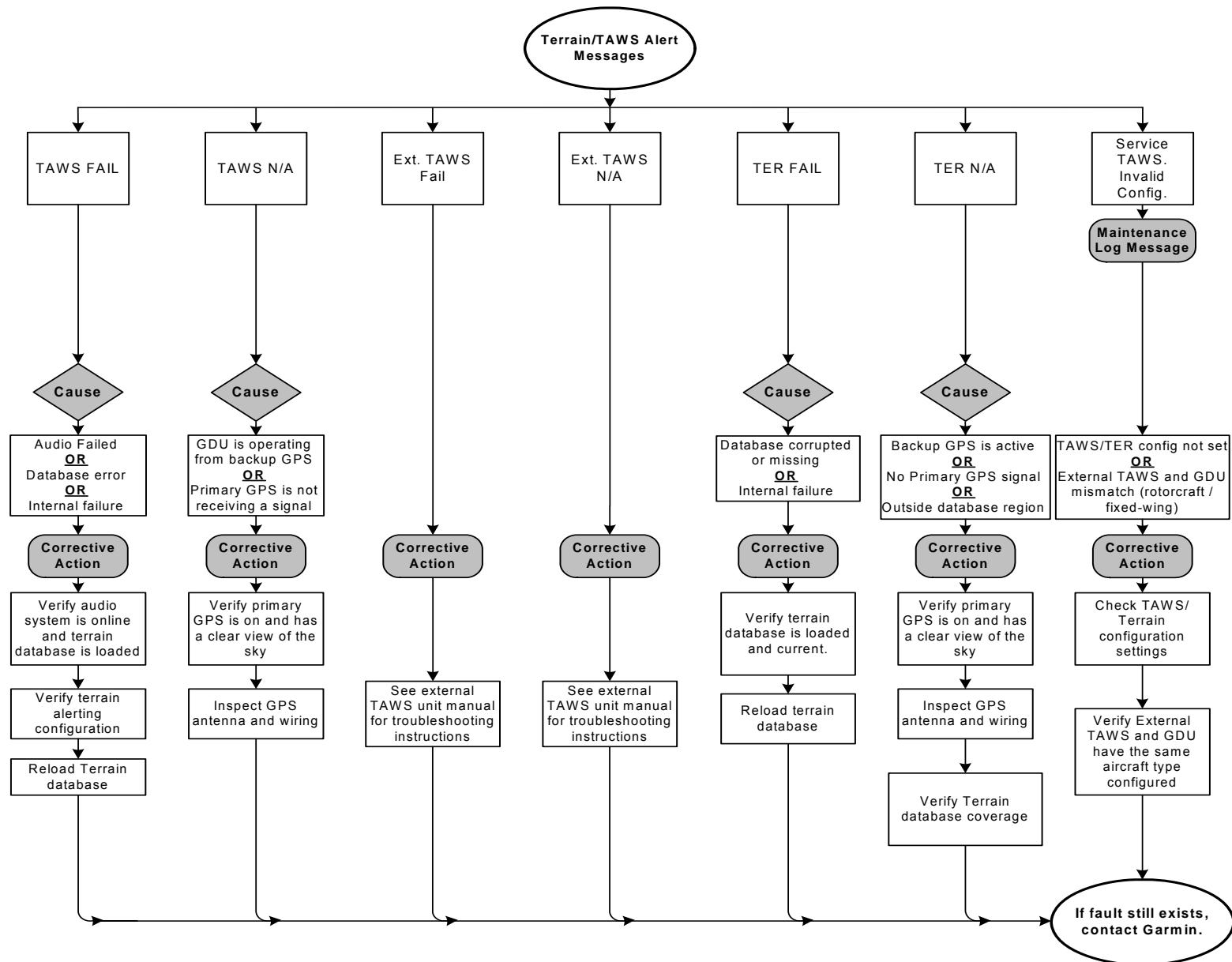


Figure 4-19 Terrain Alert Message Troubleshooting

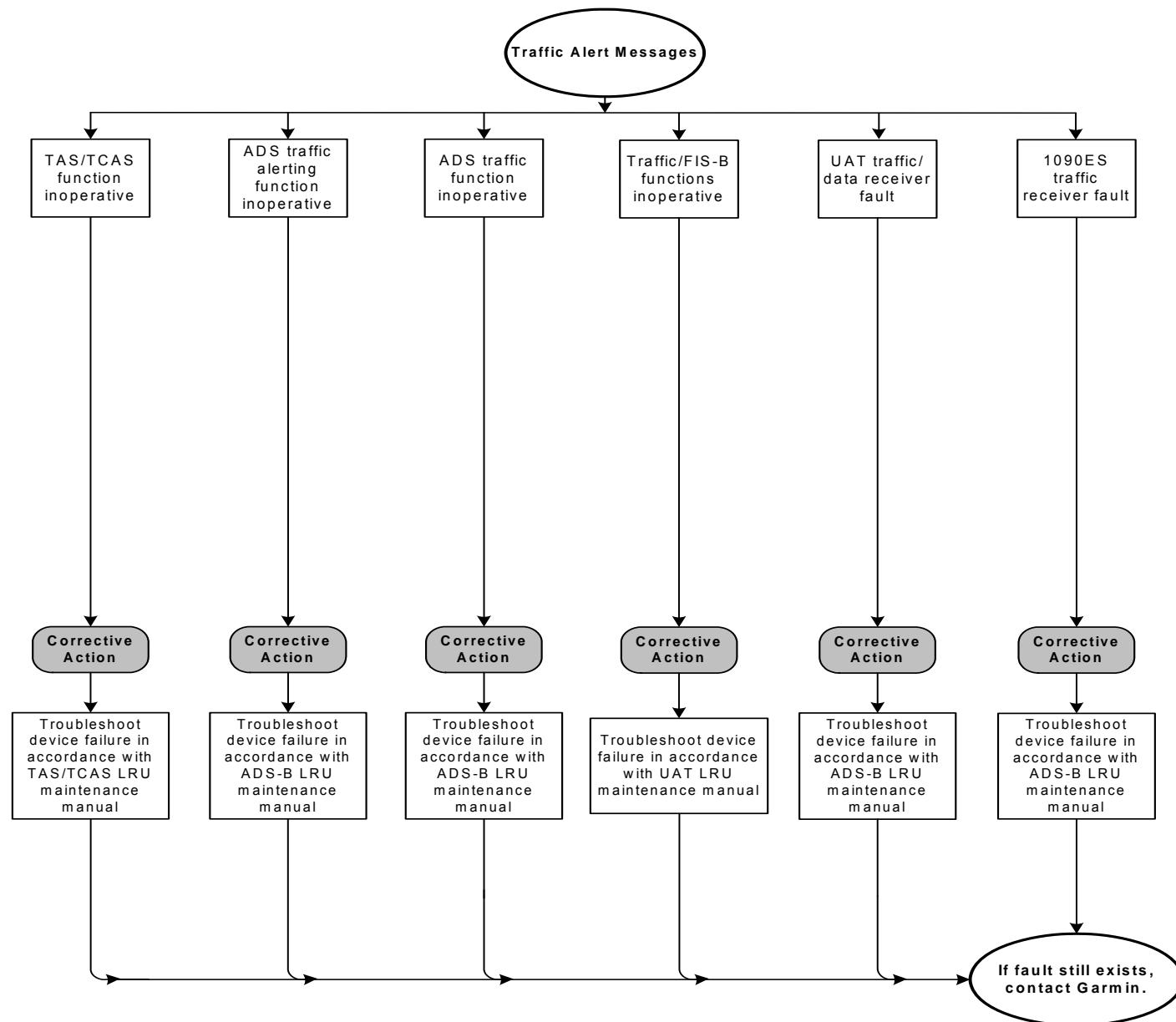


Figure 4-20 Traffic Alert Message Troubleshooting

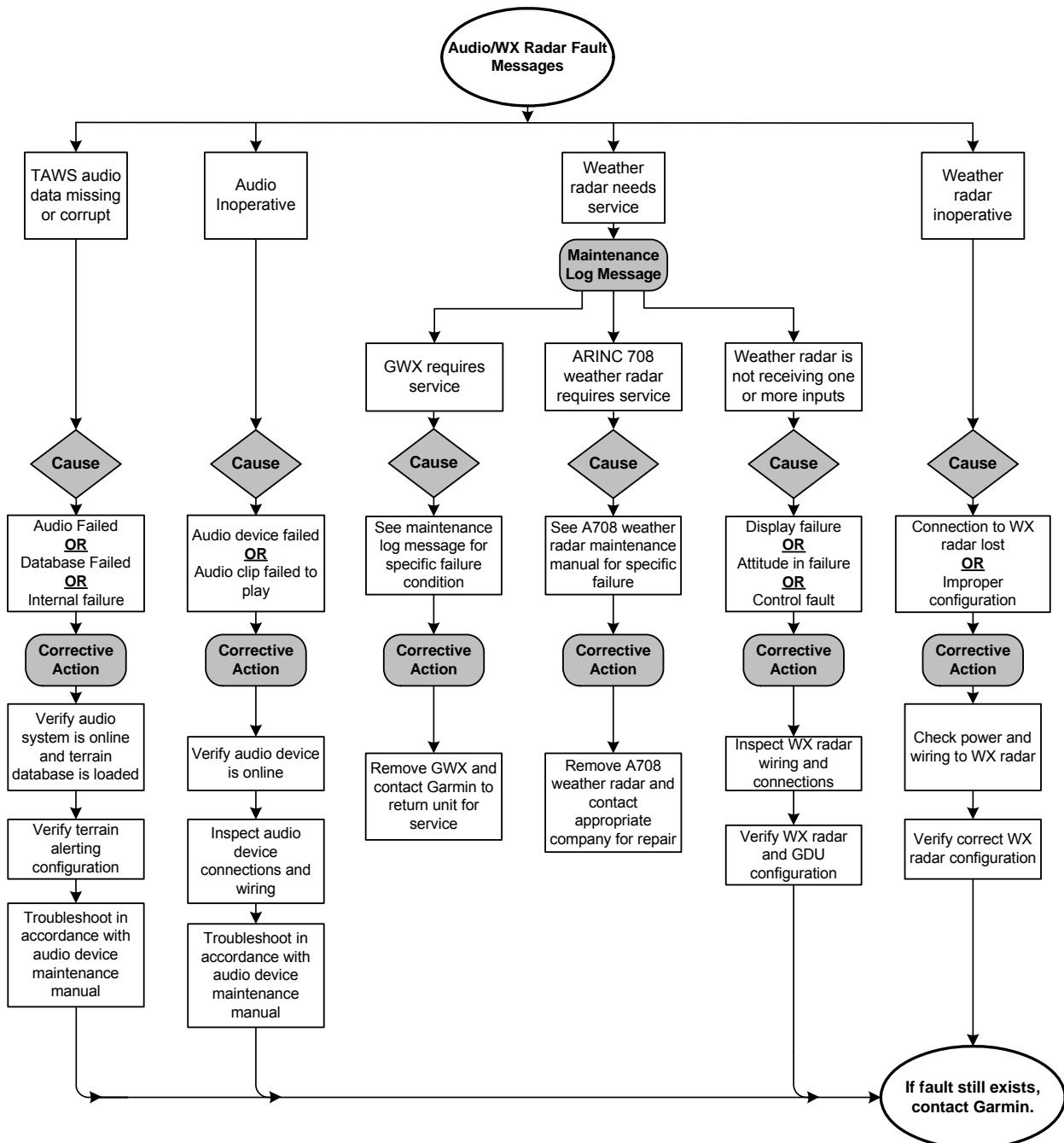


Figure 4-21 Audio/Weather Alert Message Troubleshooting

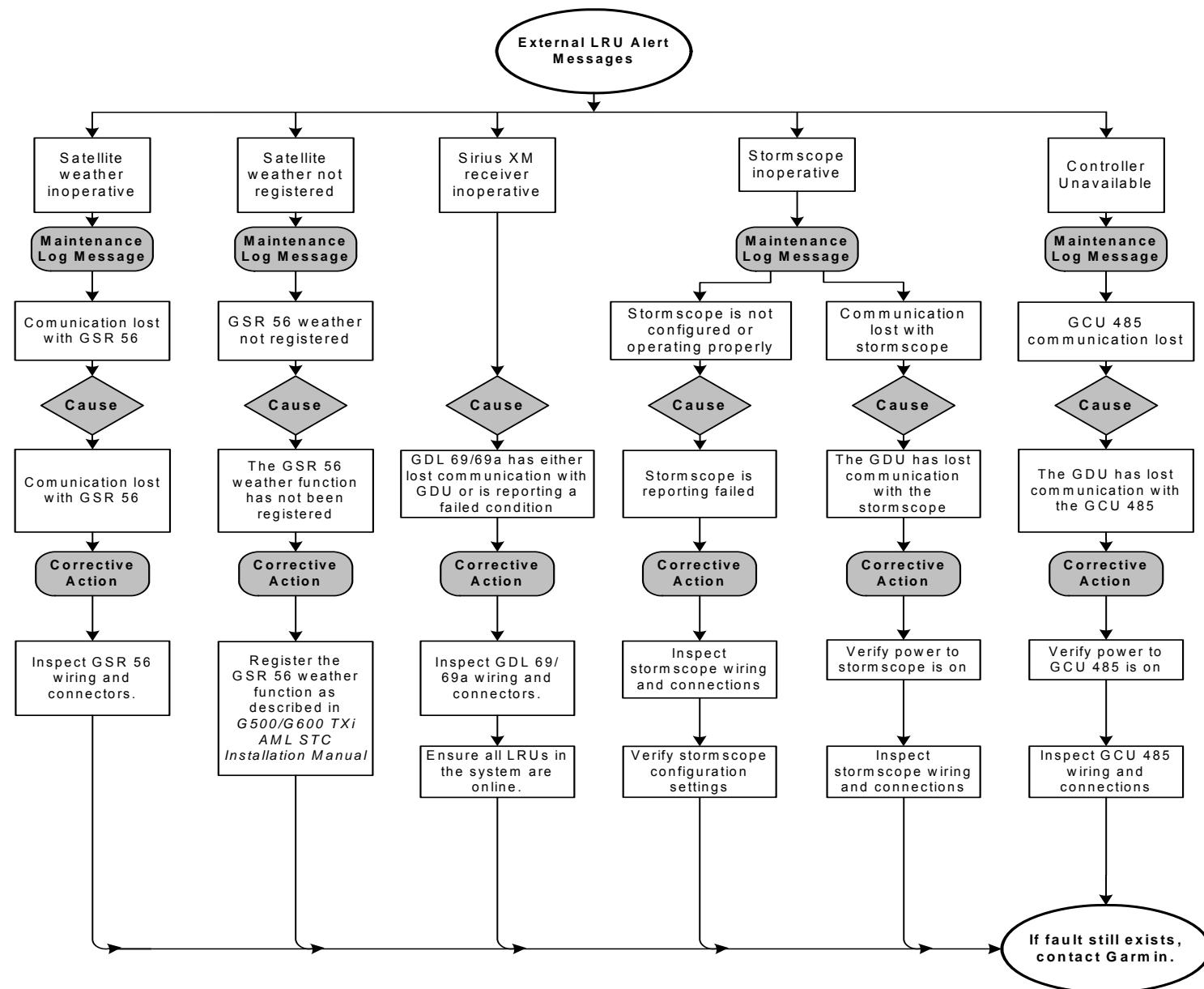


Figure 4-22 External LRU Failure Message Troubleshooting

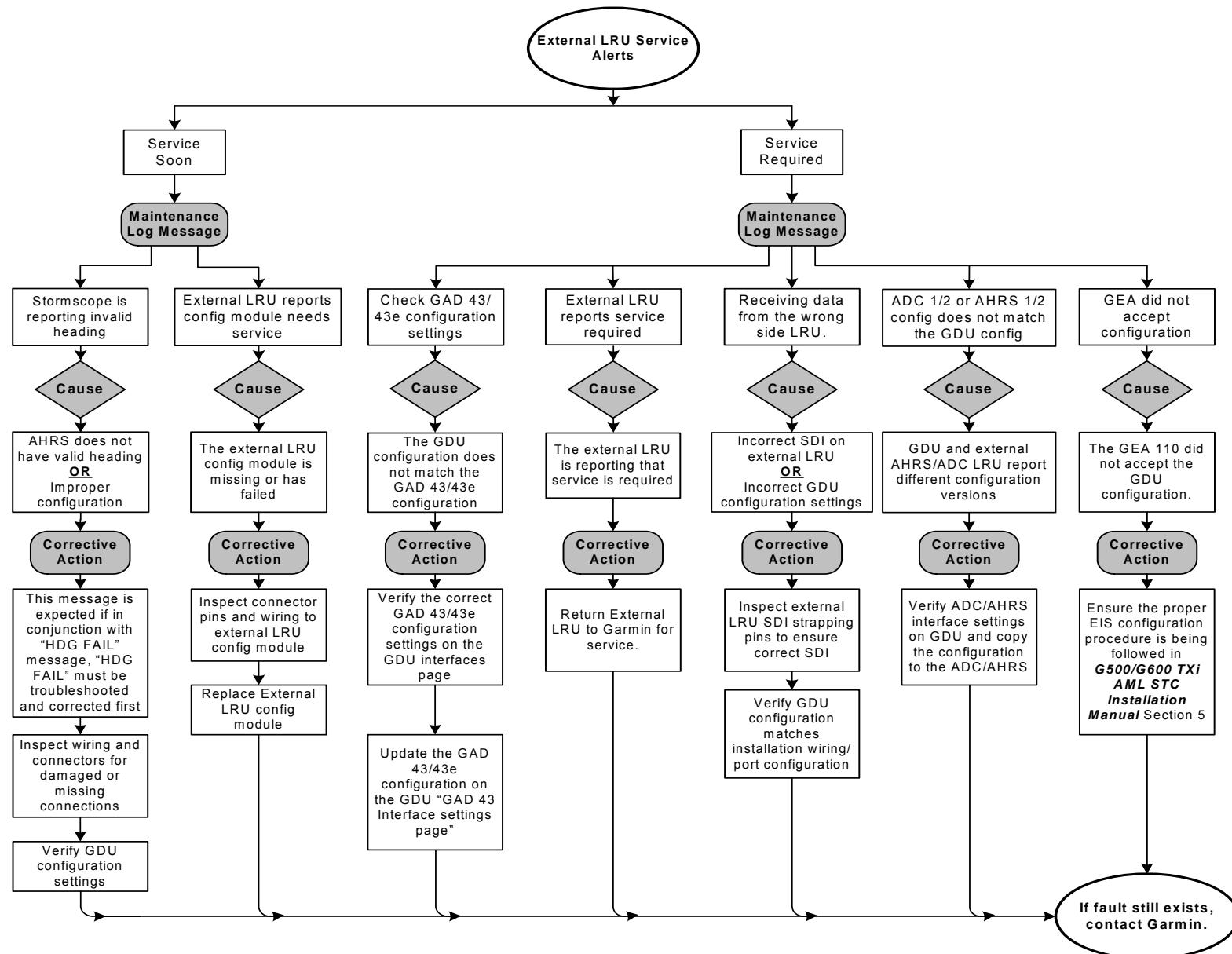


Figure 4-23 External LRU Service Message Troubleshooting

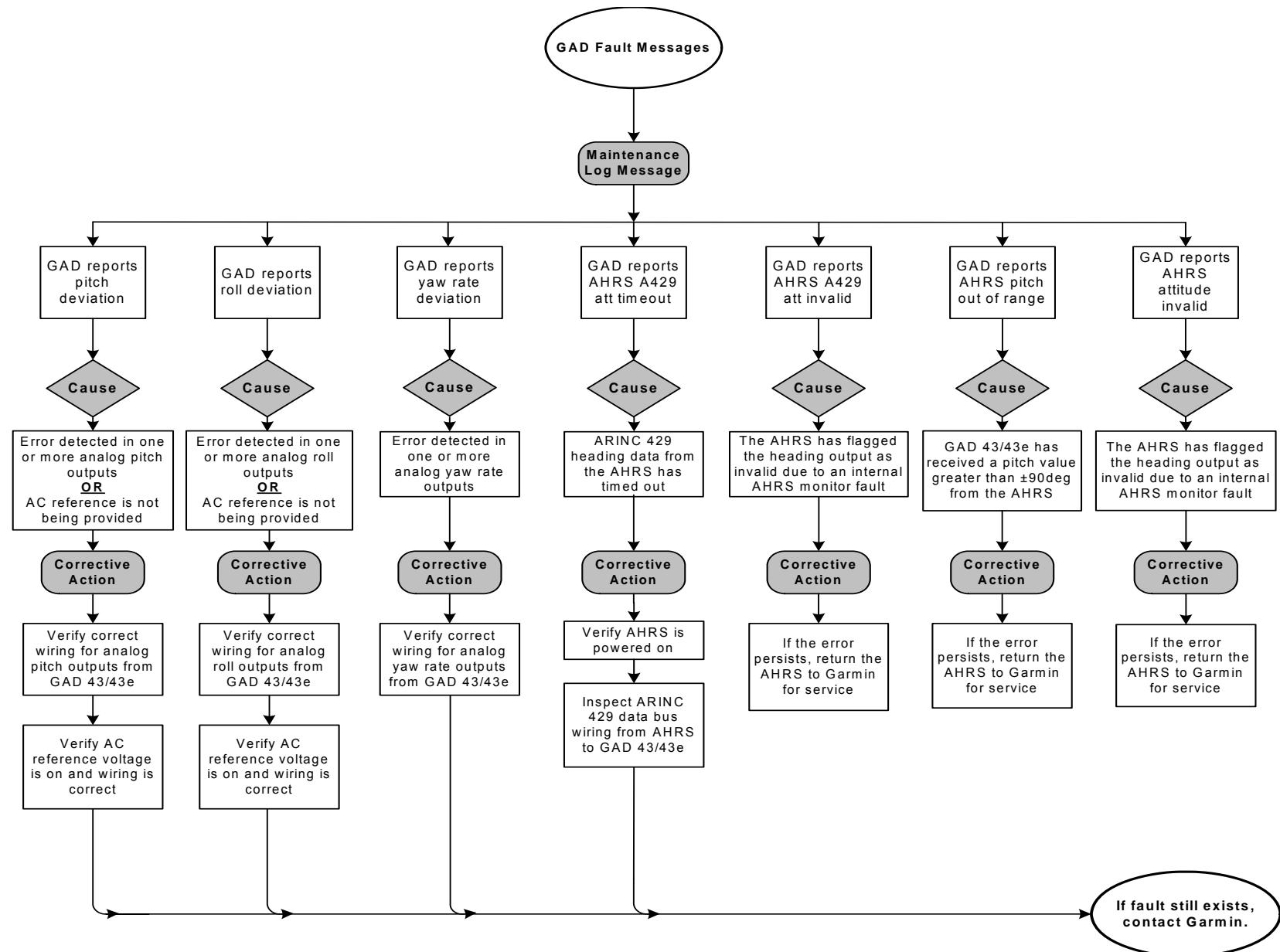


Figure 4-24 GAD Fault Message Troubleshooting

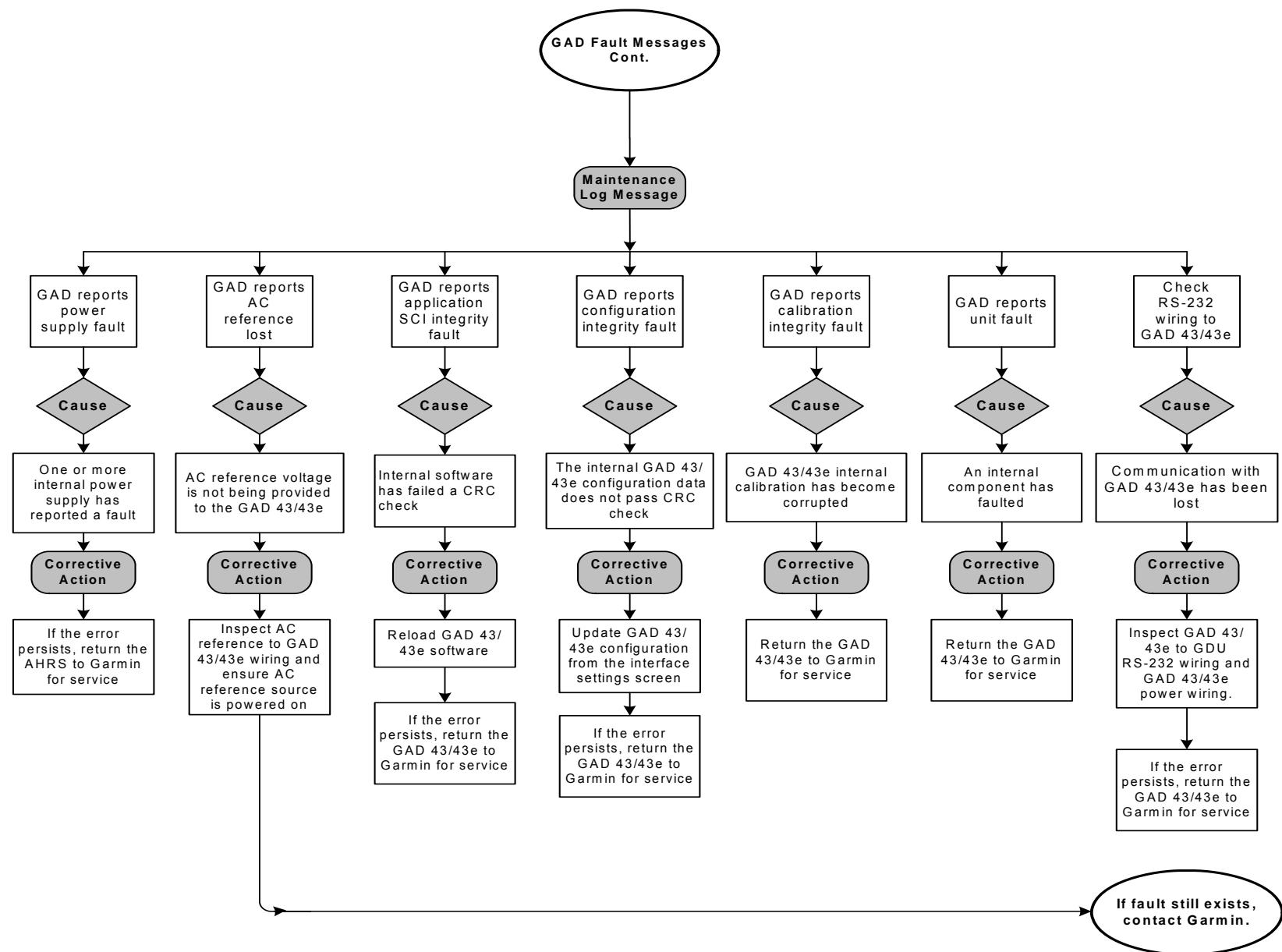


Figure 4-25 GAD Fault Message Troubleshooting Continued

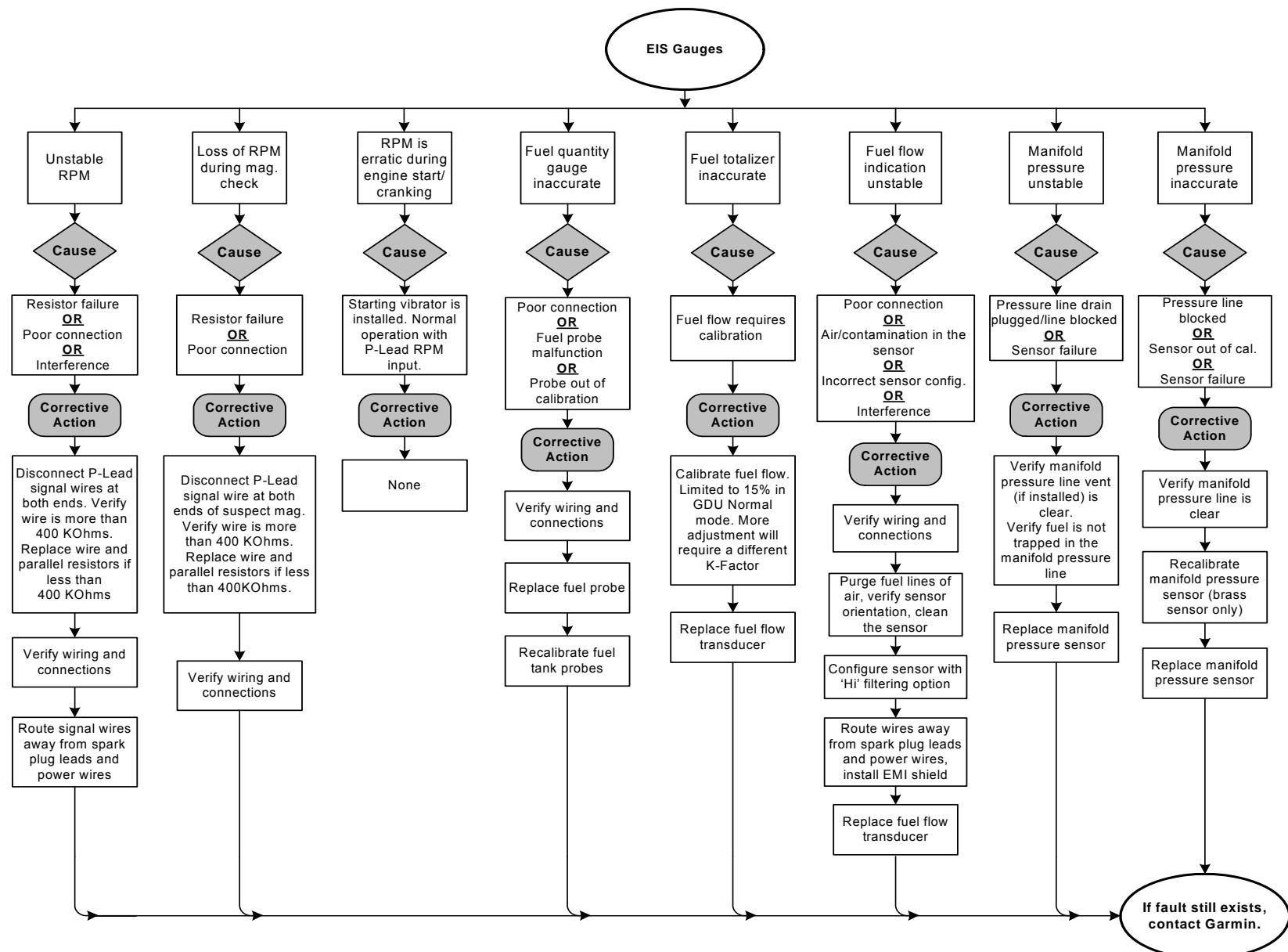


Figure 4-26 EIS Gauge Troubleshooting

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This section provides the procedures to remove, replace, or install required and optional LRUs that are part of the G500/G600 TXi system. Refer to Section 4 for the definition of connectors and pin functions for G500/G600 TXi system LRUs. Before performing any maintenance on the G500/G600 TXi system, all information in Appendix A must be filled out. It is highly recommended to save the system configuration to an SD card and print the configuration log before replacing any system LRUs.



NOTE

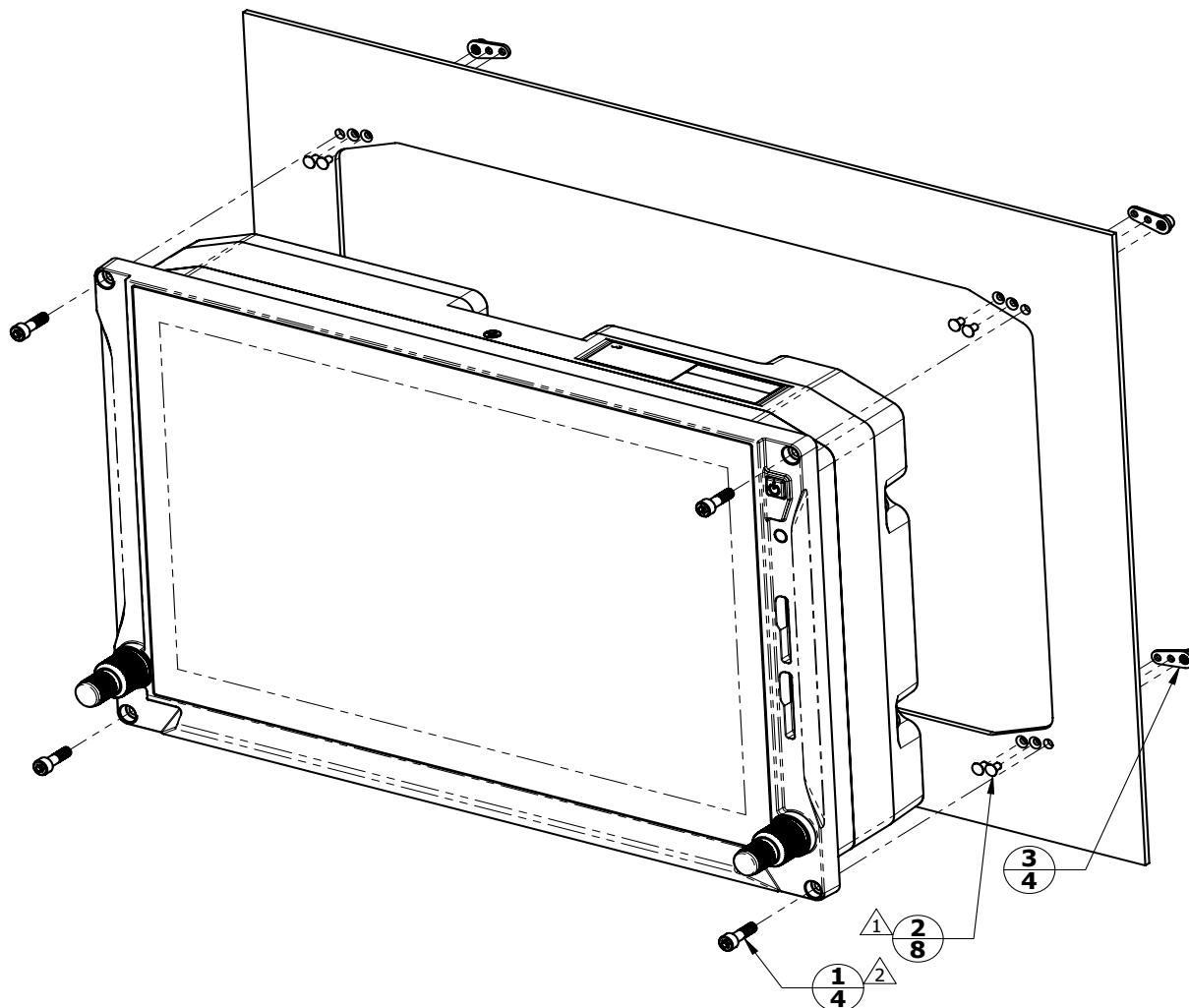
A GDU 700/1060 without an integrated ADAHRS may be removed, replaced with a new GDU, or have the old GDU re-installed without an Installer Unlock Card as long as the configuration module is not replaced.



NOTE

Any AHRS unit (including a GDU with an integral ADAHRS) may be removed or replaced without using an Installer Unlock Card as long as the unit mounting brackets or support structure (e.g., instrument panel, mounting bracket, avionics shelf) is not loosened or removed. If the mounting is loosened, additional calibrations and configurations that require the use of an Installer Unlock Card will be necessary.

5.1 GDU 700/1060

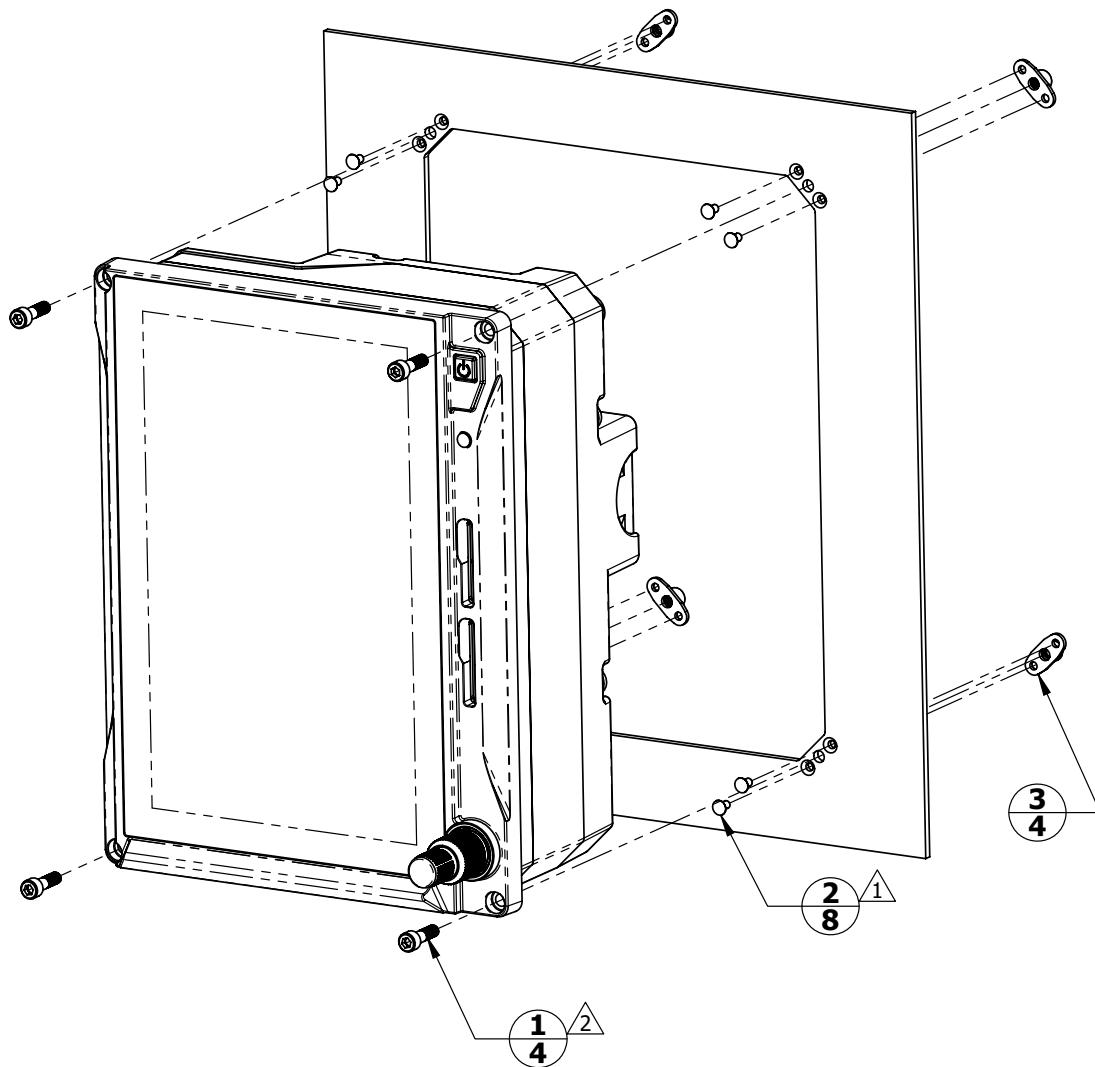


QTY	ITEM	PART NUMBER	DESCRIPTION
4	3	MS21071-06	NUT, SELF-LOCKING, PLATE, ONE LUG, REDUCED RIVET SPACING, LOW HEIGHT, STEEL .138-32 UNJC-3B
8	2	MS20426AD3-3	RIVET, SOLID, COUNTERSUNK 100 DEG, PRECISION HEAD, 3/32 IN OD, 3/16 IN LONG
4	1	MS16995-18B	SCREW, CAP, SOCKET HEAD- HEXAGON, CORROSION RESISTANT STEEL, .1380-32 UNC-3A, 0.500 IN LONG

NOTES

- △1 RIVETS ARE INSTALLED PER MIL-R-47196 (NASM47196) RIVET, BUCK TYPE, PREPARATION FOR AND INSTALLATION, OR PER MIL-STD-403 PREPARATION FOR AND INSTALLATION OF RIVETS AND SCREWS, ROCKET , MISSILE, AND AIRFRAME STRUCTURES.
- △2 TORQUE .1380-32 UNC-3A SCREWS 8.0 ± 1.0 LBF-IN.

Figure 5-1 GDU 1060 Installation



4	3	MS21069L06	NUT, SELF-LOCKING, PLATE, TWO-LUG, REDUCED RIVET SPACING, LOW HEIGHT, STEEL .138-32 UNJC-3B
8	2	MS20426AD3-3	RIVET, SOLID, COUNTERSUNK 100 DEG, PRECISION HEAD, 3/32 IN OD, 3/16 IN LONG
4	1	MS16995-18B	SCREW, CAP, SOCKET HEAD- HEXAGON, CORROSION RESISTANT STEEL, .1380-32 UNC-3A, 0.500 IN LONG
QTY	ITEM	PART NUMBER	DESCRIPTION

NOTES

1 RIVETS ARE INSTALLED PER MIL-R-47196 (NASM47196) RIVET, BUCK TYPE, PREPARATION FOR AND INSTALLATION, OR PER MIL-STD-403 PREPARATION FOR AND INSTALLATION OF RIVETS AND SCREWS, ROCKET, MISSILE, AND AIRFRAME STRUCTURES.

2 TORQUE .1380-32 UNC-3A SCREWS 8.0 ± 1.0 LBF-IN.

Figure 5-2 GDU 700P Installation



NOTE

The GDU 700L uses the same fastener and torque specifications as the GDU 700P in Figure 5-2 above.

5.1.1 Removal

Remove the GDU 700/1060 using the following procedure:

1. Ensure the current configuration is saved to an SD card in accordance with the instructions contained in Section 2.1.6.
2. Turn off the GDU and remove power to the GDU.
3. Remove the four screws retaining the GDU in the instrument panel, shown as item **1** in Figure 5-1 or Figure 5-2 above.
4. Gently pull the GDU out from the instrument panel far enough to access the cable connectors and ADC module (if installed).
5. Remove the cable connectors from the back of the GDU.
6. If an integrated ADAHRS is installed in the GDU, loosen the four thumbscrews securing the ADC module to the rear of the GDU, as shown in Figure 5-3, and gently separate the module from the GDU. If the ADC module is being replaced, proceed to Section 5.1.3.

5.1.2 Cooling Fan Replacement



NOTE

The GDU cooling fan replacement kit (P/N K00-01080-00) must be obtained from an authorized Garmin dealer. In order for the GDU warranty to remain valid, this procedure must be accomplished by an authorized Garmin dealer.



NOTE

Resetting the fan operation hours requires the use of an Installer Unlock Card.

The GDU 700/1060 cooling fan has a recommended replacement interval of 3,000 hours. After 3,000 hours of operation, the cooling fan should be replaced using the following procedure:

1. Remove the GDU from the instrument panel in accordance with Section 5.1.1.
2. Remove the four screws securing the fan module to the rear of the GDU and discard the O-rings.
3. Grasp the fan module and gently pull the module out of the GDU.
4. Visually inspect the inside of the fan module receptacle on the back of the GDU for the following:
 - Verify that the four rubber gaskets around the fan screw mounting holes are not torn, damaged, or missing. If any of these conditions are found, replace all four gaskets (not included in fan replacement kit)
 - Inspect the 4-pin electrical connector for the fan module for damage or corrosion. If any damage is found, return the GDU to Garmin for service
5. Place the new O-rings included in the fan replacement kit on the four fan mounting screws.
6. Place the new cooling fan module in the fan well of the GDU with the electrical connector oriented on the upper-side near the J7 connector.

**CAUTION**

It may be necessary to slightly move the fan module within the fan well to align the connector pins and connector body. If the module does not press into the back of the GDU with slight pressure, the connector may not be aligned. If the connector cannot be aligned, remove the module again and inspect the pins on the fan module and the connector on the GDU for straightness or damage. Applying too much pressure to the fan module with the connector out of alignment could cause damage to the fan module, GDU connector, or both.

7. Slide the fan module evenly into the fan well on the GDU and gently press the module into the back of the GDU.
8. Insert the four fan mounting screws with O-rings into the mounting holes on the fan module and tighten evenly to 8 ± 1 in-lbf.
9. Install the GDU in accordance with Section 5.1.6.
10. Once the GDU installation and checkout has been accomplished, reset the GDU cooling fan hour counter using the following procedure:
 - a. Power on the GDU 700/1060 in Configuration mode per the instructions in Section 2.1.4.
 - b. Navigate to **Diagnostics → Temp & Power Stats**.
 - c. Press **Reset Fan Hours**.

5.1.3 Integrated ADC Module Replacement

To replace the integrated ADC module, perform the following procedure:

1. Remove the GDU 700/1060 in accordance with Section 5.1.1.
2. Mark pitot and static lines with “P” and “S” (if not already marked) near ADC connections.

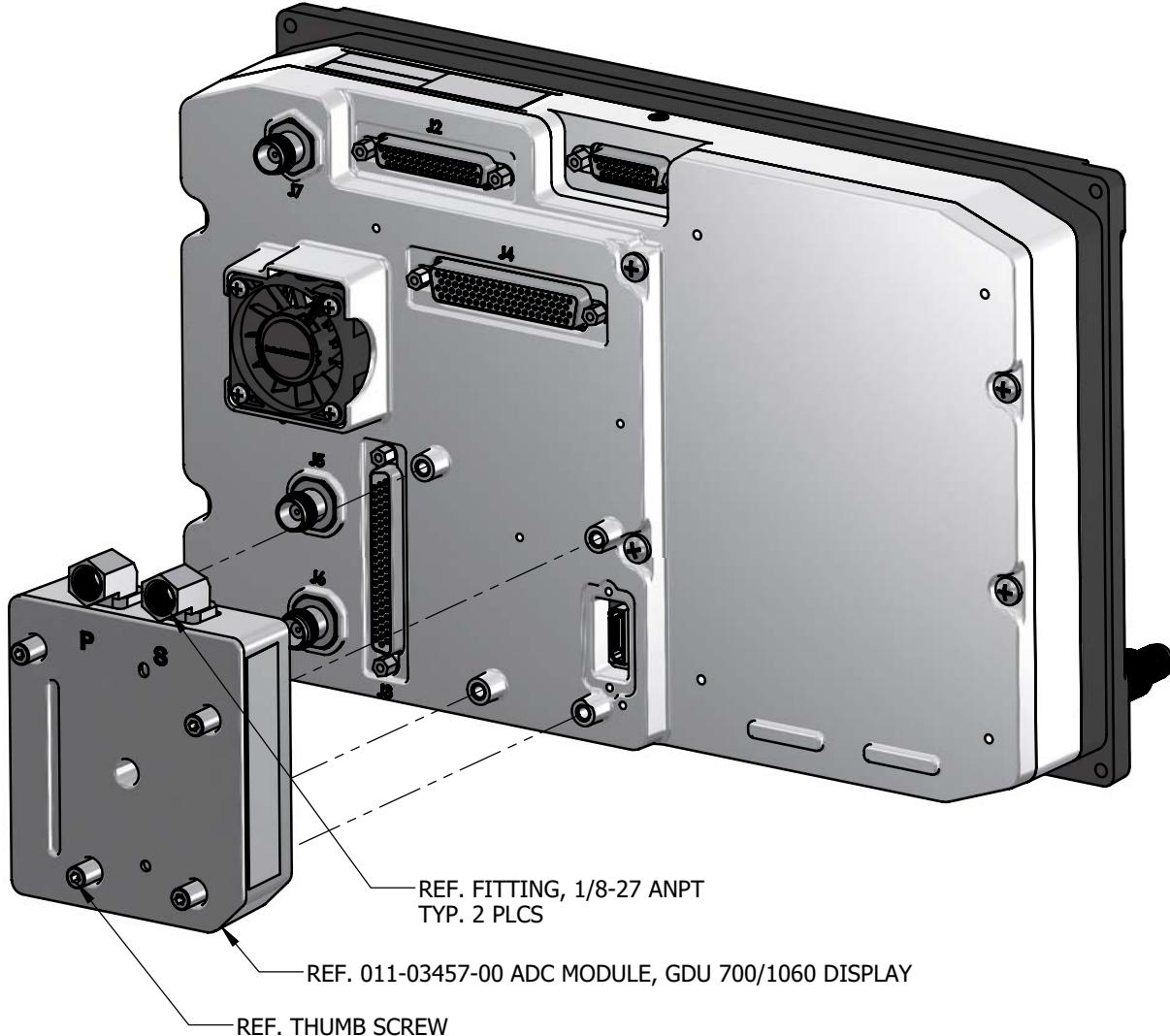


Figure 5-3 Integrated ADC Module Installation

3. Remove pitot and static line from 1/8-27 fittings, shown in Figure 5-3 above.
4. Install pitot and static lines in the new ADC module 1/8-27 fittings.
5. Install the GDU 700/1060 in accordance with Section 5.1.6.

5.1.4 Configuration Module Replacement

To replace a GDU 700/1060 configuration module, perform the following procedure:



NOTE

Ensure the current configuration is saved to an SD card in accordance with the instructions contained in Section 2.1.6.



NOTE

All item numbers in this procedure reference Figure 5-4.

1. Remove the GDU in accordance with Section 5.1.1.
2. Remove the backshell cover (7) from connector P2 by removing two screws (8).
3. Remove the screw (10) securing the configuration module (1) to the backshell (6).
4. Lift the configuration module (1) out of the backshell (6) and disconnect the wiring harness (3) from the module.
5. Inspect the wiring harness (3) and connector pins (4) for damage, loose wiring, or corrosion. Replace all deficient components if any of these conditions are found.
6. Connect the harness to the new configuration module.
7. Install the new configuration module in the connector backshell (6) and re-install the cover (7).
8. Re-install the GDU 700/1060 in accordance with Section 5.1.6.

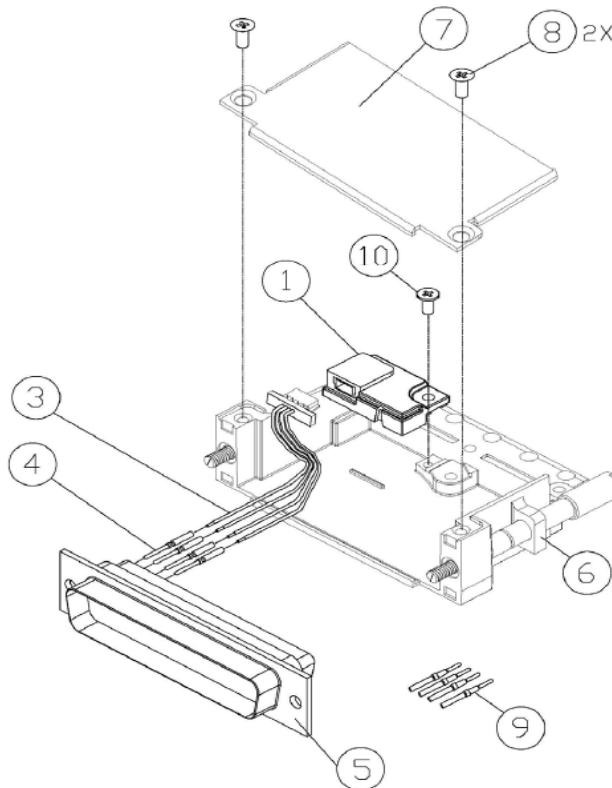


Figure 5-4 Configuration Module Installation



NOTE

The GDU will automatically copy the system configuration to the new configuration module upon the first power-up.

5.1.5 Master Configuration Module Replacement



NOTE

*Replacement of the G500/G600 TXi system **master** configuration module requires the use of an Installer Unlock Card and must be performed by an authorized Garmin dealer.*

Physical replacement of the master configuration module is identical to the configuration module replacement procedure provided in Section 5.1.4. Following the master configuration module replacement, the system ID will have changed. Any feature unlocks and databases will need to be re-issued for the new system ID by a Garmin dealer. To return the system to service from this condition, perform the following steps:



NOTE

Ensure the current configuration is saved to an SD card in accordance with the instructions contained in Section 2.1.6.

1. If multiple GDU 700/1060 displays are installed in the system, choose one GDU to act as the new master GDU.
2. Power on all LRUs in the G500/G600 TXi system with all GDUs in Configuration mode.
3. From the **Home** screen on each GDU, navigate to **GDU Type**.
4. Configure all GDU IDs, locations, and unit configurations to match the recorded configuration settings in the configuration log printout.
5. Ensure that **Master** is selected on the GDU that has been chosen to act as the master configuration module.
6. At this point, the G500/G600 TXi system will have a new system ID. System features will need to be unlocked and the system databases will need to be re-installed. The system ID must be updated at flyGarmin.com and then new databases can be downloaded.
7. Insert the feature unlock card in the bottom or right slot of any GDU in the system.
8. Navigate to **Home** → **System Management** → **Feature Enablement** and enable system features.
9. Insert the SD card with the saved aircraft configuration file in the top or left slot of any GDU in the system.
10. Navigate to **Home** → **SD Load**.
11. Select the aircraft configuration file you wish to load.
12. Select the GDU to configure and the desired configuration settings to load.
13. Select **SD Load**.
14. Follow on-screen commands.
15. Perform the Configuration Ground check in Section 5.15.1.

5.1.6 Re-installation

To replace the GDU 700/1060, perform the following procedure:

1. If equipped with an integrated ADAHRS, align the ADC module with the back of the GDU as shown in Figure 5-3 and gently press the module into place.
2. Tighten the four thumb screws that secure the ADC module to the back of the GDU to 10 ± 1 in-lbf.
3. Connect the four wiring connectors and any installed antenna wires to the back of the GDU and tighten the retaining screws.
4. Place the GDU in the instrument panel cutout.
5. Install the four screws (1), as shown in Figure 5-1 and Figure 5-2, and tighten to 8 ± 1 in-lbf.
6. Perform the Configuration mode Ground Check in Section 5.15.1.

5.2 GCU 485

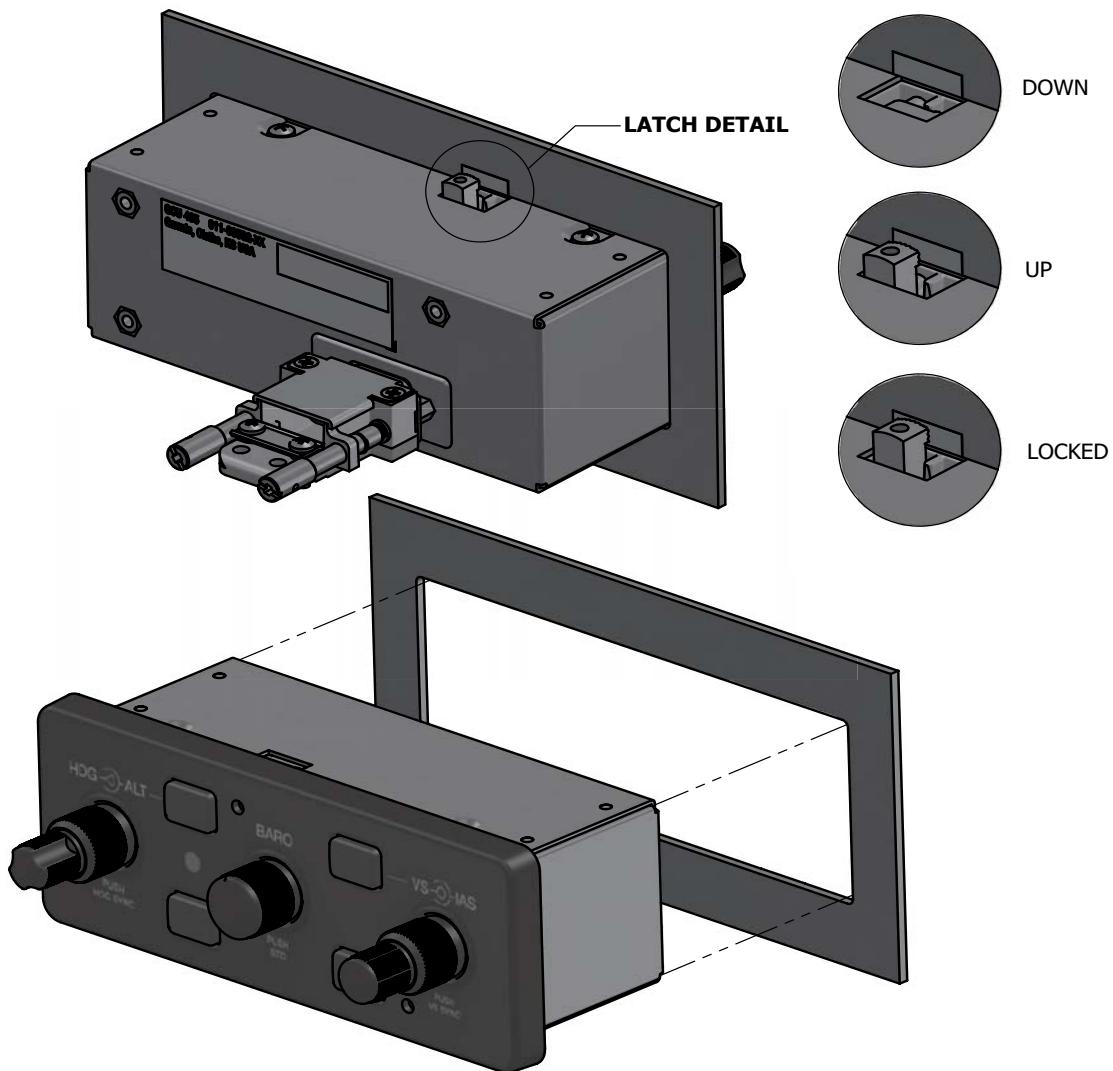


Figure 5-5 GCU 485 Installation

5.2.1 Removal

Remove the GCU 485 using the following procedure:

1. Remove power to the GCU 485.
2. Insert a 3/32" hex drive tool into the holes in the top and bottom of the front panel.
3. Turn counterclockwise until the pawl latches are able to rotate to a horizontal position.
4. Remove the unit from the panel.
5. Disconnect the electrical connector from the back of the unit.

5.2.2 Re-installation



NOTE

Electrical bond between the airframe and the GCU 485 is accomplished through direct metal-to-metal contact between pawl latches and the back side of the panel. Areas indicated in Figure 5-6 must be free of any surface coatings.

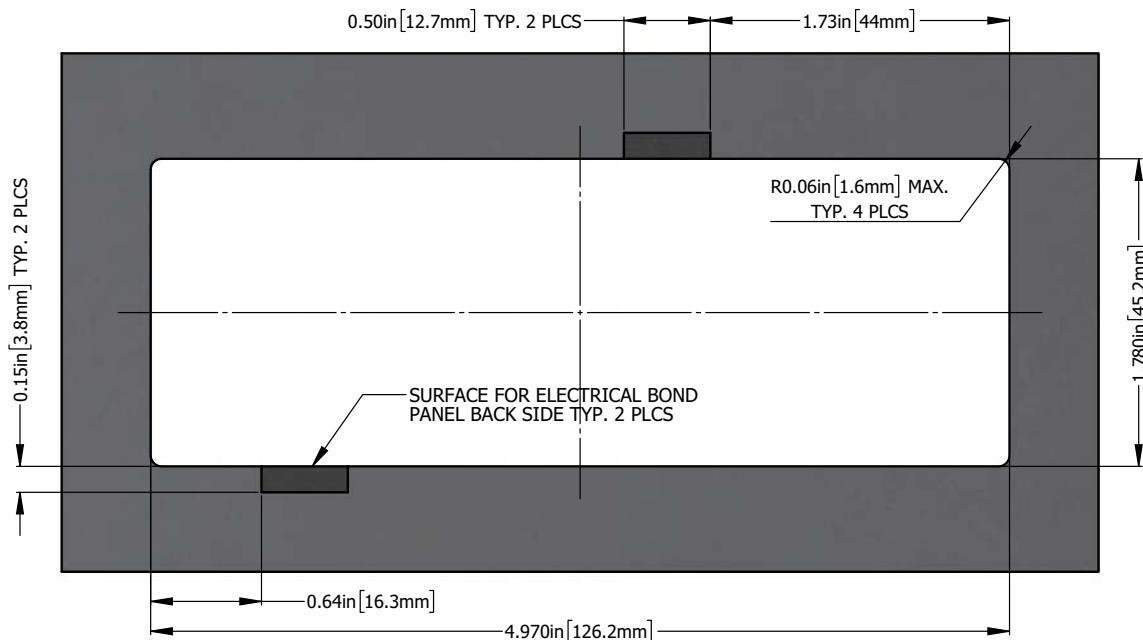


Figure 5-6 Panel Cutout for GCU 485

To re-install the GCU 485, perform the following procedure:

1. Connect the electrical connector to the back of the GCU 485.
2. Place the unit in the panel cutout, ensuring that the pawl latches are fully retracted and in the horizontal position.
3. Tighten the pawl latches with a 3/32" hex drive tool inserted through holes in GCU 485 face plate.
4. Torque the latches to 20 ± 2 in-lbf.
5. Restore power to the unit.

5.3 EIS Announcer

5.3.1 Removal

The EIS caution and warning annunciator can be removed using the following procedure:

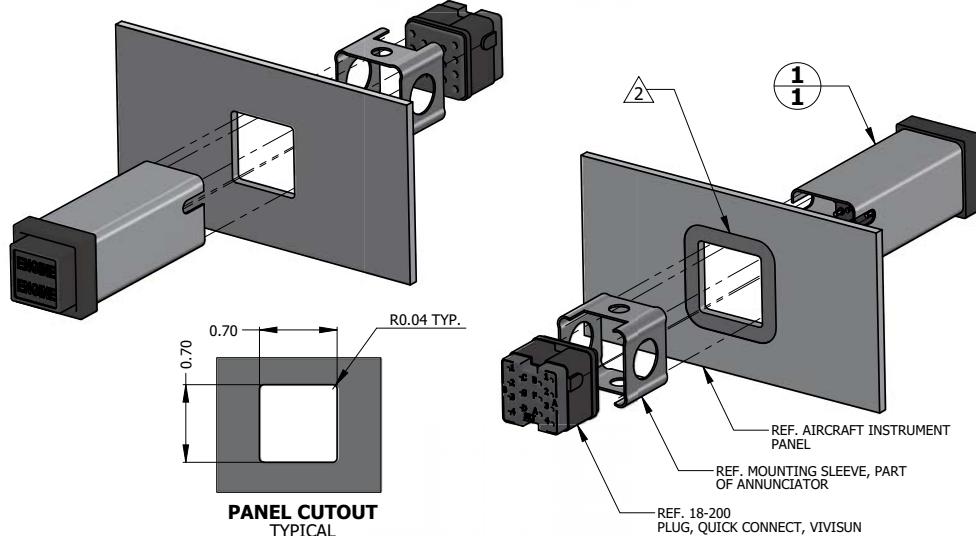
1. Using an Aerospace Optics cap extraction tool (P/N 17-150), locate the two extraction slots positioned on either side of the pushbutton cap.
2. Insert the tool into the extraction slots and pull the cap out from the module.



NOTE

The cap will rotate 90° on two hinged slide retainer pins to allow access to the module mounting screws.

3. Loosen the two small flat head module mounting screws located behind the pushbutton cap until the module can be removed from the housing.
4. Insert an Aerospace Optics connector extraction tool (P/N 18-234) into the slots at the top and bottom of the electrical connector.
5. Push to release the snap tabs in the switch housing and gently pull the connector out of the module.



QTY	ITEM	PART NUMBER	DESCRIPTION
1	1	95-40-17-B4-E1WPM	ANNUNCIAATOR, 14 VDC INCANDESCENT, CAUTION AND WARNING, ENGINE INDICATION, AEROSPACE OPTICS
		LED-40-17-BM-E1WPM	ANNUNCIAATOR, 28 VDC LED, CAUTION AND WARNING, ENGINE INDICATION, AEROSPACE OPTICS

NOTES

1. DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.

2. AREA IN DIRECT CONTACT WITH ANNUNCIAATOR MOUNTING SLEEVE AT THE BACK SIDE OF INSTRUMENT PANEL MUST BE PREPARED FOR ELECTRICAL BOND TO ACHIEVE DIRECT CURRENT RESISTANCE LESS THAN OR EQUAL TO 10 MILLIOHMS AS MEASURED BETWEEN ANNUNCIAATOR BODY AND AIRCRAFT INSTRUMENT PANEL WITH CONNECTOR DISCONNECTED.

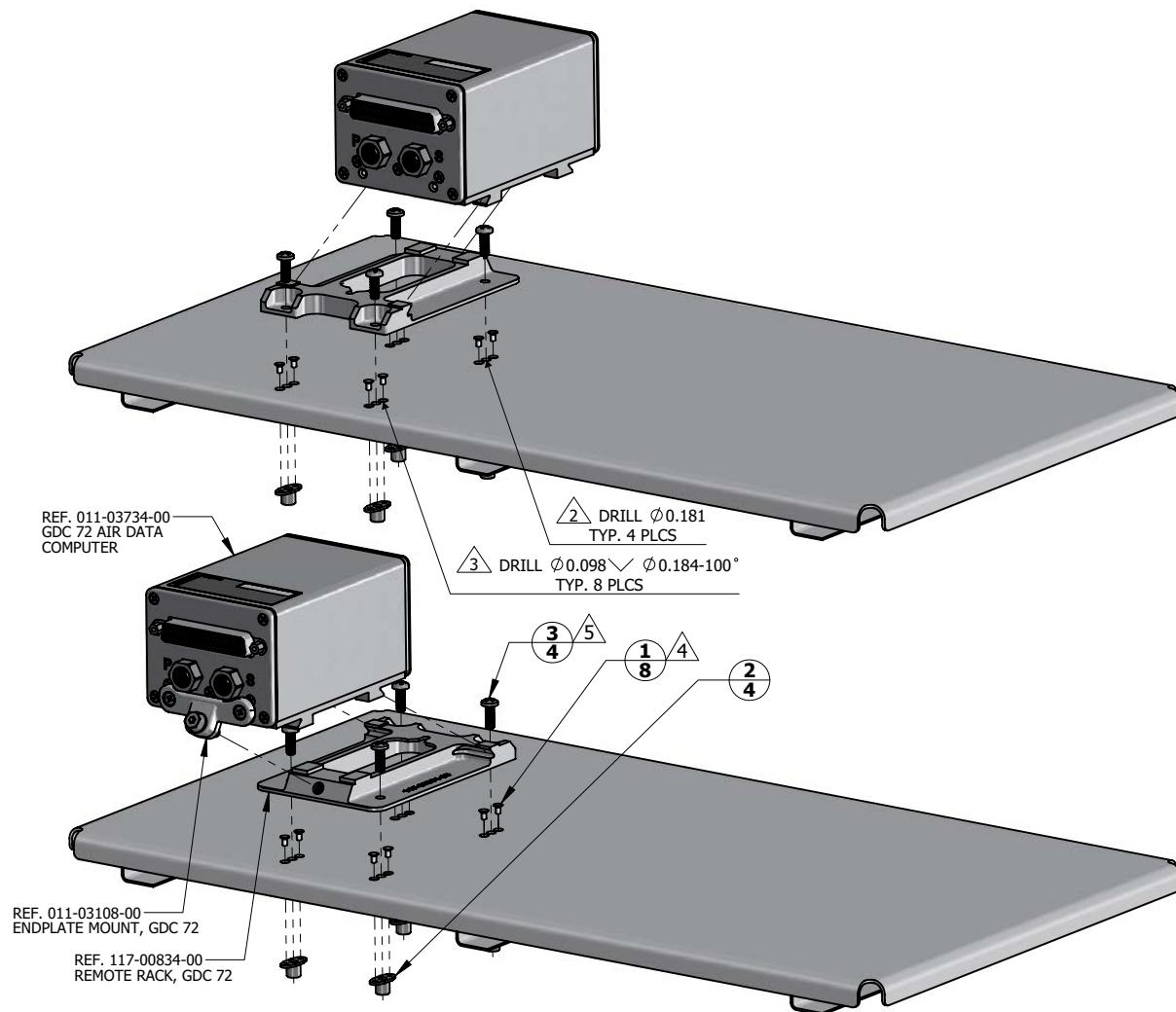
Figure 5-7 EIS Caution and Warning Annunciator Installation

5.3.2 Re-installation

Re-installation of the annunciator is accomplished using the following procedure:

1. Orient the keyed electrical connector to the module and press together until locked.
2. Orient the annunciator for proper viewing and gently slide the module into the housing until seated.
3. Tighten the mounting screws until the module is fully seated in the housing.
4. Rotate the cap back into position on the module and gently press until secured.

5.4 GDC 72



QTY	ITEM	PART NUMBER	DESCRIPTION
4	3	MS27039-0807	SCREW, MACHINE, PAN HEAD, STRUCTURAL, CROSS RECESSED .1640-32 UNC-3A, 0.469 IN
4	2	MS21069L08	NUT, SELF-LOCKING, PLATE, TWO-LUG, REDUCED RIVET SPACING, LOW HEIGHT, STEEL .164-32 UNJC-3B
8	1	MS20426AD3-3	RIVET, SOLID, COUNTERSUNK 100 DEG, PRECISION HEAD, 3/32 IN OD, 3/16 IN LONG

NOTES

1. DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
- 2** FASTENER HOLES ARE LOCATED TO MATCH GDC 72 REMOTE RACK.
- 3** FASTENER HOLES ARE LOCATED TO MATCH NUTPLATE ITEM 2.
- 4** RIVETS ARE INSTALLED PER MIL-R-47196 (NASM47196) RIVET, BUCK TYPE, PREPARATION FOR AND INSTALLATION, OR PER MIL-STD-403 PREPARATION FOR AND INSTALLATION OF RIVETS AND SCREWS, ROCKET MISSILE, AND AIRFRAME STRUCTURES.
- 5** TORQUE .1640-32 UNC-3A SCREWS 13.5 ± 1.5 LBF-IN.

Figure 5-8 GDC 72 Installation (Sheet Metal Shelf Example)

5.4.1 Removal

Removal of the GDC 72 Air Data Computer can be accomplished using the following procedure:

1. Remove power to the GDC 72.
2. Disconnect the electrical connector.
3. Disconnect the pitot-static lines.
4. Loosen the single mounting screw in the endplate mount bracket.
5. Lift the side of the GDC 72 where the endplate mount bracket is attached and slide the unit towards the bracket to disengage mounting pawls and remove the unit.

5.4.2 Re-installation

1. Place the unit flat on the mounting bracket and slide it back to engage the mounting pawls.
2. Engage the mounting screw and torque the screw to 15-20 in-lbf.
3. Connect the pitot-static lines.
4. Connect the electrical connector.

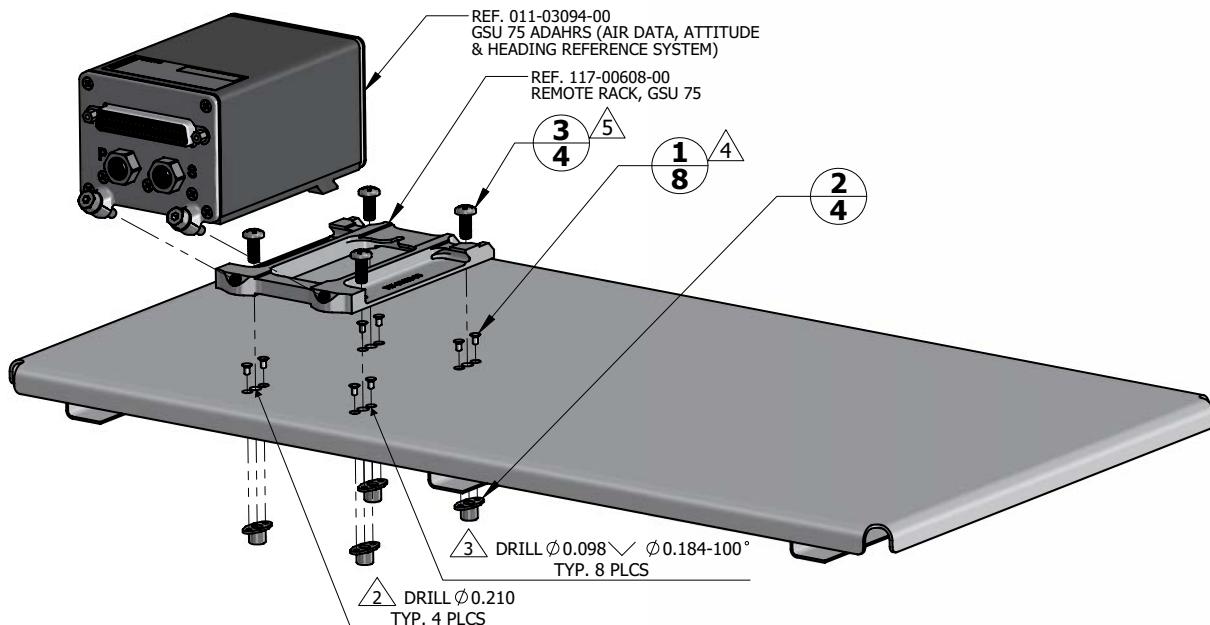
5.4.3 Checkout

Perform a static and pitot system leak test in accordance with the aircraft manufacturer's specification and/or applicable regulations.

In accordance with 14 CFR Part 43 Appendix E, paragraph (b)(2), Garmin specifies a test procedure equivalent to Part 43 Appendix E, paragraph (b)(1) with two exceptions. The tests of sub-paragraphs (iv) (Friction) and (vi) (Barometric Scale Error) are not applicable because the digital outputs of the GDC 72 are not susceptible to these types of errors.

Perform checkout procedures in Section 5.15.2.

5.5 GSU 75(), GRS 79



QTY.	ITEM	PART NUMBER	DESCRIPTION
4	3	MS27039-1-07	SCREW, MACHINE, PAN HEAD, STRUCTURAL, CROSS RECESSED .1900-32 UNF-3A, 0.469 IN
4	2	MS21069L3	NUT, SELF-LOCKING, PLATE, TWO-LUG, REDUCED RIVET SPACING, LOW HEIGHT, STEEL .190-32 UNJF-3B
8	1	MS20426AD3-3	RIVET, SOLID, COUNTERSUNK 100 DEG, PRECISION HEAD, 3/32 IN OD, 3/16 IN LONG

NOTES

1. DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
- 2 FASTENER HOLES ARE LOCATED TO MATCH GSU 75 REMOTE RACK.
- 3 FASTENER HOLES ARE LOCATED TO MATCH NUTPLATE ITEM 2.
- 4 RIVETS ARE INSTALLED PER MIL-R-47196 (NASM47196) RIVET, BUCK TYPE, PREPARATION FOR AND INSTALLATION, OR PER MIL-STD-403 PREPARATION FOR AND INSTALLATION OF RIVETS AND SCREWS, ROCKET MISSILE, AND AIRFRAME STRUCTURES.
- 5 TORQUE .1900-32 UNF-3A SCREWS 22.5 ± 2.5 LBF-IN.

Figure 5-9 GSU 75() Installation (Sheet Metal Shelf Example)



NOTE

The GRS 79 has the same case and mounting hardware as the GSU 75() with the exception of the pitot-static ports, which are not present on the GRS 79. Removal and installation procedures are similar for both units.



NOTE

Loosening of the unit mounting plate and/or the shelf to which the mounting plate is attached requires re-calibration of the AHRS, which requires an Installer Unlock Card.

5.5.1 Removal

Removal of the GSU 75() or GRS 79 can be accomplished using the following procedure:

1. Remove power to the unit.
2. Disconnect the electrical connector.
3. Disconnect the pitot-static lines (GSU75() only).
4. Loosen the two mounting screws on the connector end of the unit.
5. Lift the connector side of the unit and slide the unit towards the connector to remove.

5.5.2 Re-installation

1. Place the unit on the remote rack.
2. Slide the unit back until the feet are fully engaged with the remote rack.
3. Push down and simultaneously turn each retention screw clockwise.
4. Torque each retention screw to 15-20 in-lbf.
5. Connect the pitot-static lines (GSU 75() only).
6. Connect the electrical connector.
7. Restore unit power.

5.5.3 Checkout

If the mounting bracket bolts have been loosened or bracket mounting (e.g., instrument panel, avionics shelf) has been moved in any way, the following AHRS calibration procedures must be performed as described in Section 6 of *G500/G600 TXi Part 23 AML STC Installation Manual* (P/N 190-01717-B3):

1. Pitch/Roll Offset Compensation.
2. Magnetometer Calibration.
3. Compass Swing.
4. Heading Offset Compensation (if required by the previous step).
5. Engine Run-up Vibration Check.

For the GSU 75() only:

Perform a static and pitot system leak test in accordance with the aircraft manufacturer's specification and/or applicable regulations.

In accordance with 14 CFR Part 43 Appendix E, paragraph (b)(2), Garmin specifies a test procedure equivalent to Part 43 Appendix E, paragraph (b)(1) with two exceptions. The tests of sub-paragraphs (iv) (Friction) and (vi) (Barometric Scale Error) are not applicable because the digital outputs of the GSU 75() are not susceptible to these types of errors.

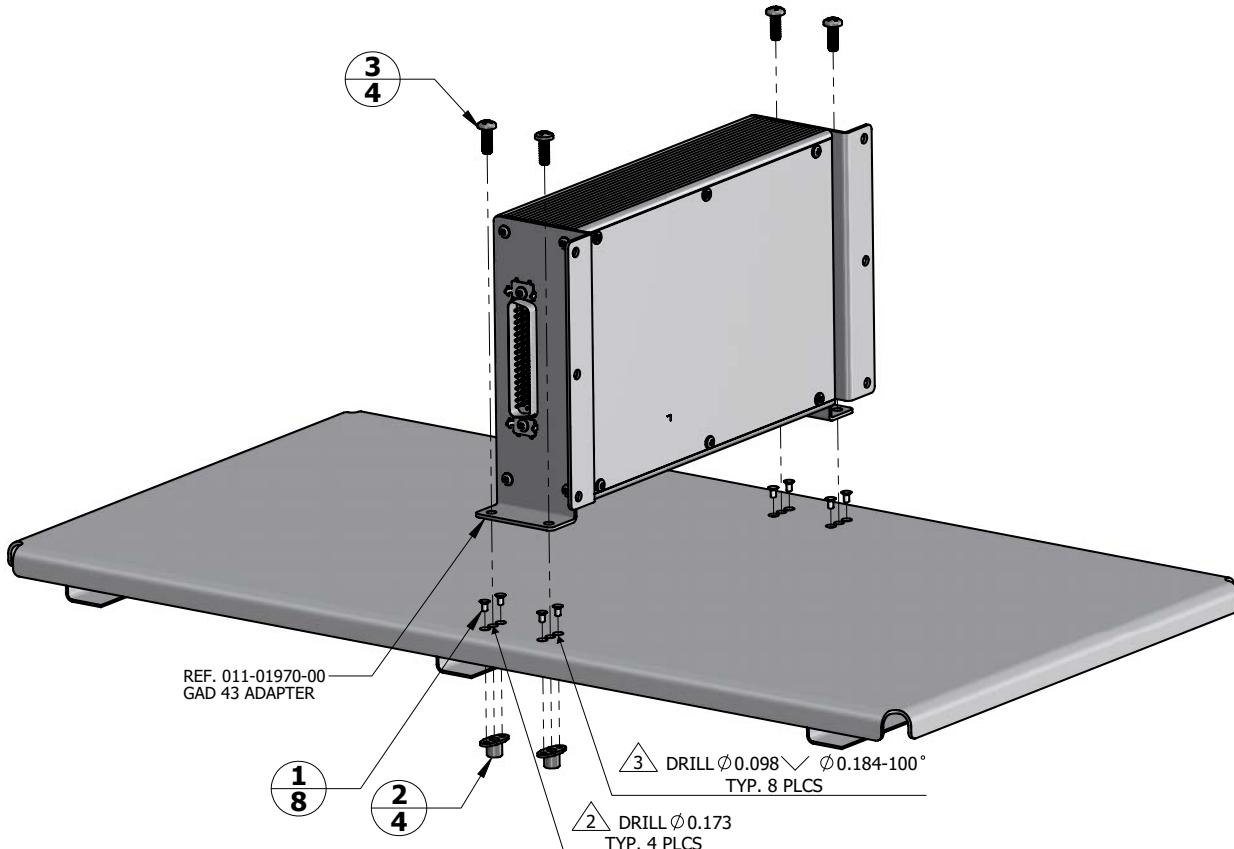
Perform checkout procedures in Section 5.15.2.

5.6 GAD 43/43e



NOTE

The GAD 43/43e may be removed and re-installed without a GDU Installer Unlock Card. If the unit is replaced with a new GAD 43/43e, or if the software is updated, a GDU Installer Unlock Card is necessary to configure the new unit.



QTY	ITEM	PART NUMBER	DESCRIPTION
4	3	MS27039-0807	SCREW, MACHINE, PAN HEAD, STRUCTURAL, CROSS RECESSED .1640-32 UNC-3A, 0.469 IN
4	2	MS21069L08	NUT, SELF-LOCKING, PLATE, TWO-LUG, REDUCED RIVET SPACING, LOW HEIGHT, STEEL .164-32 UNJC-3B
8	1	MS20426AD3-3	RIVET, SOLID, COUNTERSUNK 100 DEG, PRECISION HEAD, 3/32 IN OD, 3/16 IN LONG

NOTES

1. DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
- 2 FASTENER HOLES ARE LOCATED TO MATCH GAD 43 ADAPTER.
- 3 FASTENER HOLES ARE LOCATED TO MATCH NUTPLATE ITEM 2.
- 4 RIVETS ARE INSTALLED PER MIL-R-47196 (NASM47196) RIVET, BUCK TYPE, PREPARATION FOR AND INSTALLATION, OR PER MIL-STD-403 PREPARATION FOR AND INSTALLATION OF RIVETS AND SCREWS, ROCKET MISSILE, AND AIRFRAME STRUCTURES.
- 5 TORQUE .1640-32 UNC-3A SCREWS 13.5 ± 1.5 LBF-IN.

Figure 5-10 GAD 43 Installation (Sheet Metal Shelf Example)

5.6.1 Removal

The GAD 43/43e can be removed using the following procedure:

1. Remove power from the GAD 43/43e.
2. Disconnect the electrical connector(s) from the GAD 43/43e.
3. Unscrew the four mounting screws.

5.6.2 Re-installation

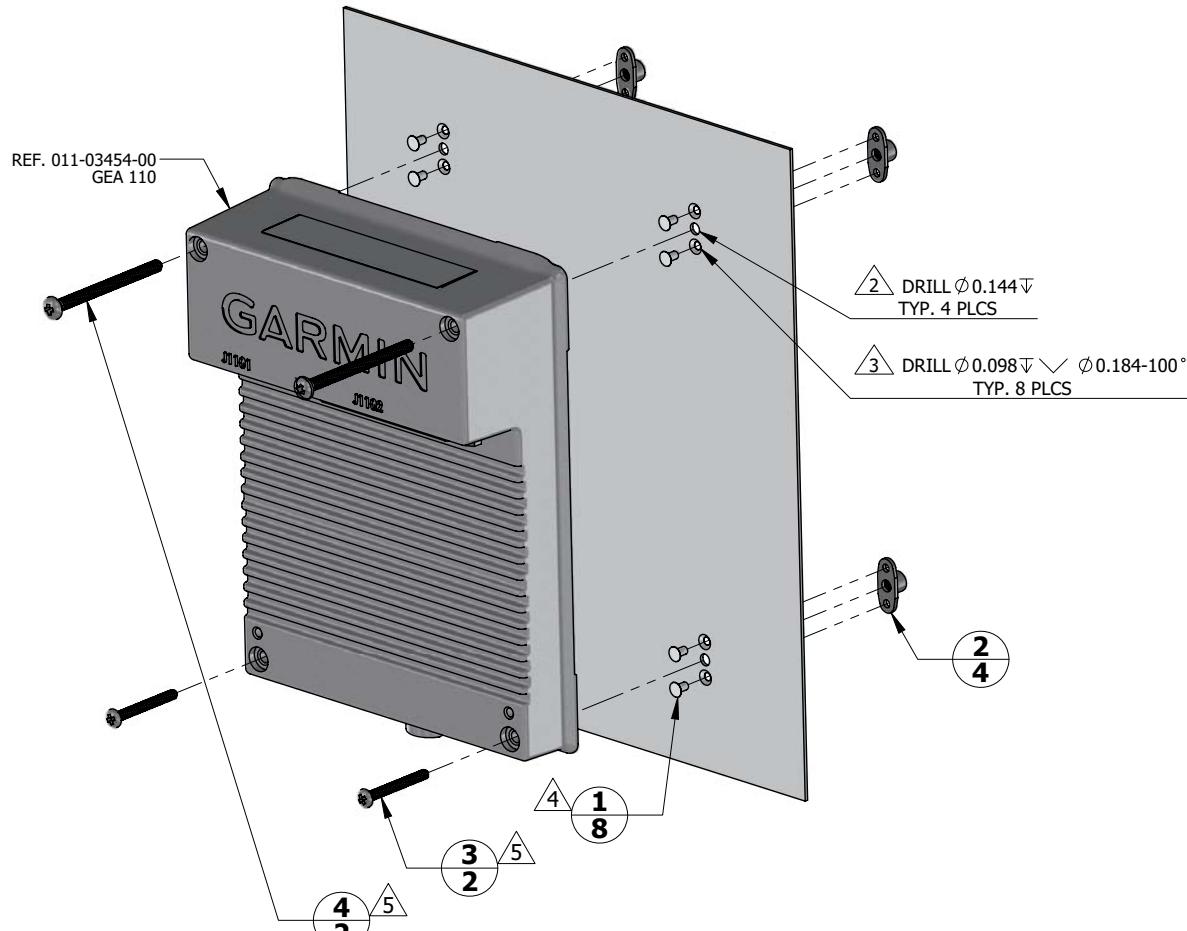
Re-installation of the GAD 43/43e is accomplished by performing the removal process in reverse. Torque the mounting screws to the specifications provided in Figure 5-10.

5.6.3 Checkout

If the GAD 43/43e has been replaced, perform the following procedure:

1. Insert the Installer Unlock Card into the GDU connected to the GAD.
2. Power the G500/G600 TXi system up on Configuration mode.
3. Navigate to ***Interfaces → Adapter → Settings***.
4. Configure interface settings per the printed configuration log.
5. Perform checkout procedures in Section 6.2 and Section 6.7 of *G500/G600 TXi Part 23 AML STC Installation Manual* (P/N 190-01717-B3).

5.7 GEA 110

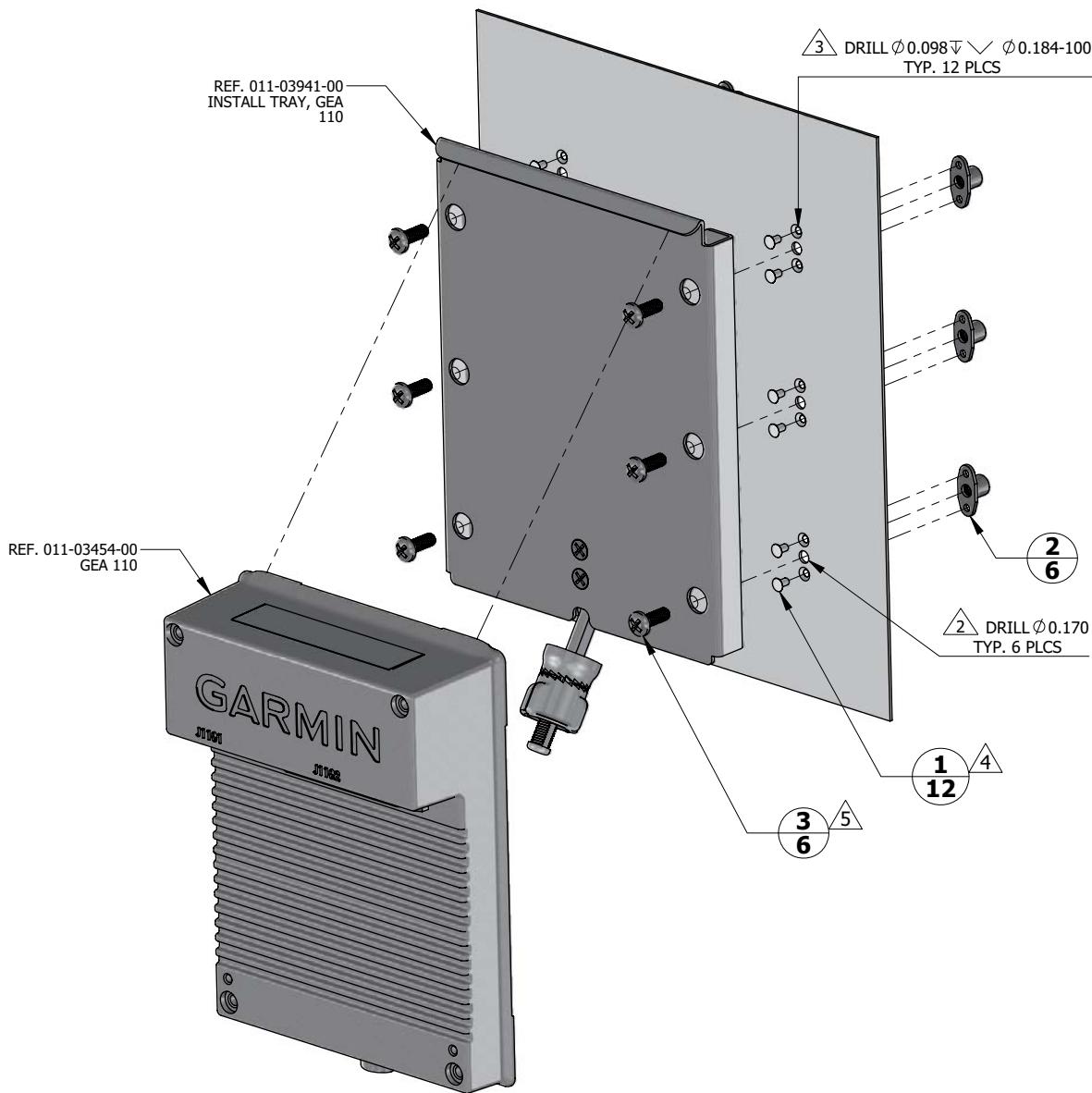


QTY.	ITEM	PART NUMBER	DESCRIPTION
2	4	MS35206-237	SCREW, MACHINE, PAN HEAD, CROSS RECESSED, CAD PLATED .1380- 32 UNC-2A, 1.750 IN LONG
2	3	MS35206-234	SCREW, MACHINE, PAN HEAD, CROSS RECESSED, CAD PLATED .1380- 32 UNC-2A, 1.000 IN LONG
4	2	MS21069L06	NUT, SELF-LOCKING, PLATE, TWO-LUG, REDUCED RIVET SPACING, LOW HEIGHT, STEEL .138-32 UNJC-3B
8	1	MS20426AD3-3	RIVET, SOLID, COUNTERSUNK 100 DEG, PRECISION HEAD, 3/32 IN OD, 3/16 IN LONG

NOTES

1. DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
- FASTENER HOLES ARE LOCATED TO MATCH GEA 110.
- FASTENER HOLES ARE LOCATED TO MATCH NUTPLATE ITEM 2.
- RIVETS ARE INSTALLED PER MIL-R-47196 (NASM47196) RIVET, BUCK TYPE, PREPARATION FOR AND INSTALLATION, OR PER MIL-STD-403 PREPARATION FOR AND INSTALLATION OF RIVETS AND SCREWS, ROCKET MISSILE, AND AIRFRAME STRUCTURES.
- TORQUE .1380-32 UNC-2A SCREWS 8.0 ± 1.0 LBF-IN.

Figure 5-11 GEA 110 Installation (Mounted Directly to Airframe Example)



6	3	MS27039-0807	SCREW, MACHINE, PAN HEAD, STRUCTURAL, CROSS RECESSED .1640-32 UNC-3A, 0.469 IN
6	2	MS21069L08	NUT, SELF-LOCKING, PLATE, TWO-LUG, REDUCED RIVET SPACING, LOW HEIGHT, STEEL .164-32 UNJC-3B
12	1	MS20426AD3-3	RIVET, SOLID, COUNTERSUNK 100 DEG, PRECISION HEAD, 3/32 IN OD, 3/16 IN LONG
QTY.	ITEM	PART NUMBER	DESCRIPTION

NOTES

1. DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
- 2 FASTENER HOLES ARE LOCATED TO MATCH GEA 110 INSTALL TRAY.
- 3 FASTENER HOLES ARE LOCATED TO MATCH NUTPLATE ITEM 2.
- 4 RIVETS ARE INSTALLED PER MIL-R-47196 (NASM47196) RIVET, BUCK TYPE, PREPARATION FOR AND INSTALLATION, OR PER MIL-STD-403 PREPARATION FOR AND INSTALLATION OF RIVETS AND SCREWS, ROCKET MISSILE, AND AIRFRAME STRUCTURES.
- 5 TORQUE .1640-32 UNC-2A SCREWS 13.5 ± 1.5 LBF-IN.

Figure 5-12 GEA 110 Installation (Mounted on a Tray Example)

5.7.1 Removal

To remove the GEA 110, perform the following procedure:

1. Remove power to the GEA 110.
2. Disconnect the two electrical connectors.
3. If the unit is mounted on a tray, as shown in Figure 5-12, pull out on the mounting knob and turn counterclockwise to loosen it enough to rotate the arm down and away from the unit.
4. If the unit is mounted to the airframe or back of the GDU using screws, as shown in Figure 5-11, loosen the four screws securing the unit to the airframe or GDU.

5.7.2 Re-installation

To re-install the GEA 110, perform the removal procedures in reverse. If the unit is mounted to the airframe or back of the GDU, torque the screws to the specification in Figure 5-11. For units that are mounted in a mounting tray, tighten the mounting screw by hand until the unit is secure.

If the GEA 110 was replaced, the sensor configurations must be loaded to the new unit using the following procedure:

1. Insert saved configuration SD card in the top or left SD card slot of any GDU 700/1060 directly connected to the GEA 110.
2. Power on the GDU that is physically wired to the GEA 110 in Configuration mode.
3. Press **SD Load**.
4. Select the appropriate Aircraft Configuration File.
5. Select the current GDU as the *From SD* and *To GDU*.
6. Select the **EIS Sensor Configuration** check box.
7. Select **SD Load**.

5.7.3 Checkout

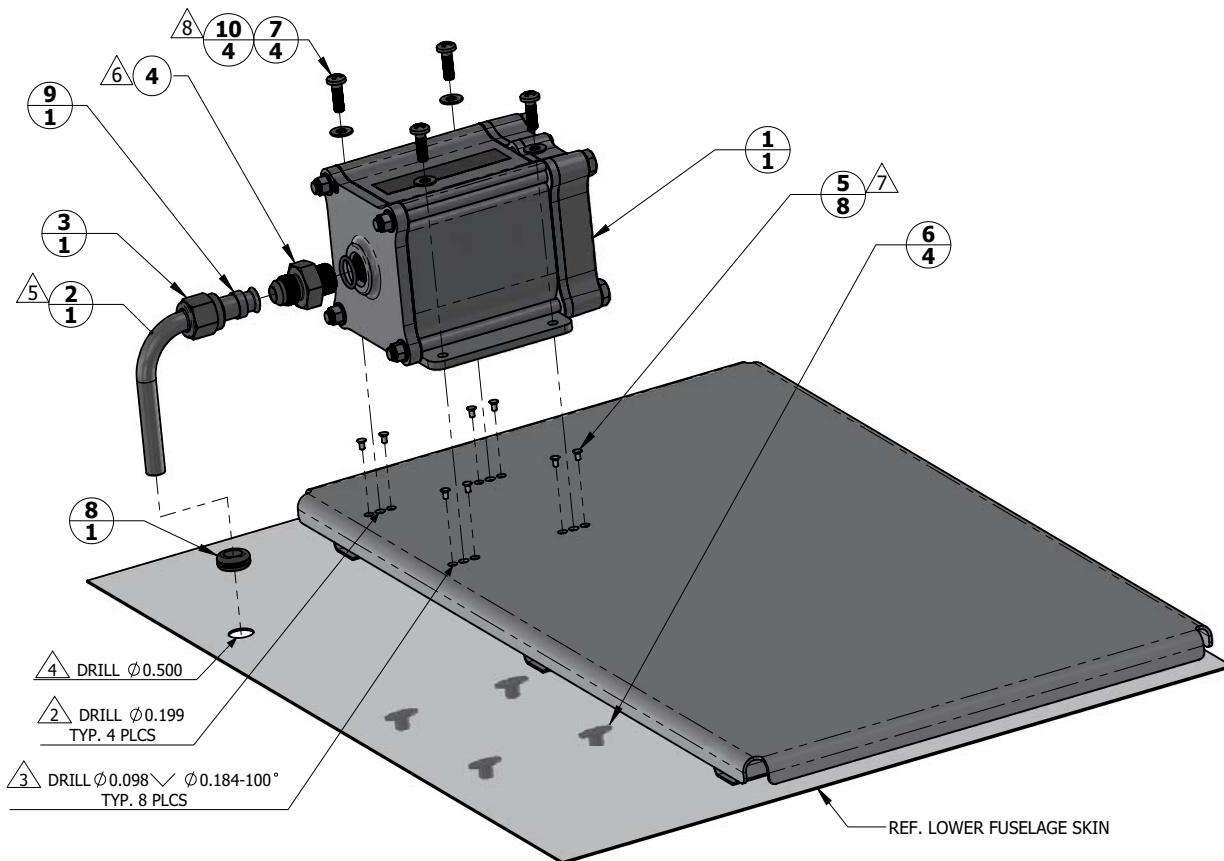
Perform the following checkout procedures:

1. Configuration Mode Ground Checks as described in Section 5.15.1. If the GEA 110 does not pass the checks in this step, load the sensor configurations using the procedure in Section 5.7.2 and perform the checkout procedure again.

Perform the following checkout procedure only if the GEA was replaced or did not initially pass the checkout procedure above:

1. EIS Ground Checks as described in Section 6.5 of *G500/G600 TXi Part 23 AML STC Installation Manual* (P/N 190-01717-B3).

5.8 GBB 54



4	10	NAS1149F0332P	WASHER, FLAT, STEEL, CAD PLATED, 0.032 INCH THICK, ID 0.203, OD 0.438
1	9	MS51533B6	SLEEVE, COMPRESSION, TUBE FITTING, 37° FLARED, Ø3/8 TUBE OD
1	8	MS35489-141	GROMMET, SYNTHETIC RUBBER, Ø0.375 IN HOLE, Ø0.500 IN GROOVE
4	7	MS27039-1-09	SCREW, MACHINE, PAN HEAD, STRUCTURAL, CROSS RECESSED .1900-32 UNF-3A, 0.594 IN
4	6	MS21069L3	NUT, SELF-LOCKING, PLATE, TWO-LUG, REDUCED RIVET SPACING, LOW HEIGHT, STEEL .190-32 UNJF-3B
8	5	MS20426AD3-3	RIVET, SOLID, COUNTERSUNK 100 DEG, PRECISION HEAD, 3/32 IN OD, 3/16 IN LONG
(1)	4	AN920-06-06	ADAPTER, STRAIGHT, 6AN MALE TO 9/16-18UNJF-3A O R-RING BOSS, Ø3/8 TUBE OD
1	3	AN818-6	NUT, TUBE COUPLING, SHORT, Ø0.375 TUBE OD .5625-18UNJF-3B
1	2	6061-T6 TUBE	Ø3/8 IN OD, 0.020 IN WALL PER AMS-WW-T-700/6 OR AMS-T-7081
1	1	011-03456-00	GBB 54 BATTERY
QTY	ITEM	PART NUMBER	DESCRIPTION

NOTES

- NOTES**

 1. DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
 2. FASTENER HOLES ARE LOCATED TO MATCH GBB 54 BATTERY.
 3. FASTENER HOLES ARE LOCATED TO MATCH NUTPLATE ITEM 6.
 4. HOLE DIAMETER TO MATCH GROOVE DIAMETER OF THE GROMMET ITEM 8.
 5. FLARE TUBE END TO 37 DEGREE PER SAEJ533.
 6. ADAPTER (ITEM 4) IS INCLUDED WITH THE BATTERY.
 7. RIVETS ARE INSTALLED PER MIL-R-47196 (NASM47196) RIVET, BUCK TYPE, *PREPARATION FOR AND INSTALLATION*, OR PER MIL-STD-403 *PREPARATION FOR AND INSTALLATION OF RIVETS AND SCREWS, ROCKET MISSILE, AND AIRFRAME STRUCTURES*.
 8. TORQUE .1900-32 UNF-3A SCREWS 22.5 ± 2.5 LBF-IN.

Figure 5-13 GBB 54 Installation (Sheet Metal Shelf Example)

5.8.1 Removal



NOTE

All item numbers in this section refer to Figure 5-13.

To remove the GBB 54, utilize the following procedure:

1. Ensure the GDU connected to the GBB 54 is powered off.
2. Disconnect the electrical connector.
3. Loosen the tube nut (3) and disconnect the vent tube (2) from the battery (1).
4. Remove the four screws (7) holding the GBB 54.

5.8.2 Battery Cell Replacement



NOTE

The GBB 54 Battery Cell Replacement Kit (P/N 010-01331-02) must be obtained from an authorized Garmin dealer.

If access is available to remove four bolts (1) on connector side, unit removal is not required. Refer to Figure 5-14.

Removal Steps

1. Remove the four bolts (1) and four nuts (7).
2. Pull battery cover (2) from the housing (5).
3. Discard the gasket (3).
4. Remove the four bolts (8) that secure the battery to the battery cover.
5. Pull the battery pack (4) from the cover receptacle (2).

Replacement Steps

1. Apply Dow Corning 4 dielectric grease, or equivalent, to the pins in the battery pack connector (6).
2. Push the battery pack connector (6) into the cover receptacle (2).
3. Apply Loctite 242 (blue) thread-locking compound, or equivalent, to the bolts (8).
4. Secure the battery (4) to the cover (2) with bolts (8).
5. In a cross-tightening sequence, torque bolts (8) to 20-25 in-lbf.
6. Place the gasket (3) over the battery pack (4) until flush with the battery cover (2).
7. Insert the battery cover (2) with the gasket (3) and the battery pack (4) into the housing (5).
8. Insert the four bolts (1) and nuts (7).
9. In cross-tightening sequence, torque bolts (1) to 40 to 60 in-lbf.

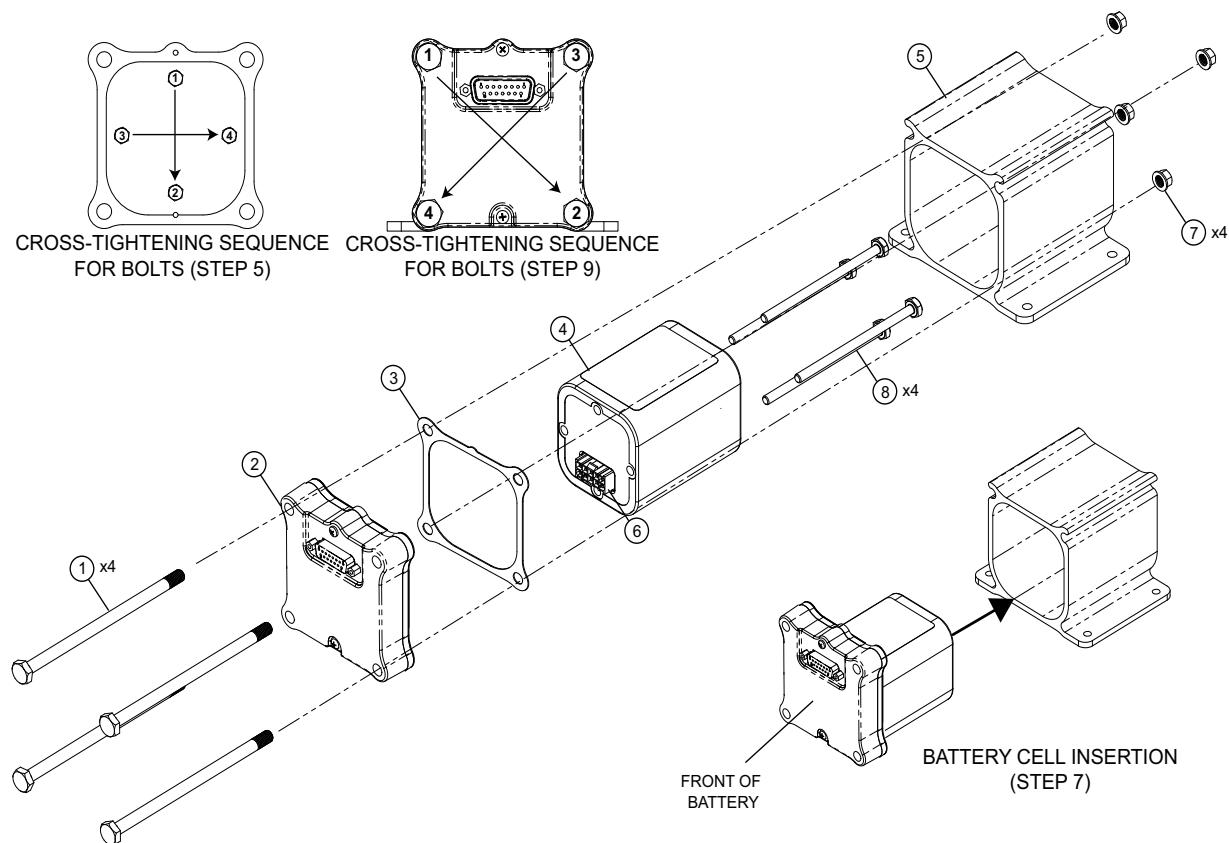


Figure 5-14 GBB 54 Battery Cell Replacement

5.8.3 Re-installation

To re-install the GBB 54, perform the following procedure:

1. Install four screws (7) securing the GBB 54 and torque to the specification in Figure 5-13.
2. Connect the vent tube to the GBB 54 and tighten the tube nut.
3. Connect the electrical connector.
4. Perform the checkout in Section 5.8.4.

5.8.4 Checkout

1. Perform a Configuration Mode Ground Check as described in Section 5.15.1.
2. Perform the Backup Battery Check as described in Section 5.13.5.

5.9 GMU 44



NOTE

Removal, re-installation, or replacement of the GMU 44 will require a recalibration of the AHRS, which requires the use of a GDU Installer Unlock Card. Additionally, any removal or addition of electrical components or ferrous materials within 10 feet of the GMU 44 will require recalibration of the AHRS.

5.9.1 Removal

To remove the GMU 44, perform the following procedure:

1. Remove power to the AHRS unit.
2. Disconnect the GMU 44 connector.
3. Remove the three screws (9) shown in Figure 5-15.
4. Remove the GMU 44 from the mounting bracket.

5.9.2 Re-installation



NOTE

If reusing the original mounting screws, the anti-rotation properties of the mounting screws must be restored. This may be done by replacing the screws with new Garmin P/N 211-60037-08. If original screws are reused, coat screw threads with Loctite 242 (blue) thread-locking compound (Garmin PN 291-00023-02) or equivalent.

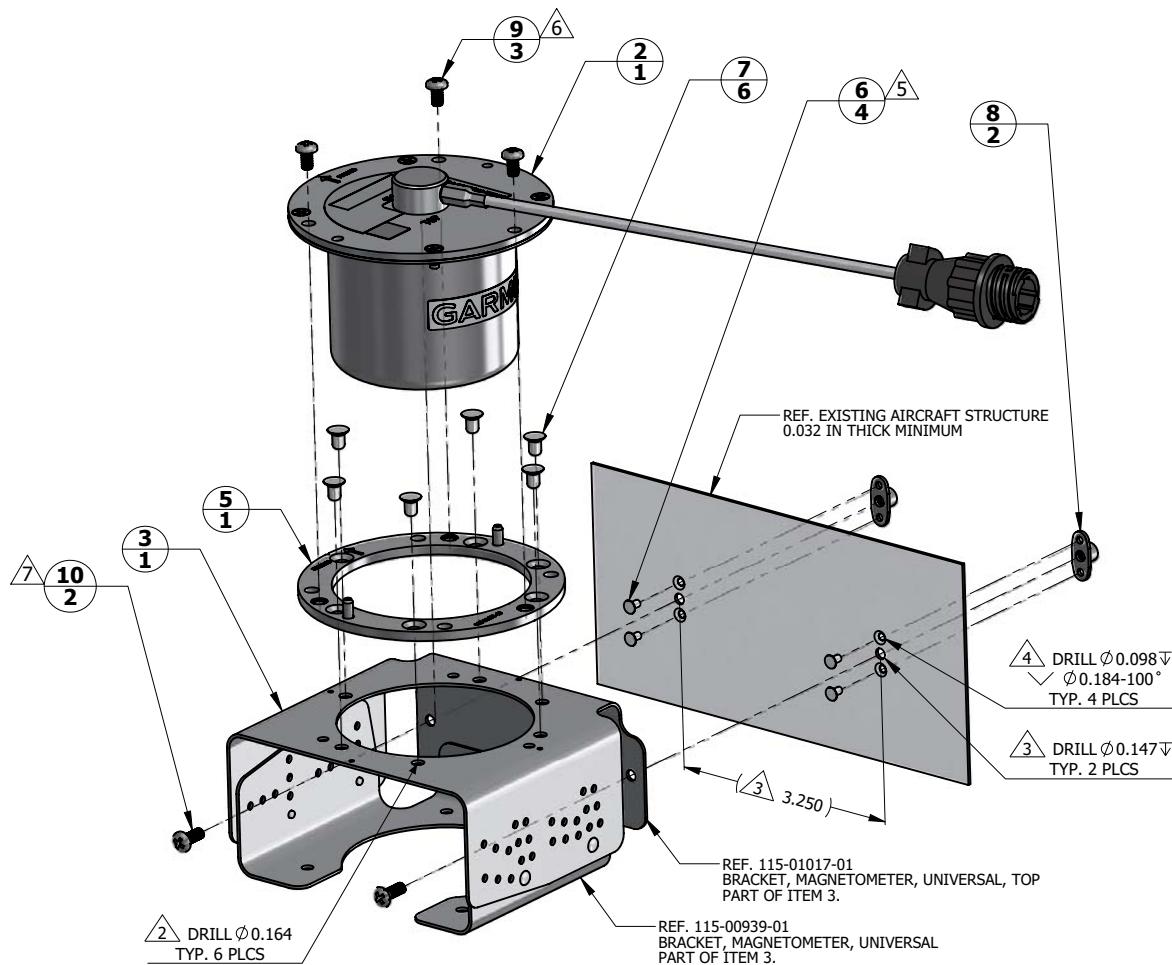
To re-install the GMU 44, perform the following procedure:

1. Place the GMU 44 in the mounting bracket.
2. Install the three screws (9) and torque to the specifications shown in Figure 5-15.
3. Connect the GMU 44 electrical connector.
4. Restore power to the AHRS unit.
5. Perform the checkout procedure in Section 5.9.3.

5.9.3 Checkout

Perform the following calibration procedures and checks found in Section 6 of *G500/G600 TXi Part 23 AML STC Installation Manual* (P/N 190-01717-B3) to return the aircraft to service:

1. Magnetometer Calibration.
2. Compass Swing.
3. Heading Offset Compensation (if required by the previous step).
4. Engine Run-up Vibration Check.
5. Configuration Mode Ground Checks.



QTY	ITEM	PART NUMBER	DESCRIPTION
2	10	MS51957-28	SCREW, MACHINE, PAN HEAD, CROSS-RECESSED, CORROSION RESISTANT STEEL, .1380-32 UNC-2A, 0.375 LONG
3	9	MS35214-23	SCREW, MACHINE, PAN HEAD, CROSS-RECESSED, BRASS, 0.1380-32 UNC-2A, 0.25 IN LONG
2	8	MS21069L06	NUT, SELF-LOCKING, PLATE, TWO-LUG, REDUCED RIVET SPACING, LOW HEIGHT, STEEL .138-32 UNJC-3B
6	7	MS20426AD5-4	RIVET, SOLID, COUNTERSUNK 100 DEG, PRECISION HEAD, 5/32 IN OD, 4/16 IN LONG
4	6	MS20426AD3-3	RIVET, SOLID, COUNTERSUNK 100 DEG, PRECISION HEAD, 3/32 IN OD, 3/16 IN LONG
1	5	115-00481-10	RACK, INSTALL, MODIFIED, GMU 44
1		115-00481-00	RACK, INSTALL, GMU 44
1	3	011-01779-01	GMU 44 UNIVERSAL MOUNT ASSEMBLY [KIT]
1	2	011-00870-20	GMU 44 MAGNETOMETER
		011-00870-10	

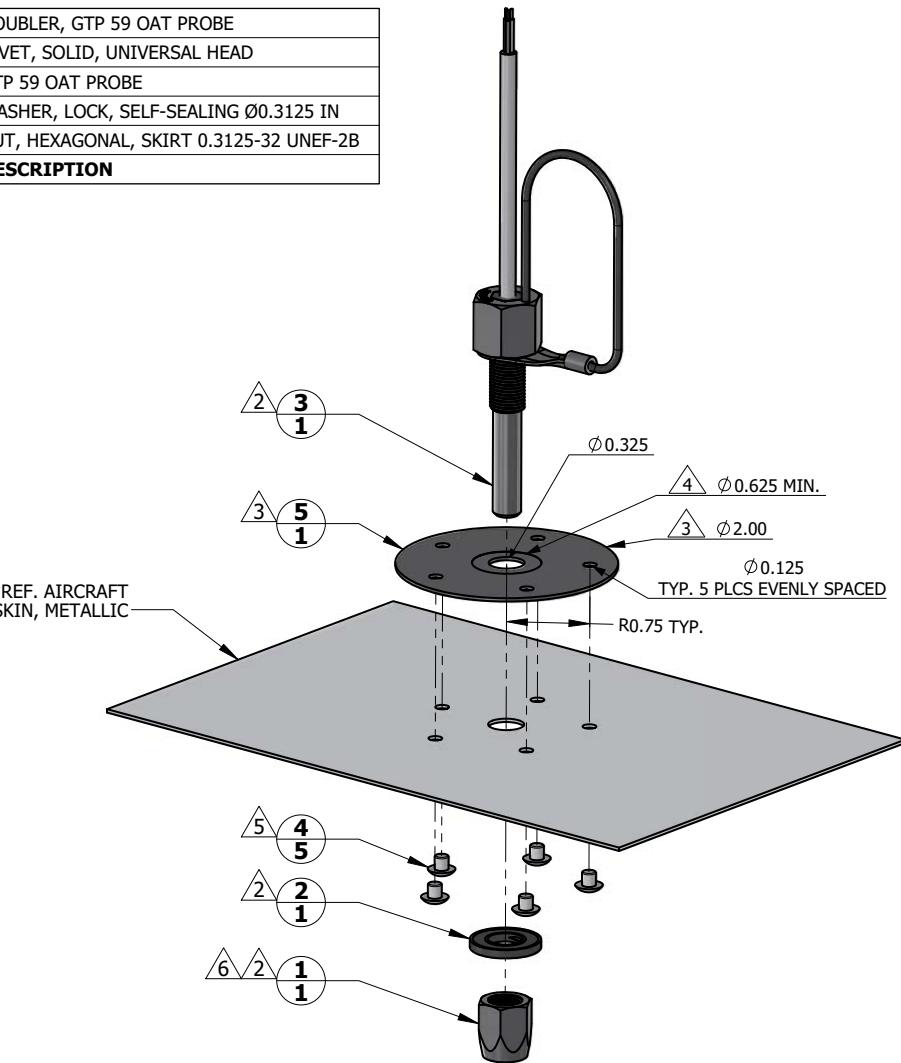
NOTES

1. DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
- 2 FASTENER HOLES ARE LOCATED TO MATCH GMU 44 INSTALL RACK ITEM 5.
- 3 FASTENER HOLES ARE LOCATED TO MATCH GMU 44 UNIVERSAL MOUNT ASSEMBLY ITEM 3.
- 4 FASTENER HOLES ARE LOCATED TO MATCH NUTPLATE ITEM 8.
- 5 RIVETS ARE INSTALLED PER MIL-R-47196 (NASM47196) RIVET, BUCK TYPE, PREPARATION FOR AND INSTALLATION, OR PER MIL-STD-403 PREPARATION FOR AND INSTALLATION OF RIVETS AND SCREWS, ROCKET, MISSILE, AND AIRFRAME STRUCTURES.
- 6 SCREW IS A PART OF 011-00871-00 GMU 44 CONNECTOR KIT. INSTALL WITH MEDIUM STRENGTH THREADLOCKER. TORQUE .1380-32 UNC-2A BRASS SCREWS 7.0 ± 0.5 LBF-IN.
- 7 TORQUE .1380-32 UNC-2A STEEL SCREWS 11.0 ± 1.0 LBF-IN.

Figure 5-15 GMU 44 Installation (Universal Mount Example)

5.10 GTP 59

QTY.	ITEM	PART NUMBER	DESCRIPTION
1	5		DOUBLER, GTP 59 OAT PROBE
5	4	MS20470AD4-2	RIVET, SOLID, UNIVERSAL HEAD
1	3	494-00022-00	GTP 59 OAT PROBE
1	2	212-00026-00	WASHER, LOCK, SELF-SEALING Ø0.3125 IN
1	1	210-00055-00	NUT, HEXAGONAL, SKIRT 0.3125-32 UNEF-2B



NOTES

1. DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
2. NUT ITEM 1, WASHER ITEM 2, AND PROBE ITEM 3 ARE PART OF GTP 59 OAT PROBE ASSEMBLY (KIT), GARMIN P/N 011-00978-00.
3. MINIMUM DOUBLER SIZE SHOWN. CIRCULAR SHAPE OPTIONAL. DOUBLER THICKNESS IS ONE GAUGE THICKER THAN AIRCRAFT SKIN.
4. SPOT FACE TO REMOVE COATING AS REQUIRED TO MAINTAIN ELECTRICAL BOND.
5. RIVETS ARE INSTALLED PER MIL-R-47196 (NASM47196) RIVET, BUCK TYPE, PREPARATION FOR AND INSTALLATION, OR PER MIL-STD-403 PREPARATION FOR AND INSTALLATION OF RIVETS AND SCREWS, ROCKET MISSILE, AND AIRFRAME STRUCTURES.
6. TORQUE .3125-32 UNEF-2B NUT 100.0±20.0 LBF-IN.

Figure 5-16 GTP 59 Installation (Aircraft with Metallic Skin Example)

5.10.1 Removal

To remove the GTP 59, perform the following procedure:

1. Remove power to the ADC unit.
2. Remove the mounting nut **(1)** shown in Figure 5-16.
3. Remove the GTP 59 from the hole.

5.10.2 Re-installation

1. Place the GTP 59 in the previous installation hole.
2. Install washer **(2)** and nut **(1)** and torque to specifications in Figure 5-16.

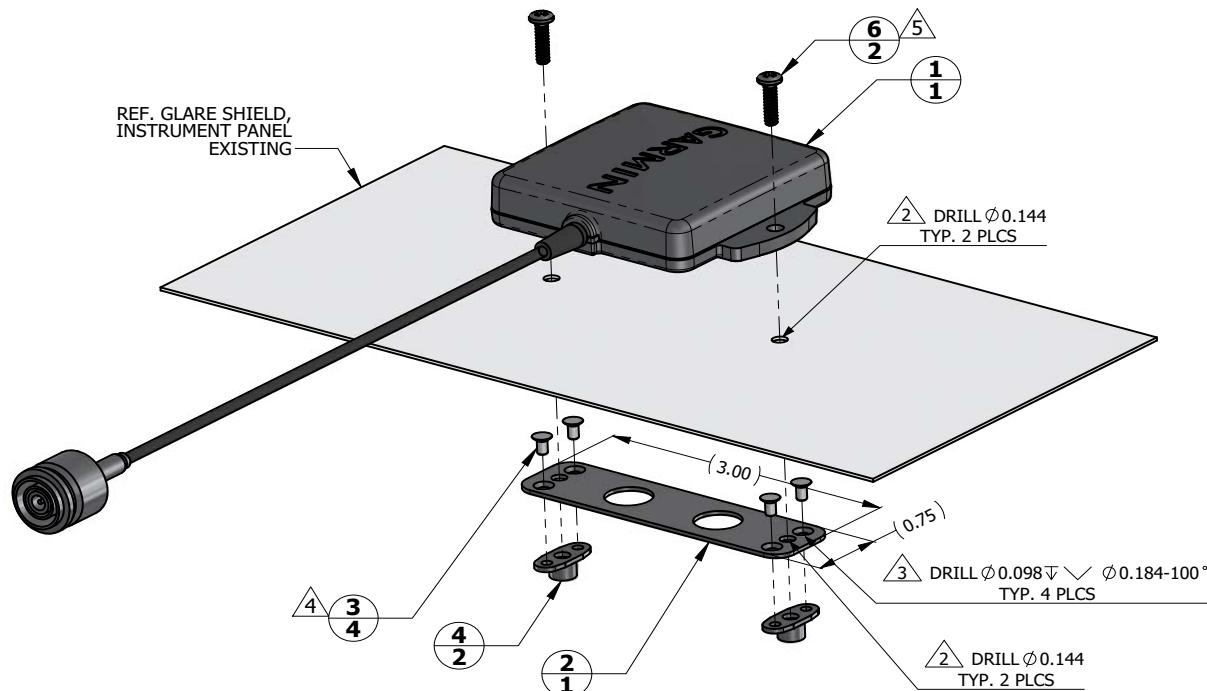
5.10.3 Checkout

Perform the checkout procedure in Section 6.3.2 of *G500/G600 TXi Part 23 AML STC Installation Manual* (P/N 190-01717-B3).

5.11 Backup GPS Antenna

The backup GPS antenna is designed for installation on top of an existing instrument panel glareshield. The selected location must offer good visibility of the sky through the windshield.

The optimal antenna position is horizontal or as close to horizontal as practical given the shape of the glareshield.

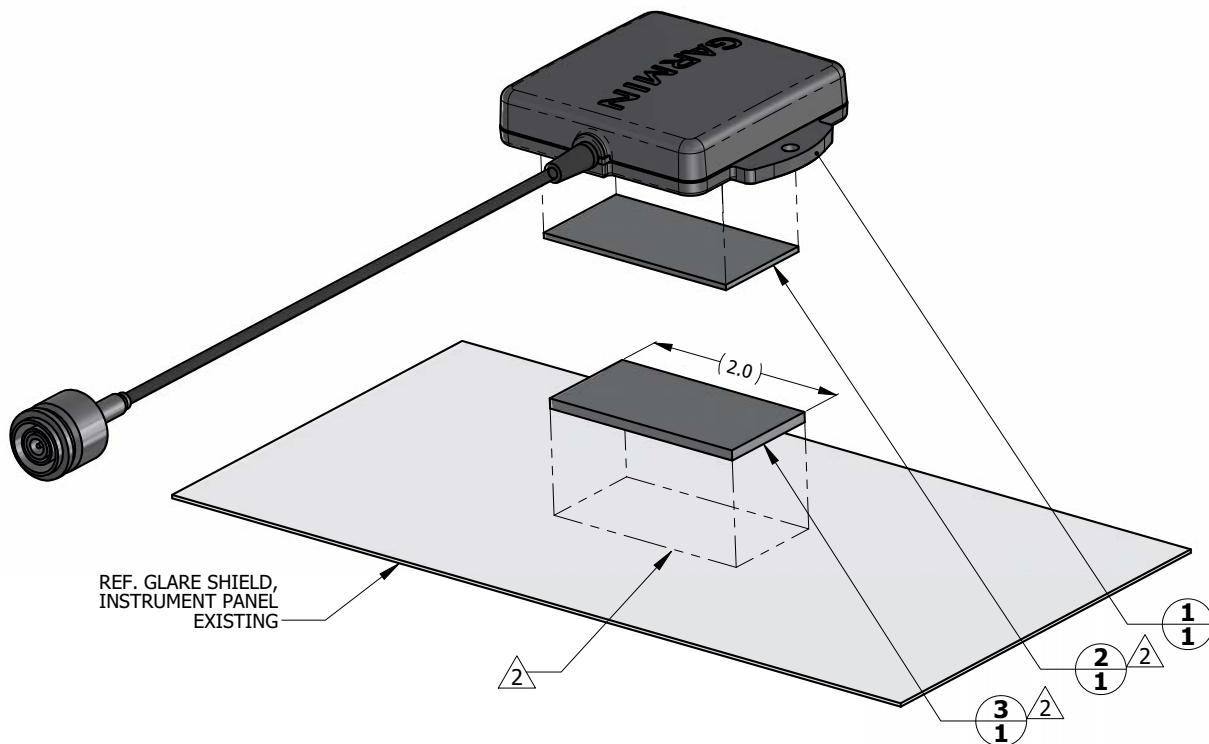


QTY	ITEM	PART NUMBER	DESCRIPTION
2	6	MS35206-229 MS35214-26	SCREW, MACHINE, PAN HEAD, CROSS RECESSED, CAD PLATED .1380- 32 UNC-2A, 0.438 IN LONG SCREW, MACHINE, PAN-HEAD, CROSS RECESSED, BLACK OXIDE FINISH .1380- 32 UNC-2A, 0.438 IN LONG
2	4	MS21069L06	NUT, SELF-LOCKING, PLATE, TWO-LUG, REDUCED RIVET SPACING, LOW HEIGHT, STEEL .138-32 UNJC-3B
4	3	MS20426AD3-3	RIVET, SOLID, COUNTERSUNK 100 DEG, PRECISION HEAD, 3/32 IN OD, 3/16 IN LONG
1	2	PLATE DETAIL	SHEET, 6061-T6 AL, 0.040 INCH THICK PER AMS 4025, AMS 4027, AMS-QQ-A-250/11
1	1	011-04036-00	BACKUP GPS ANTENNA, GDU 7XX

NOTES

1. DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
2. FASTENER HOLES ARE LOCATED TO MATCH BACKUP GPS ANTENNA ITEM 1.
3. FASTENER HOLES ARE LOCATED TO MATCH NUTPLATE ITEM 4.
4. RIVETS ARE INSTALLED PER MIL-R-47196 (NASM47196) RIVET, BUCK TYPE, PREPARATION FOR AND INSTALLATION, OR PER MIL-STD-403 PREPARATION FOR AND INSTALLATION OF RIVETS AND SCREWS, ROCKET MISSILE, AND AIRFRAME STRUCTURES.
5. USE FASTENER WITH BLACK OXIDE FINISH IF ANTENNA LOCATION IS SUCH THAT FASTENERS ARE VISIBLE TO THE PILOT OR COPILOT AND MIGHT BECOME A SOURCE OF ACCIDENTAL GLARE. TORQUE .1380-32 UNC-2A SCREWS HAND TIGHT.

Figure 5-17 Backup GPS Antenna Installation (Non-removable Installation Example)



QTY	ITEM	PART NUMBER	DESCRIPTION
1	3	A-A-55126 3	FASTENER TAPE, SYNTHETIC, ADHESIVE BACKED, A-A-55126 CLASS 1/2, TYPE 1, LOOP 1.0 INCH WIDE
1	2	011-04036-00	FASTENER TAPE, SYNTHETIC, ADHESIVE BACKED, A-A-55126 CLASS 1/2, TYPE 1, HOOK 1.0 INCH WIDE
1	1	010-12444-00	BACKUP GPS ANTENNA, GDU 7XX

NOTES

1. DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
-  PEEL OFF ADHESIVE PROTECTING FILM AND PRESS THE FASTENER TAPE IN TO BOND. SURFACES MUST BE CLEAN AND FREE FROM OIL OR OTHER CONTAMINANTS. LOOP FASTENER IS BONDED TO GLARE SHIELD AND HOOK FASTENER IS BONDED TO ANTENNA. TAPE FASTENER MUST BE 2.0 INCHES OR LONGER.
-  GPS ANTENNA KIT, GARMIN PART NO. 010-12444-00 INCLUDES DUAL LOCK FASTENER, GARMIN PART NO. 0252-00433-00 WHICH CAN BE USED INTERCHANGABLY WITH A-A-55126 FASTENER TAPE.

Figure 5-18 Backup GPS Antenna Installation (Removable Installation Example)

5.11.1 Removal

Use the following procedure to remove the backup GPS antenna:

1. Power off the GDU 700/1060 connected to the backup battery antenna.
2. Remove the two screws (6) securing the antenna (if installed per Figure 5-17 only).
3. Lift up on the backup GPS antenna to remove it.
4. Disconnect the connector from the GDU (if necessary, remove the GDU per Section 5.1.1).

5.11.2 Re-installation

Install the backup GPS antenna in the reverse order of the removal procedure.

5.11.3 Checkout

Perform the backup GPS checkout procedure as described in Section 6.3.6 of *G500/G600 TXi Part 23 AML STC Installation Manual* (P/N 190-01717-B3).

5.12 EIS Sensors

In addition to the data in this manual, replacement or re-installation of each probe/sensor and wire must be accomplished in accordance with the sensor manufacturer instructions or as recommended by the engine manufacturer. Wire routing and clamping must follow procedures defined in the aircraft maintenance manual, standard practices manual, or practices defined in Chapter 11, *Electrical Systems*, of advisory circular AC 43.13-1B, *Aircraft Inspection and Repair*.

Sensors must be connected using hoses and fittings approved as part of aircraft or engine type certificated design or standard aircraft parts (AN/MS).

After removing or replacing any EIS sensor, perform the EIS ground checkout procedure for the specific sensor that was affected in Section 6.5 of *G500/G600 TXi Part 23 AML STC Installation Manual* (P/N 190-01717-B3).

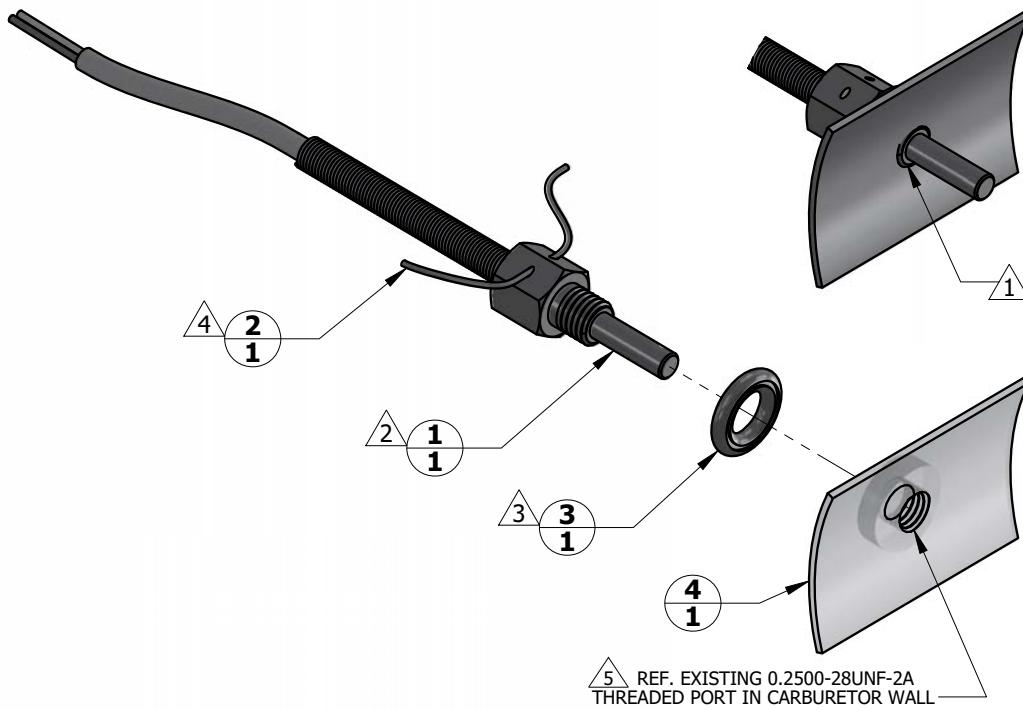


CAUTION

Check hose routing for sharp bends. Check sensors and fittings for leaks during engine run-up and correct prior to flight.

5.12.1 Carburetor/Induction Air Temperature

The sensor location will vary for different carburetors. Refer to the engine or carburetor manufacturer data for temperature sensor location, if required.



QTY	ITEM	PART NUMBER	DESCRIPTION
1	4		CARBURETOR, EXISTING
1	3	MS35769-2	GASKET, METALLIC, ENCASED, ANNULAR, COPPER, Ø1/4 ID×Ø1/2 OD
1	2	MS20995	WIRE, SAFETY OR LOCK
1	1	T3B10-SG	PROBE, CARBURETOR TEMPERATURE

NOTES

- 1 WHEN INSTALLED, FACE OF THE SENSOR THREADED BOSS IS FLUSH WITH THE INSIDE OF CARBURETOR BARREL. USE WASHER(S) IF REQUIRED TO SPACE THE SENSOR ACCORDINGLY.
- 2 T3B10-SG TEMPERATURE SENSOR HAS 0.2500-28UNF-2A THREAD. INSTALL WITH LOCTITE 242 MEDIUM STRENGTH THREADLOCKER, OR EQUIVALENT. EXERCISE CAUTION TO PREVENT FUEL CONTAMINATION.
- 3 SPLIT FACE OF THE GASKET FACES NON-ROTATING SURFACE.
- 4 SAFETY WIRE PROBE IN ACCORDANCE WITH MS33540 SAFETY WIRING AND COTTER PINNING.
- 5 SENSOR INSTALLATION IN EXISTING CARBURETOR PORT ONLY. ADDITION OF NEW TAPPED HOLES TO CARBURETOR BARREL NOT ALLOWED.

Figure 5-19 Carburetor Temperature Sensor Installation Example



CAUTION

Fuel and air passages must remain free of contaminants during work near and around the carburetor.

5.12.2 Oil Temperature Sensor

When installing the oil temperature sensor, the unbroken side of the crush washer must face the sensor flange. The sensor is torqued finger tight plus one-half turn and safety wired in accordance with practices defined in Section 7, *Safetying*, of Chapter 7, *Aircraft Hardware, Control Cables and Turnbuckles*, of advisory circular AC 43.13-1B, *Aircraft Inspection and Repair*.



Figure 5-20 Oil Temperature Sensor Installation Example

5.12.3 Pressure Sensors

Manifold pressure, oil pressure, and fuel pressure sensor installations are similar. Garmin pressure sensors with a brass housing are limited to aircraft with operational ceilings up to 25,000 feet. Garmin pressure sensors with a stainless steel housing may be used on all aircraft on the AML.

When replacing existing sensors:

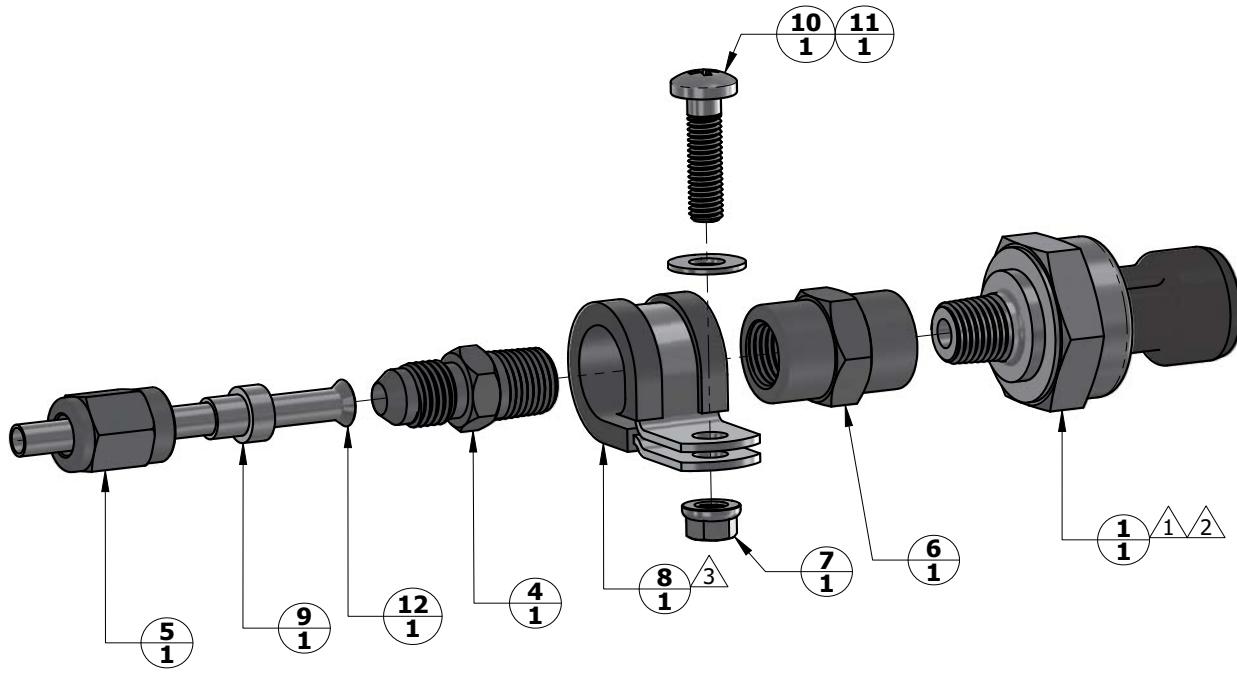
- Do not remove engine and fuel fittings with an intentionally reduced orifice. It may limit fluid loss and fire damage in the event of a hose failure
- Inspect the condition of all existing tubes, hoses, and fittings that are being reused; replace if necessary

When installing pressure sensors:

1. Fuel and oil hoses in the engine compartment must meet TSO-C53a Type C or D (fire resistant).
2. Do not install sensors directly below fittings or components that may leak flammable fluid.
3. Thread sealant or tape must be used for the NPT threads. To reduce the risk of system contamination, a minimal amount of sealant should be applied leaving at least two threads at the end of the fitting clear of sealant/tape.
4. Sensors must be routed as far away from the aircraft exhaust system as practical and no closer than 6 inches.

Table 5-1 Pressure Sensor Equipment List

Function	Manufacturer P/N, Description	Garmin P/N	Authorization
Oil Press	Kavlico P4055-5020-4, Press (Brass)	011-04202-30 (494-30027-30)	TXi STC
	Kulite APT-20GX-1000-150G, Press (Stainless)	494-30032-00	
Manifold Press	Kavlico P4055-5020-1, Press (Brass)	011-04202-00 (494-30027-00)	TXi STC
	Kulite APT-20GX-1000-25PSIA, Press (Stainless)	494-30030-00	
Fuel Press	Kavlico P4055-5020-3, Press (Brass)	011-04202-20 (494-30027-20)	TXi STC
	Kavlico P4055-5020-2, Press (Brass)	011-04202-10 (494-30027-10)	
	APT-20GX-1000-50PSIG, Press (Stainless)	494-30031-00	
	APT-20GX-1000-15PSIG, Press (Stainless)	494-30029-00	

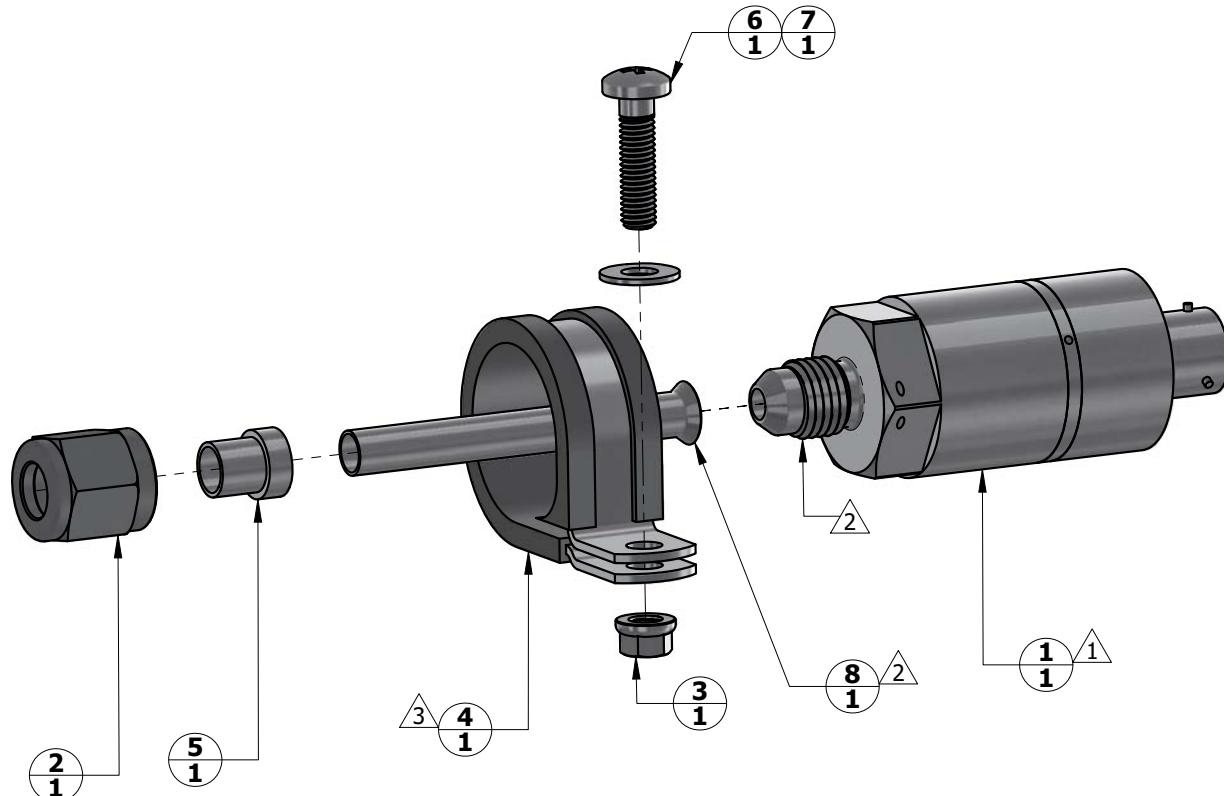


QTY	ITEM	PART NUMBER	DESCRIPTION
1	12	TUBE, Ø0.190 IN OD	
1	11	NAS1149F0332P	WASHER, FLAT, STEEL, CAD PLATED, 0.032 INCH THICK, ID 0.203, OD 0.438
1	10	MS51958-65	SCREW, MACHINE, PAN HEAD, CROSS RECESSED .190-32UNF-2A, 3/4 INCH LONG
1	9	MS51533B3	SLEEVE, COMPRESSION, TUBE FITTING, 37° FLARED, Ø3/16 TUBE OD
1	8	MS21919WDG9	CLAMP, LOOP TYPE, CUSHIONED, Ø9/16 TUBE
1	7	MS21042L3	NUT, SELF-LOCKING, REDUCED HEXAGON, REDUCED HEIGHT, RING BASE .1900-32UNJF-3B
1	6	AN910-1W	COUPLING, PIPE, 1/8-27 ANPT
1	5	AN818-3	NUT, TUBE COUPLING, SHORT, Ø0.1875 TUBE OD .3750-24UNJF-3B
1	4	AN816-3	ADAPTER, STRAIGHT, PIPE TO TUBE, 1/8-27 NPT TO .3750-24 UNJF-3A
		AN822-3	ADAPTER, ELBOW 90 DEG, PIPE TO TUBE, 1/8-27 NPT TO 0.3750-24 UNJF-3A
		AN823-3	ADAPTER, ELBOW 45 DEG, PIPE TO TUBE, 1/8-27 NPT TO 0.3750-24 UNJF-3A
1	1	011-04202-XX	PRESSURE SENSOR

NOTES

-  1 TO PREVENT FLUID ENTRAPMENT ORIENT THE SENSOR SO THE ELECTRICAL CONNECTOR OR THE VENT HOLE , IF PRESENT, POINTS DOWNWARDS.
-  2 FITTING ON 011-04202-XX PRESSURE SENSOR HAS 1/8-27 NPT PIPE THREAD. IF USING SEALANT TAPE, FIRST TWO THREADS TO REMAIN FREE OF SEALANT TAPE.
-  3 CLAMP THE SENSOR BODY (ITEM 1) OR THE COUPLING (ITEM 6) TO MOUNT THE SENSOR.

Figure 5-21 Brass Sensor Installation (Coupling Mount Example)



QTY	ITEM	PART NUMBER	DESCRIPTION
1	8		TUBE, Ø0.250 IN OD
1	7	NAS1149F0332P	WASHER, FLAT, STEEL, CAD PLATED, 0.032 INCH THICK, ID 0.203, OD 0.438
1	6	MS51958-65	SCREW, MACHINE, PAN HEAD, CROSS RECESSED .190-32UNF-2A, 3/4 INCH LONG
1	5	MS51533B4	SLEEVE, COMPRESSION, TUBE FITTING, 37° FLARED, Ø1/4 TUBE OD
1	4	MS21919WDG16	CLAMP, LOOP TYPE, CUSHIONED, Ø1.00 TUBE
1	3	MS21042L3	NUT, SELF-LOCKING, REDUCED HEXAGON, REDUCED HEIGHT, RING BASE .1900-32UNJF-3B
1	2	AN818-4	NUT, TUBE COUPLING, SHORT, Ø0.250 TUBE OD .4375-20UNJF-3B
1	1	494-30030-XX	PRESSURE TRANSDUCER, VENTED GAGE

NOTES

-  1 TO PREVENT FLUID ENTRAPMENT ORIENT THE SENSOR SO THE ELECTRICAL CONNECTOR POINTS DOWNWARDS.
-  2 494-30030-XX PRESSURE SENSOR HAS A STANDARD FITTING (MS33656) WITH 7/16-20UNJF-3A THREAD AND REQUIRES 37 DEGREE FLARED TUBE CONNECTION.
-  3 CLAMP THE SENSOR BODY (ITEM 1) TO MOUNT. CLAMP NOT TO BLOCK VENT HOLES IN SENSOR BODY, IF PRESENT

Figure 5-22 Stainless Steel Sensor Installation (Housing Mount Example)

5.12.4 Fuel Flow

The fuel flow transducer can be mounted using the bracket or clamping hoses connected to the transducer. If mounting with clamps, the placement must be no further than 6 inches from the clamp to the nearest face of the transducer.

- The transducer can be oriented with the wires pointing up, or the cap with five bolts pointing up, or the output port pointing up, or any combination thereof
- The hose connected to the IN port must be straight for a minimum 4 inches
- The hose connected to the OUT port should be level or slope up. It must not slope down more than 4 inches per foot

Hoses and fittings connected to fuel flow transducer must meet the following:

1. New hoses must have the same internal diameter as the hose being replaced and meet TSO-C53a Type C or D (fire resistant) specifications.
2. Fuel compatible thread sealant or tape must be used for the NPT threads. To reduce the risk of fuel system contamination, a minimal amount of sealant should be applied leaving at least two threads at the end of the fitting clear of sealant/tape.
3. Fitting torque must not exceed 12 ft-lbf **or** two full turns past finger tight, whichever occurs first.
4. The transducer and fuel hoses must be routed as far away from the aircraft exhaust system as practical. The transducer must be protected with Aeroquip AE102-() fire-sleeve if within 6 inches of any exhaust component.



WARNING

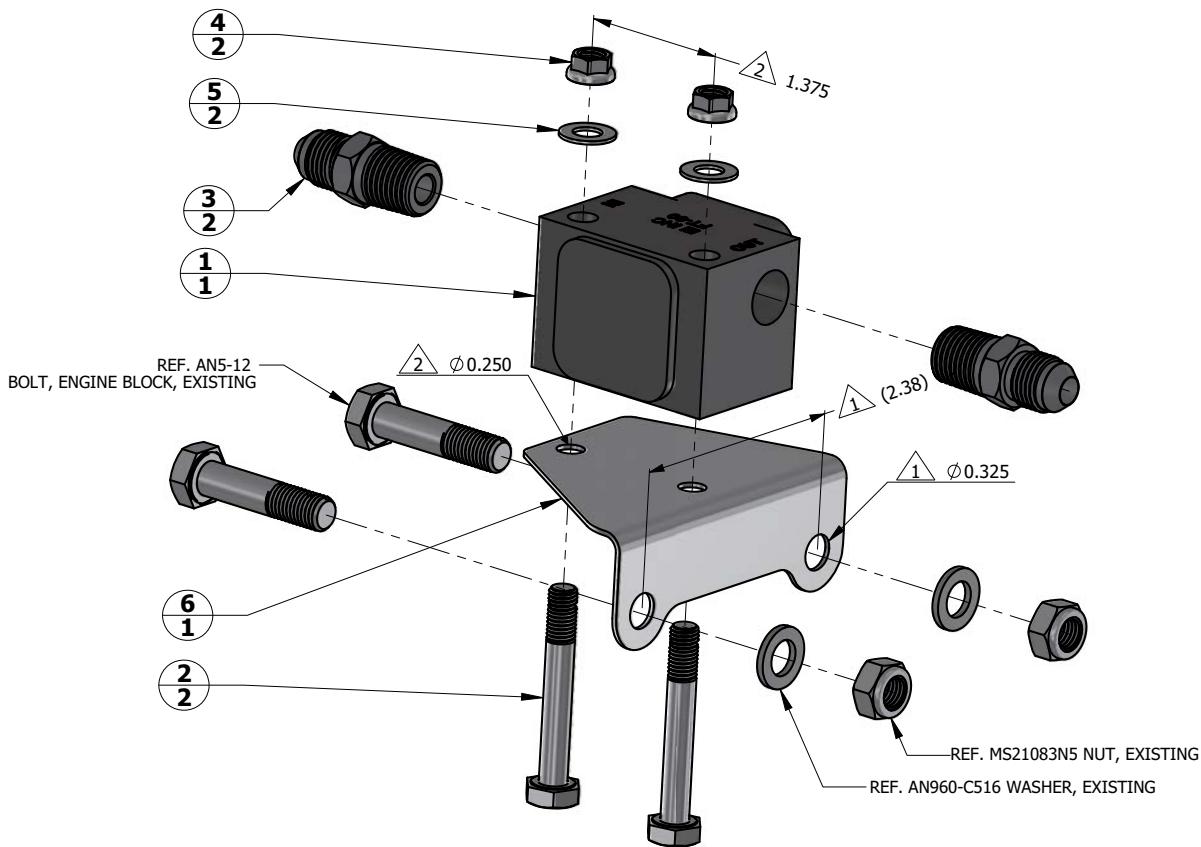
Ensure the fuel flow transducer installation does not introduce thread sealant or debris into the fuel system.



CAUTION

Do not blow pressurized air through the flow transducer.

If the fuel flow transducer bracket must be replaced, the replacement bracket must be fabricated from 300 series austenitic stainless steel (annealed per AMS 5901 or ½ hard per AMS 5517), sheet thickness 19 gauge minimum (0.044 inches) and installed as provisioned by the aircraft structural repair manual or standard practices manual. Methods, techniques, and practices defined in Chapter 4, *Metal Structure, Welding and Brazing*, of advisory circular AC 43.13-1B, *Aircraft Inspection and Repair*, are acceptable.



1	6	BRACKET, FUEL FLOW SENSOR	
QTY	ITEM	PART NUMBER	DESCRIPTION
2	5	NAS114F0432P	WASHER, FLAT, STEEL, CAD PLATED, 0.032 INCH THICK, ID 0.265, OD 0.5
2	4	MS21042L4	NUT, SELF-LOCKING, REDUCED HEXAGON, REDUCED HEIGHT, RING BASE .2500-28UNJF-3B
2	3	AN816-5-4	ADAPTER, STRAIGHT, PIPE TO TUBE, 1/4-18 NPT TO .5000-20 UNJF-3A
2	2	AN4-16	BOLT, MACHINE, AIRCRAFT, .2500-28 UNF-3A, 1-5/16 IN GRIP, DRILLED SHANK
1	1	1030032	FT-60 FUEL FLOW TRANSDUCER, ELECTRONICS INTERNATIONAL

NOTES

 HOLE SIZE AND SPACING TO MATCH ENGINE CASE BOLTS.

 HOLE SIZE AND SPACING TO MATCH FUEL FLOW TRANSDUCER.

Figure 5-23 Fuel Flow Transducer Installation

5.12.5 RPM

The TXi system can use the electrical signal generated by the primary magneto coils or “P-Lead” to display RPM. When used, the left and right magneto P-Lead signals must both be connected to the GEA 110. The connection can be made at the magneto or the ignition switch.

To replace the P-Lead wire, remove the old section of wire and replace the entire wire and parallel resistors in accordance with the P-Lead installation instructions contained in *G500/G600 TXi Part 23 AML STC Installation Manual* (P/N 190-01717-B3).

5.13 Calibration

This section provides guidance for calibrating the G500/G600 TXi system if the previous calibration has become invalid. Most calibrations require the use of an Installer Unlock Card and must be performed by a Garmin dealer.

5.13.1 Attitude/Heading

Attitude and heading calibration requires the use of an Installer Unlock Card. If it becomes necessary to re-calibrate any installed AHRS, refer to the calibration procedure contained in Section 5 and Section 6 of *G500/G600 TXi Part 23 AML STC Installation Manual* (P/N 190-01717-B3).

5.13.2 Autopilot Calibration

Autopilot calibration requires the use of an Installer Unlock Card. If it becomes necessary to re-calibrate the autopilot, refer to the calibration procedure contained in *G500/G600 TXi Part 23 AML STC Installation Manual* (P/N 190-01717-B3).

5.13.3 Analog NAV Calibration

Analog NAV calibration requires the use of an Installer Unlock Card. If it becomes necessary to re-calibrate the Analog NAV, refer to the calibration procedure contained in *G500/G600 TXi Part 23 AML STC Installation Manual* (P/N 190-01717-B3).

5.13.4 Fuel Level Calibration

Fuel level calibration requires the use of an Installer Unlock Card. If it becomes necessary to re-calibrate the fuel level, refer to the calibration procedure contained in *G500/G600 TXi Part 23 AML STC Installation Manual* (P/N 190-01717-B3).

5.13.5 Backup Battery Check

This procedure will analyze the voltage and discharge qualities of the installed backup battery. The procedure is required to be completed on initial installation and every 12 calendar months when a backup battery is installed in the system. A yellow “X” will be displayed over the battery level indicator and a fault indication message will be displayed in Normal mode until this procedure is completed.



NOTE

The battery rundown test may take up to 60 minutes to complete.



NOTE

The battery rundown test date is reported in UTC.

To complete the backup battery test, complete the following steps:

1. Power the GDU 700P in Configuration mode and navigate to **Calibration/Test → Backup Battery Test**.
2. Verify that the Backup Battery status icon is green.
3. Verify that the battery state is not “Discharging” annunciated under Battery State.
4. Complete the on-screen Before Test instructions. Once all checklist items have a green check mark, the **Start** selection will become active.
5. Select **Start** and follow the on-screen commands.
6. The GDU 700P will power off automatically when the test is complete.
7. Power-up the unit in Configuration mode and verify a PASS was achieved.

5.13.6 External Systems (Weather Radar) Calibration

Weather radar calibration requires the use of an Installer Unlock Card. If it becomes necessary to re-calibrate the weather radar, refer to the calibration procedure contained in *G500/G600 TXi Part 23 AML STC Installation Manual* (P/N 190-01717-B3).

5.14 Uploading Software

The **Software Upload** page is used to update the software for the GDU 700/1060 and any LRUs directly interfaced to the GDU 700/1060. The approved software version and part numbers can be found in the most recent revision of *G500/G600 TXi Part 23 AML STC Equipment List* (P/N 005-00795-D1). Software updates must be accomplished using the following procedure:

1. Create a Software Update SD card using approved software and instructions available on the [Dealer Resource Center](#).



NOTE

All software updates must be contained in a region file named “file.rgn” on the root directory of the Software Update SD card.

2. Insert a Software Update SD card into the appropriate slot of the GDU 700/1060, as specified in Section 2.1.5.
3. Power on the display in Configuration mode.
4. Navigate to **System Management → Software Upload**.
5. Select the LRUs to upload software to from the list of available LRUs.



NOTE

Only LRUs that are configured in the system and currently online will be selectable for software updates.

6. Select the **Update** button.
7. Follow the on-screen display instructions.

5.15 System Checks

Periodic system checks that do not require a Garmin dealer to perform are contained in this section. For complete system checkout procedures, see Section 6 of *G500/G600 TXi Part 23 AML STC Installation Manual* (P/N190-01717-B3).

5.15.1 Configuration Ground Check

The configuration ground check procedures are intended to verify that each LRU and interface in the G500/G600 TXi system has been properly configured. Steps not applicable to a particular installation may be skipped.



NOTE

Throughout the configuration ground check section, references are made to particular functions and screens. If a function or screen is not available, ensure that the system has been configured correctly.

The configuration ground checks must be performed on every GDU 700/1060. Before starting the configuration mode checkout, the following conditions must be met:

1. All GDU 700/1060 displays in the system must be powered on in Configuration mode.
2. All system LRUs must be powered on.
3. All installed LRUs must be configured per the printed configuration log contained in Appendix A.

5.15.1.1 LRU Status check

The **Home** page in the Configuration mode of the GDU 700P/1060 shows **Devices Online** that reports the status of installed LRUs. The icon next to each LRU reports one of three colors to indicate the status of each LRU, as described in Table 5-2. Verify that all LRUs connected or configured to each display have a green indicator.

Table 5-2 LRU Status Indicators

Status Color	LRU Condition
Green	The LRU is online. No faults are detected.
Red	The LRU is online. A fault, warning, and/or error is detected.
Black	The LRU is not online.

5.15.1.2 System Summary

The **Home** page in Configuration mode of the GDU 700P/1060 contains a **Summary** button that provides information for each configured LRU as part of the G500/G600 TXi system.

1. Open the system summary (**Home** → **Summary**).
2. Verify that all configuration settings listed are consistent with the printed configuration log.
3. Verify that if any LRU sections have a yellow warning triangle present the configuration is valid.

5.15.1.3 Capturing and Saving Screen Shots

Screen shots can be captured and saved to an SD card on any GDU in Normal or Configuration mode.

1. Insert an SD card into either slot on the GDU 700/1060.
2. Navigate to the desired screen image.
3. Hold down the right knob and momentarily press the **Power** button.
4. A small camera icon will appear on the annunciator bar when in Normal mode, or the upper-left corner when in Configuration mode, indicating an image has been captured.
5. Remove the SD card after all desired images have been captured.
6. Images will be saved to a \print file on the SD card.

5.15.2 Pitot-Static and Airspeed Tape Settings Checks

The following section verifies the correct operation of the GDU 700P/1060 altitude and airspeed tapes, standby altimeter, and standby airspeed indicator using a pitot-static ramp tester. When using a pitot-static ramp tester, only simulate normal aircraft operating conditions as defined in the aircraft Type Data (POH/AFM) or other approved STC to avoid component damage.



NOTE

The ADC may require a warm-up period of 15 minutes to reach full accuracy; however, 30 minutes may be required if the environmental temperature is below 0° C.

The GDU 700P/1060 airspeed tape display and settings must be verified using the procedures in Section 5.15.2.1 or Section 5.15.2.2 depending on the airspeed tape configuration (Basic or Advanced, respectively). The airspeeds referenced in the following steps must match those shown in the printed configuration log.

5.15.2.1 Basic Airspeed Tape Setting

If the airspeed Configuration Type is set to *Basic*, verify correct operation of the ADC as follows:



Figure 5-24 Airspeed Configuration Type

1. Verify the TXi system is in Normal mode.
2. Verify all self-tests pass on the main start-up screen.



NOTE

If the ADC and standby airspeed indicator are on separate pitot-static systems, it is recommended to set up the test set so that both systems can be tested at the same time, or separate tests must be completed for each system.

3. Using a pitot-static test set, increase the airspeed until the PFD airspeed tape pointer is at the bottom of the white band (Vs0).
4. Verify that the bottom of the white arc/band on the standby ASI and PFD airspeed tape are at the same airspeed value.
5. **For twin-engine aircraft with a minimum control speed:** Increase the airspeed to the lower red radial (Vmca). Verify that the red radial on the standby ASI and PFD airspeed tape are at the same airspeed value.
6. Change the airspeed until the PFD airspeed tape pointer is at the bottom of the green band (Vs1).
7. Verify that the bottom of the green arc/band on the standby ASI and PFD airspeed tape are at the same airspeed value.
8. **For twin-engine aircraft only:** Increase the airspeed to the blue radial (Vyse). Verify that the blue radial on the standby ASI and PFD airspeed tape are at the same airspeed value.
9. Change the airspeed until the PFD airspeed tape pointer is at the top of the white band (Vfe).
10. Verify that the top of the white arc/band on the standby ASI and PFD airspeed tape are at the same airspeed value.
11. Change the airspeed until the PFD airspeed tape pointer is at the top of the green band/bottom of the yellow band (Vno).
12. Verify that the top of the green arc/band on the standby ASI and PFD airspeed tape are at the same airspeed value.
13. Increase the airspeed to the upper red radial/top of yellow arc (Vne).
14. Verify that the red radial on the standby ASI and PFD airspeed tape are at the same airspeed value.
15. Starting at the current airspeed, decrease the airspeed to zero, stopping at each of the airspeeds listed in Table 5-3 (airspeeds above Vne should not be checked), verifying that the PFD and standby ASI airspeed values are within the tolerances indicated in Table 5-3.

Table 5-3 Airspeed Test Points

Test Set Airspeed (kt)	PFD Allowed Tolerance (kt)	Recommended Standby ASI Tolerance (kt) [1]
50	±5.0	±5
80	±3.5	±4
100	±2.0	±3
120	±2.0	±3
150	±2.0	±3
180	±2.0	±5
210	±2.0	±5
250	±2.0	±5
290	±3.0	±6

Notes:

- [1] If available, the aircraft or instrument manufacturer's data should be referenced for standby tolerances.

5.15.2.2 Advanced Airspeed Tape Setting

If the Configuration Type is set to *Advanced*, verify correct operation of the ADC as follows:

1. Verify the TXi system is in Normal mode.
2. Verify all self-tests pass on the main start-up screen.



NOTE

If the ADC and standby airspeed indicator are on separate pitot-static systems, it is recommended to set up the test set so that both systems can be tested at the same time, or separate tests must be completed for each system.

3. Using a pitot-static test set, increase the airspeed until the PFD airspeed tape pointer is at the bottom of the white band (V_{S0}).
4. Verify that the bottom of the white arc/band on the standby ASI and PFD airspeed tape are at the same airspeed value.
5. Increase the IAS throughout the range of the ASI – stop at the limits of all Arc Ranges, and at all Marking values configured per the instructions in Table 5-4 and Table 5-5 and listed in the printed configuration log.
6. Verify that the ranges and markings on the standby ASI and PFD are located at the same airspeed values. The last value verified should be the beginning of the barber pole ($V_{ne}/V_{mo}/M_{mo}$).
7. The following applies to Variable $V_{ne}/V_{mo}/M_{mo}$ aircraft only:
 - a. Decrease the IAS to 25 kt below the barber pole on the PFD. Increase the indicated altitude to the maximum operating altitude or service ceiling. Verify that the barber pole on the PFD and standby ASI are at the same airspeed (± 5 kt). Decrease the airspeed as needed to ensure the IAS does not exceed the barber pole during the simulated climb.
 - b. Decrease the indicated altitude (do not exceed vertical speed limitations) back to ambient static pressure.
8. Starting at the current airspeed, decrease the airspeed to zero, stopping at all of the relevant airspeeds listed in Table 5-3 (airspeeds above V_{ne} should not be checked). Verify that the PFD and standby ASI values are within the tolerances indicated.

Table 5-4 Advanced Airframe Specific Configuration Data – Arc Ranges

Arc Color	Description	POH/AFM Section	Notes
RED (LOW SPEED)	Low speed awareness	2 - Limitations	If the aircraft has a defined WHITE or GREEN arc, set the RED arc to <i>ON</i> . Set the MAX value of the RED arc to the lowest value of the WHITE or GREEN arc (V_{S0}). A RED low-speed awareness arc will appear below the lowest marked stall speed. If the aircraft does not have defined white or green arc, set the red arc to <i>OFF</i> , and enter the lowest stall speed in the STALL SPEED setting at the bottom of the page.

Arc Color	Description	POH/AFM Section	Notes
WHITE	Full flap operational range	2 - Limitations	<p>Set the Min value to the bottom of the POH/AFM defined range.</p> <p>If WHITE and GREEN arcs overlap, set the Max value to the beginning of the WHITE/GREEN arc.</p> <p>If WHITE and GREEN arcs do not overlap, set the Max value to the top of the POH/AFM or aircraft specification defined range.</p> <p>If a WHITE arc is not defined by the AFM/POH or aircraft specifications, set both the Min and Max values to the aircraft stall speed in the landing configuration (V_{s0}). This setting will not display a white arc, but the system needs it to characterize aircraft performance.</p>
HALF WHITE	Standard operational range	2 - Limitations	<p>If the HALF WHITE arc range is not defined by the AFM/POH or aircraft specification, set to OFF.</p> <p>This may sometimes be called a “narrow WHITE arc.”</p>
WHITE/GREEN	Overlap between standard operational and flaps operational ranges	2 - Limitations	<p>If a WHITE/GREEN arc is not defined by the AFM/POH or aircraft specification, set to OFF.</p> <p>If WHITE and GREEN arcs overlap, configure to the range they overlap within.</p>
GREEN	Standard operational range	2 - Limitations	<p>If the GREEN arc is not defined by the AFM/POH or aircraft specification, set to OFF.</p> <p>If WHITE and GREEN arcs overlap, set Min value to the Max of WHITE/GREEN.</p> <p>If the YELLOW arc is defined, set to the Min of the YELLOW arc (V_{no}).</p> <p>If the YELLOW arc is not defined, set Max value to V_{no}/V_{ne}.</p>
YELLOW	Caution / smooth air operational range	2 - Limitations	<p>If the YELLOW arc is defined by the AFM/POH or aircraft specification, set to ON with Min value equal to Maximum structural speed (V_{no}). Max value should be configured to V_{ne}, or the highest value of V_{ne} if variable.</p> <p>If the YELLOW arc is not defined, set to OFF.</p>

Arc Color	Description	POH/AFM Section	Notes
Vne/Vmo/Mmo	Never exceed speed/ max operating speed/ max operating mach number	2 - Limitations	If defined as a fixed value, set to <i>Fixed</i> , and enter POH/AFM defined Vne/Vmo as the Min value. If variable with altitude, set to <i>Variable</i> , and set overspeeds in accordance with Appendix Section E.5 in G500/G600 TXi <i>Part 23 AML STC Installation Manual</i> .

Table 5-5 Advanced Airframe Specific Configuration Data – Markings

Marking	Description	POH/AFM Section	Note
WHITE TRIANGLE	A small white triangle – meaning varies by airframe	2 - Limitations	If defined in POH/AFM, set to given value. Else, set to <i>OFF</i> .
RED BAR	Typically marks the minimum controllable airspeed for twin- engine aircraft with only one engine operational (Vmca)	3 - Emergency Procedures	Lower red radial on ASI of light twins. Set to <i>OFF</i> for single-engine aircraft.
BLUE BAR	Typically marks the single engine best rate-of-climb speed for a twin-engine aircraft	3 - Emergency Procedures	Blue radial on ASI of light twins. Set to <i>OFF</i> for single-engine aircraft.
RED/WHITE BAR	Varies – sometimes used as a fixed point Vne marking	2 - Limitations	If a fixed RED/WHITE bar, (not a barber pole) is shown in the POH/AFM, set to given value. Else, set to <i>OFF</i> .
Vle	Maximum landing gear extended speed	2 - Limitations	Set to <i>OFF</i> for fixed gear aircraft.

5.15.2.3 Altimeter Check

The GDU 700P/1060 and standby altitude displays must be verified per Title 14 of the CFR 91.411 and Part 43 Appendix E, with the following exception to 14 CFR Part 43 Appendix E, paragraph (b)(1):

- The tests of sub-paragraphs (iv) (Friction) and (vi) (Barometric Scale Error) are not applicable to the GDU 700P/1060 due to the ADC interface and instrument display being digital



NOTE

For aircraft being configured for RVSM operations, refer to Section 5.15.3 for altimeter check procedures.

5.15.3 RVSM System Checkouts (Socata TBM 700/850 only)

Pitot-static system #1, pitot-static system #2, and calibration of the AM-250 must meet the criteria in the following sections. The air data tests and surface checks are required within the previous 24 months.

5.15.3.1 Air Data Test

The air data systems must be tested and maintained in accordance with the *Socata Maintenance Manual*, except as follows.

The following altimeter checks must be used in lieu of *Socata Maintenance Manual* 34-11-00, Table 503, and Section 5.15.2.3, with the following exceptions:

- For paragraph (b)(1)(i) Scale Error, use of Table 5-6 instead of 14 CFR 43, Appendix E, Table I
- Do not perform paragraph (b)(1)(iv), *Friction*
- Do not perform paragraph (b)(1)(vi), *Barometric Scale Error*

The following Air Data and Altitude Alerter Tests are to be performed in conjunction with any other regulated tests. The Air Data test must be performed on both pilot and co-pilot systems with a calibrated pitot-static test set with a combined accuracy/repeatability specification of less than ± 20 feet for the test altitude range.



NOTE

The standby altimeter is connected to the co-pilot side static system and it is not SSEC corrected.

1. Connect the pitot-static tester to the aircraft left and right pitot and static ports in accordance with *Socata Maintenance Manual* Section 34-11-00.
2. Perform a pitot-static system leak check of each system as described in *Socata Maintenance Manual* Section 34-11-00.
3. File the results with the aircraft maintenance records.
4. Verify that the altimeter baro-setting is 29.92 in Hg (1013.25 millibar) on both sides.
5. Verify the Altitude Alerter annunciation and alert tones at test level of 29,000 feet during the Air Data Test.
 - a. To set the altitude alerter to the current altitude, navigate to the ALT menu and press the inner PFD knob.
6. Simulate the altitudes and airspeeds for each condition shown in Table 5-6.
7. Record the altitude displayed on the GDU 700P/1060 and AM-250 for each condition on Table 5-6.
8. Verify that the indicated altitudes are within allowable tolerances.
9. File the results with the aircraft maintenance records.

If either the pilot or co-pilot air data system does not meet the tolerances specified, maintenance checks should be performed on the air data system or the pitot-static system.

Table 5-6 Air Data Test Points

Test Point		Nominal Altitude (ft)	Altitude Tolerance Range (ft)			
Altitude (ft)	Airspeed (kts)		Air Data 1		Air Data 2	
			GSU 75B	GDC 74B	AM 250	
0	0	0	-20 to 20	-20 to 20	-20 to 20	
	150	44*	24 to 64	24 to 64	24 to 64*	
1000	40	1000	980 to 1020	980 to 1020	980 to 1020	
2000	120	2032	2007 to 2057	2007 to 2057	2007 to 2057	
4000	120	4034	4009 to 4059	4009 to 4059	4009 to 4059	
8000	120	8038	8008 to 8068	8008 to 8068	8013 to 8063	
	300	8219	8129 to 8249	8129 to 8249	8194 to 8244	
10000	150	10059*	10029 to 10089	10029 to 10089	10034 to 10084*	
11000	120	11042	11007 to 11077	11007 to 11077	11012 to 11072	
13000	150	13065	13025 to 13105	13025 to 13105	13035 to 13095	
14000	150	14067	14027 to 14107	14027 to 14107	14037 to 14097	
16000	180	16100	16055 to 16145	16055 to 16145	16070 to 16130	
18000	210	18145	18100 to 18190	18100 to 18190	18115 to 18175	
20000	120	20056	20009 to 20103	20009 to 20103	20026 to 20086	
	150	20082*	20035 to 20129	20035 to 20129	20052 to 20112*	
29000	300	20324	20277 to 20371	20277 to 20371	20294 to 20354	
	120	29077	29005 to 29149	29005 to 29149	29042 to 29112	
29000	150	29113*	29041 to 29185	29041 to 29185	29078 to 29148*	
	300	29447	29375 to 29519	29375 to 29519	29412 to 29482	

Table 5-6 Air Data Test Points

Test Point		Nominal Altitude (ft)	Altitude Tolerance Range (ft)			
Altitude (ft)	Airspeed (kts)		Air Data 1		Air Data 2	
			GSU 75B	GDC 74B	AM 250	
33000	120	33090	33018 to 33162	33018 to 33162	33049 to 33131	
	150	33131*	33059 to 33203	33059 to 33203	33090 to 33172*	
	300	33519	33447 to 33591	33447 to 33591	33478 to 33560	

* Test points and tolerances correspond with *Socata Maintenance Manual 34-11-00*, Table 503.

5.15.3.2 Surface Checks

The TBM700 series aircraft with RVSM privileges require external checks per *Socata Maintenance Manual 05-10-01*, ATA 53 for Standard and Progressive inspection intervals. Refer to *Socata Maintenance Manual 53-00-00* for fuselage surface check procedures.

5.15.3.3 RVSM In-Flight Altitude Hold Check

In addition to the autopilot performance checks specified in this manual, RVSM operation requires that the autopilot system accurately maintain the acquired altitude during non-turbulent, non-gust cruise conditions. The autopilot must be shown to meet the performance specification of the following in-flight altitude hold test:

1. Verify the following conditions (normal RVSM cruise flight):
 - Altitude FL290 to FL310
 - Altimeter setting 29.92 in Hg (1013 HPA)
 - Autopilot altitude hold engaged
 - Non-turbulent, non-gust conditions
2. Record the data specified in Table 5-7 from the primary cockpit displays every 5 minutes for a minimum flight segment of 30 minutes in length. The maximum altitude deviation shown on the display throughout the test should not exceed ±65 feet.

If the aircraft fails to hold altitude to this tolerance, repeat the check ensuring that the airspeed remains constant and the air remains stable during the entire test. If the test still fails, perform maintenance checks on the G600 TXi system, then repeat the test. RVSM operations are prohibited until the autopilot is capable of maintaining altitude within ±65 feet of the selected cruise altitude.

Table 5-7 Altitude Hold Check Log

Aircraft S/N:		Pilot:			
Date:		En route to:			
Time (hr:min)	Pilot		Co-pilot		
	Altitude (ft)	Airspeed (kt)	Altitude (ft)	Airspeed (kt)	
0:00					
0:05					
0:10					
0:15					
0:20					
0:25					
0:30					
0:35					
0:40					
0:45					
0:50					
0:55					
1:00					

APPENDIX A: INSTALLATION-SPECIFIC INFORMATION

A.1 General Information

Date: _____ / _____ / _____ By: _____

AIRCRAFT

AIRCRAFT YEAR: _____

AIRCRAFT MAKE: _____

AIRCRAFT MODEL: _____

AIRCRAFT SERIAL #: _____

AIRCRAFT REG. #: _____

Installed System			
		G500TXi	G600TXi
GDU1	1060	700P	700L
GDU2	1060	700P	700L
GDU3	1060	700P	700L
GDU4	1060	700P	700L
		MFD	PFD EIS

A.2 LRU Information

For each unit included in the installation, record the LRU information in the table below.

Unit	Part Number	Serial Number	Mod Level
GDU #1	011-0330 -		
GDU #2	011-0330 -		
GDU #3	011-0330 -		
GDU #4	011-0330 -		
GSU 75()#1	011-03094-		
GSU 75()#2	011-03094-		
GRS 77 #1	011-00868-		
GRS 77 #2	011-00868-		
GRS 79 #1	011-03732-		
GRS 79 #2	011-03732-		
GMU 44 #1	011-00870-		
GMU 44 #2	011-00870-		
GDC 72()#1	011-03734-		
GDC 72()#2	011-03734-		
GDC 74()#1	011-0 -		
GDC 74()#2	011-0 -		
GTP 59 #1	011-00978-		
GTP 59 #2	011-00978-		
GAD 43/43e	011-0 -		
GEA 110 #1	011-03454-		
GEA 110 #2	011-03454-		
GCU 485	011-03582-		
GBB 54	011-03456-		

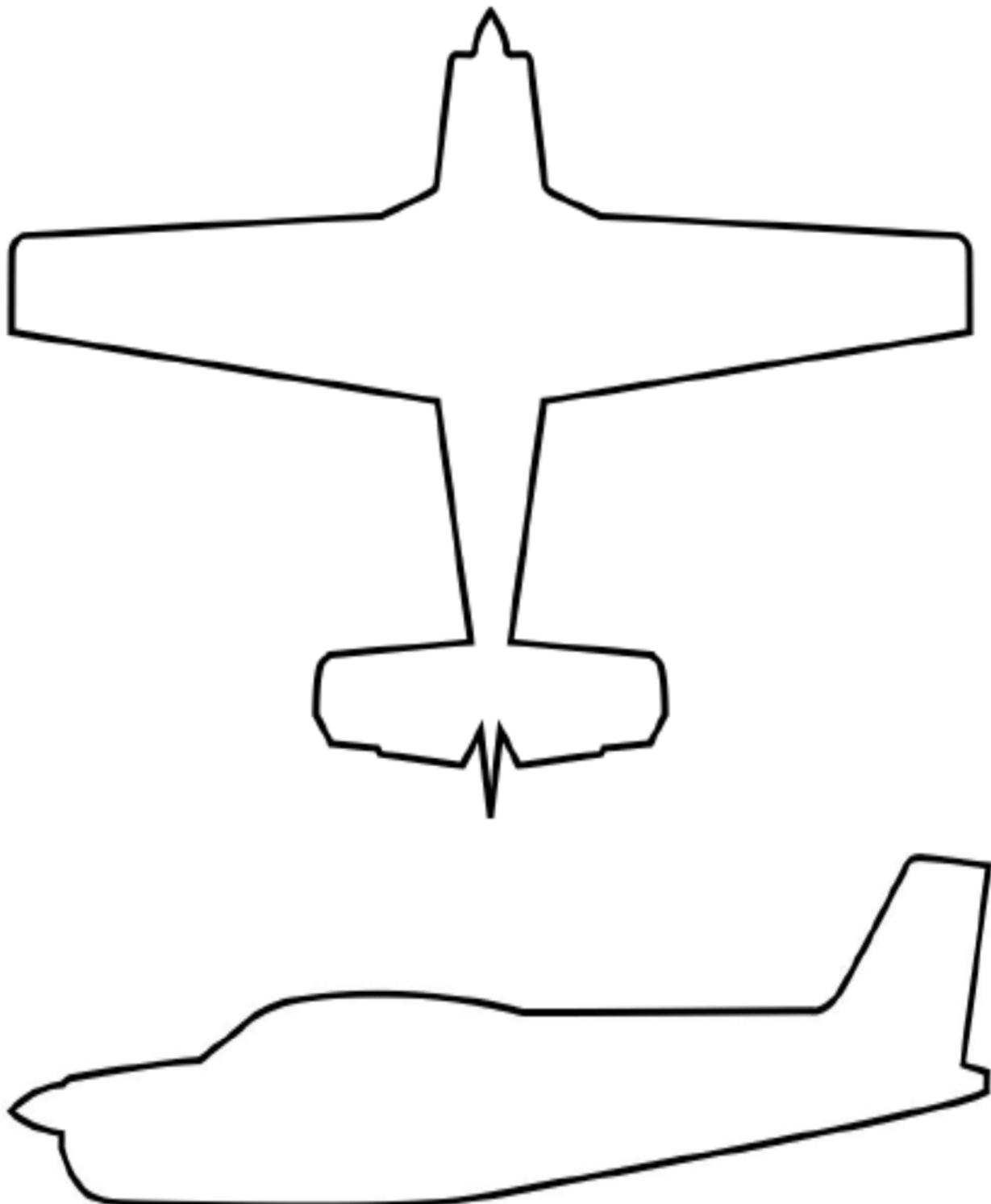
A.3 Equipment Location

For each unit included in the installation, record the fuselage station and provide a brief description of the location.

Unit	Station (CG)	Description of Location
GDU #1	in.	
GDU #2	in.	
GDU #3	in.	
GDU #4	in.	
GSU 75()#1	in.	
GSU 75()#2	in.	
GRS 77 #1	in.	
GRS 77 #2	in.	
GRS 79 #1	in.	
GRS 79 #2	in.	
GMU 44 #1	in.	
GMU 44 #2	in.	
GDC 72()#1	in.	
GDC 72()#2	in.	
GDC 74()#1	in.	
GDC 74()#2	in.	
GTP 59 #1	in.	
GTP 59 #2	in.	
GAD 43/43e	in.	
GEA 110 #1	in.	
GEA 110 #2	in.	
GBB 54	in.	

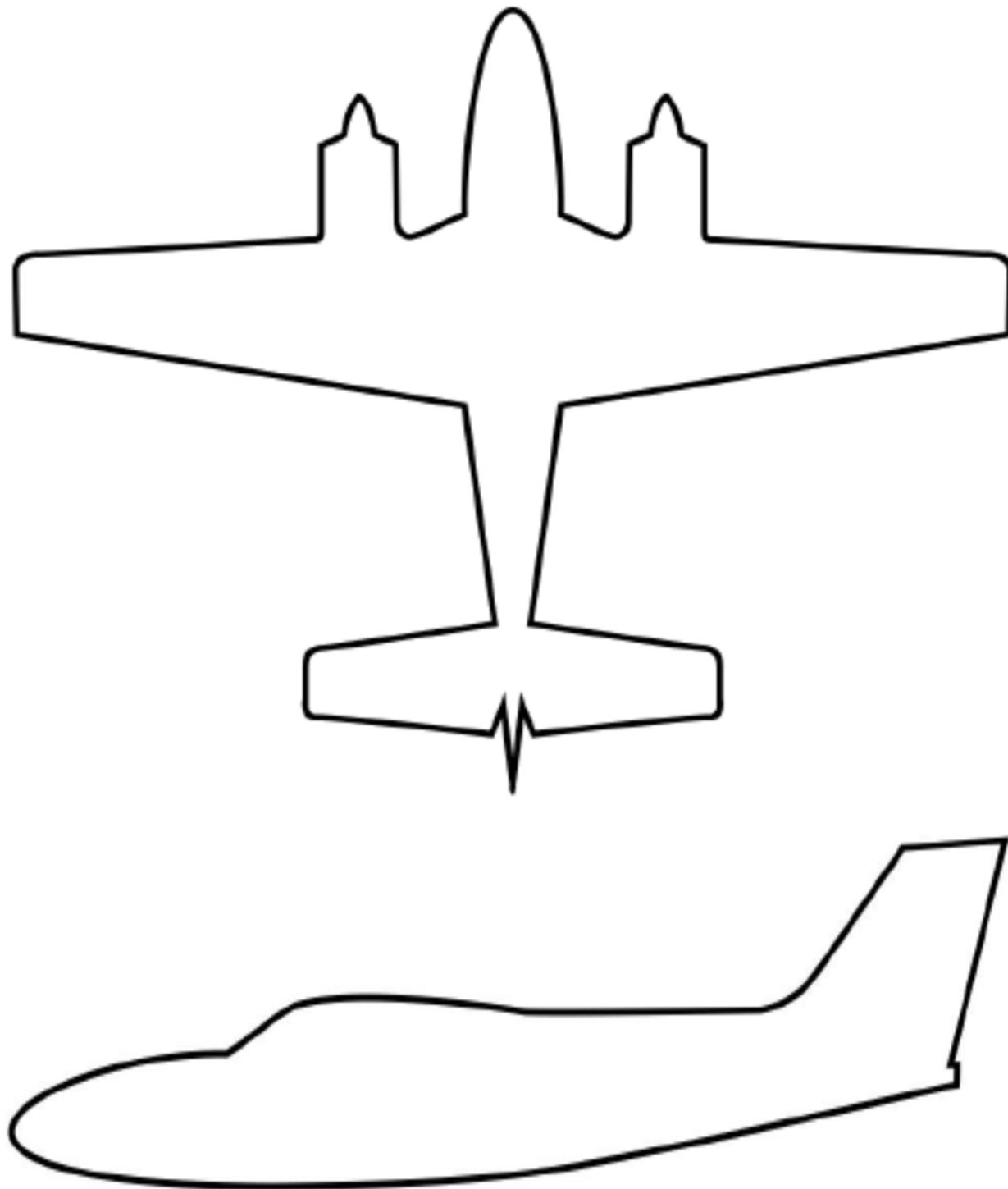
A.4 Wire Routing – Single-Engine

The following diagram depicts the wire routing for the G500/G600 LRUs throughout the aircraft structure for a single-engine aircraft:



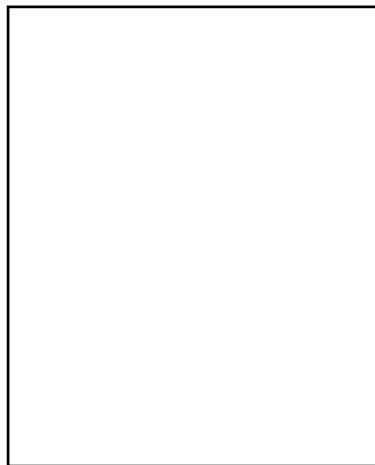
A.5 Wire Routing – Twin-Engine

The following diagram depicts the wire routing for the G500/G600 LRUs throughout the aircraft structure for a twin-engine aircraft:



A.6 Saved Configuration File

The G500/G600 TXi system configuration must be saved to an SD card and placed with the permanent aircraft maintenance records. For instructions on saving the aircraft configuration file to an SD card, refer to Section 2.1.6. It is recommended that the SD card be taped or otherwise secured to this page in the location marked below.



Aircraft Configuration SD Card

A.7 Print Configuration Log

The G500/G600 TXi system configuration log must be printed out and included with the permanent aircraft maintenance records. To print the system configuration log, perform the following procedure:

1. Insert the SD card that was created in Appendix Section A.6 into a computer.
2. Open the "Summary" folder.
3. Print the .htm file corresponding to the save generated from Appendix Section A.6.



NOTE

It is recommended that the configuration log be attached to the back of this document for continuity and ease of use. It is required that the MM/ICA, SD card, and configuration log be included in the permanent aircraft maintenance records.

The configuration log printout contains configuration info for configured EIS gages, including configured markings and gauge layout for each GDU displaying EIS gauges. The configuration log will list the location number for each gauge, which can then be referenced to the GDU templates provided in the following sections.

A.8 GDU 1060 EIS Gauge Layout Template



Figure A-1 GDU 1060 EIS Gauge Template

A.9 GDU 700P EIS Gauge Layout Template

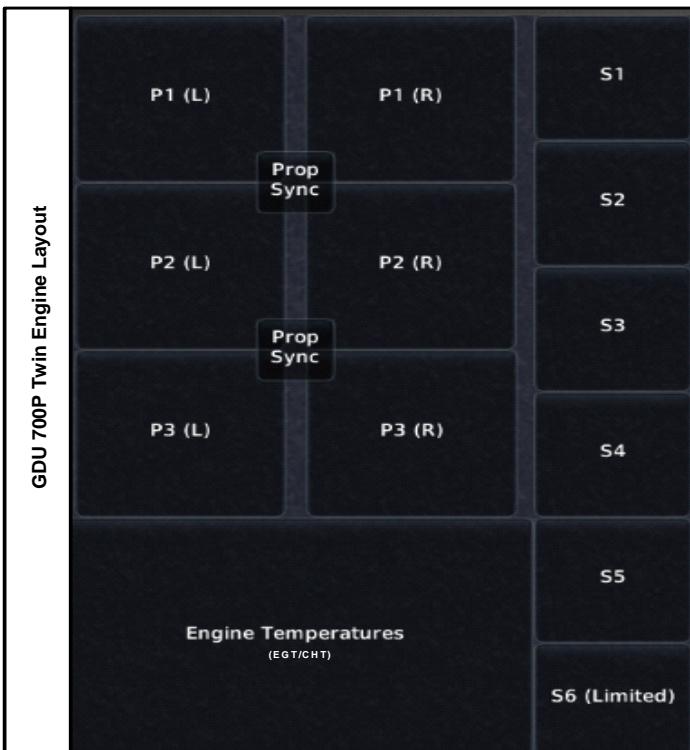
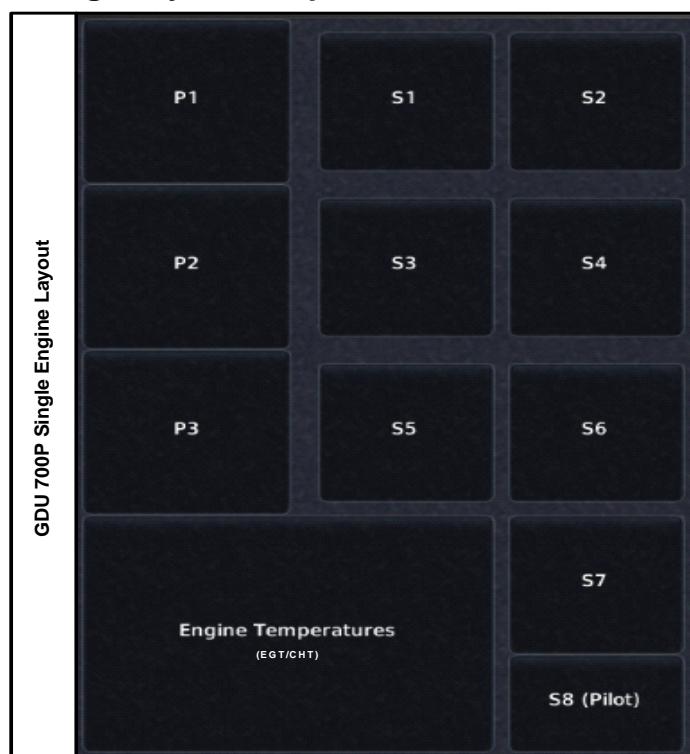


Figure A-2 GDU 700P EIS Gauge Layout Template



Figure A-3 GDU 700P MFD/EIS Gauge Layout Template

A.10 GDU 700L EIS Gauge Layout Template



Figure A-4 GDU 700L EIS Gauge Layout Template



Figure A-5 GDU 700L MFD/EIS Gauge Layout Template

