Instructions for Continued Airworthiness for the Garmin G500H Installation in Eurocopter EC130

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CHAPTER 1

Section 01-00-00 Introduction

These are accepted Instructions for Continued Airworthiness for modifications performed in accordance with Eurocopter EC130 B4 Garmin G500H Flight Display System Installation STC. All references to the G500H in this document will refer to the Garmin G500H Flight Display System Installation and other related components specified in these Instructions for Continued Airworthiness (ICA). A STC permission letter and Instructions for Continued Airworthiness (ICA) should be supplied to the owner/operator of the STC at the time of completion. Subsequent accepted changes to the ICA will be distributed to owners and operators of the STC.

This Instructions for Continued Airworthiness is intended to supplement the Model EC130 B4 rotorcraft maintenance manuals provided by Eurocopter. The information, procedures, requirements, and limitations contained in this Instructions for Continued Airworthiness for this type design change supersedes the information, procedures, requirements, and limitations contained in the rotorcraft's maintenance manual when the type design change is installed on the Type Certificate Holder's rotorcraft.

CHAPTER 4

Section 04-00-00 Airworthiness Limitations

There are no additional Airworthiness Limitations as defined in 14 CFR Part 27, Appendix A. A27.4 that result from this modification. The Airworthiness Limitations section is FAA approved and specifies inspections and other maintenance required under 14 CFR §§ 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

CHAPTER 5

Section 05-00-00 Continued Airworthiness Inspections

1. General

This chapter contains time limit intervals for the Component Overhaul Schedule and Scheduled Inspections for the G500H Installation. This chapter is to be added to the approved scheduled inspection for the rotorcraft.

2. Component Overhaul Schedule

The system does not require overhaul at a specific time period. Power on self-test and continuous BIT will monitor the health of the G500H system. If any LRU indicates an internal failure, the unit may be removed and replaced.

3. Scheduled Inspections Overview

The G500H Installation requires a 90 Day Inspection that must be performed 90 days after installation and then afterwards within 90 days of the last G500H Installation 90 day inspection. The 90 Day Inspection requirements are specified in Table 5-01.

The G500H Installation requires an Annual Inspection that must be performed within 1 year (12 months) of initial installation and then afterwards within 1 year (12 months) of the last G500H Installation annual inspection. The annual inspection requirements are specified in Table 5-02.

The G500H Installation requires a 5 Year Inspection that must be performed within 60 months of initial installation and then afterwards within 60 months of the last G500H Installation inspection. The 5 Year Inspection requirements are specified in Table 5-03.

The G500H Installation requires a 10 Year/2000 Flight Hours Inspection that must be performed within 120 months or 2000 flight hours, whichever occurs first, of initial installation and then afterwards within 120 months or 2000 flight hours, whichever occurs first, of the last G500H Installation 10 year/2000 flight inspections. The 10 Year/2000 Flight Hour Inspection requirements are specified in Table 5-04.

4. Special Inspection Practices

Conditions may arise from incidents or accidents that may warrant additional inspection requirements. A Special Inspection is required if the aircraft is involved in a hard landing or is subjected to total immersion in water. If either of these conditions occurs, the G500H Installation must be inspected using the same procedures called out in the Annual Inspection Procedures in Table 5-02.

The G500H Installation has a Post-Lightning Strike Inspection that must be performed in the event of a suspected or actual lightning strike to the aircraft. The Post-Lightning Strike Inspection requirements are specified in Table 5-05.

5. Definitions and Acronyms

The following is short descriptions of words and terms used in the procedures for the required scheduled inspections.

- **Examine** – Look carefully to find the condition of the component. Find how that condition is related to a specific standard.
- **Condition** – The state of an item or component compared to a known standard.
- **Standard** – A specified rule or measure that is used to find the condition of a component.
- **Damage** – Physical deterioration of a component.
- **Inspection** – A procedure that includes checking, inspecting, and examining a system or component.
- **Scheduled Inspection** – An inspection procedure that must occur at a specified calendar interval or at specified operational time intervals. Scheduled Inspections are required to help ensure the rotorcraft stays airworthy.
- **Maintenance** – The servicing and / or repair of a rotorcraft, a system, or a component that keeps it serviceable.
- **Security** – Term used for inspection of hardware and components to make sure they are properly attached and tightened.

Acronyms

FOV-	Field of View
ICA-	Instructions for Continued Airworthiness
PFD-	Primary Flight Display
MFD-	Multifunction Display
VOM-	Volt Ohm Meter
GDC-	Garmin Data Computer
GRS-	Garmin Reference System
GMU-	Garmin Magnetometer Unit
GDU-	Garmin Display Unit

OAT- Outside Air Temperature

GTP- Garmin Temperature Probe

ADC- Air Data Computer

STC- Supplemental Type Certificate

AHRS- Attitude Heading Reference System

Section 05-20-10 Continued Airworthiness Scheduled Inspections

1. General

This section contains requirements for scheduled inspections. Also included is a list of special tools required to perform the scheduled inspections. If any part of the installation appears to be functioning improperly, consult the troubleshooting guide. If a major component is damaged or continues to malfunction, the component in question should be returned to the manufacturer for replacement.

2. Scheduled Inspection Program

The G500H Installation requires scheduled inspections in order to maintain continued airworthiness. Every effort should be made to perform the inspections with the aircraft placed in a clean well lit environment. There are four different scheduled inspections required for the G500H Installation.

a) **90 Day Inspection**

The 90 day inspection is required to be performed every 90 day period of calendar elapsed time, regardless of hours of operation. Inspection Table 5-01 the requirements of the 90 day inspection.

b) **1 Year (Annual) Inspection**

The 1 year (annual) inspection is required to be performed every 1 year period of calendar elapsed time, regardless of hours of operation. Inspection Table 5-02 the requirements of the 1 year (annual) inspection.

c) **5 Year Inspection**

The 5 year inspection is required to be performed every 5 year period of calendar elapsed time, regardless of hours of operation. Inspection Table 5-03 the requirements of the 5 year inspection

d) **10 Year / 2000 Flight Hours**

The 10 year /2000 Flight Hour inspection is required to be performed at a 10 year period of calendar elapsed time, or at 2000 flight hours of operation, whichever occurs first. Inspection Table 5-04 specifies the requirements of the 10 year/2000 flight hour inspection.

3. Tools and Special Tools for Scheduled Inspection

Although not necessarily considered special tools, the adjustable ball swivel mirror and bright flashlight and / or drop light are standard requirements for doing inspections. These items should be used freely and frequently to enhance inspection quality and help ensure

discrepancies are not missed. It is important to have adequate lighting for all phases of the inspection.

The special tools necessary for the G500H inspection are listed as follows:

a) Milliohm meter (for electrical bonding testing).

Table 5-01 -90 Day Inspection

Registration No.	Serial No.	Helicopter Total Hours
90 Day Scheduled Inspection • The 90 Day Inspection shall be accomplished at least at an interval of once every 90 days of elapsed calendar time. • Initial each item after accomplishing the inspection. • Record all findings and attach a copy of findings to this inspection form. • After correction of all findings, make maintenance record entry.		
90 Day Pre-inspection		
Requirement		**Initial**
1. Review Airworthiness Directives.		
90 Day Inspection		
Requirement		**Initial**
GDC 74H ADC		
1. Access GDC 74H (reference Section 6-00-00- Dimensions and Access). Drain the pitot-static system by removing the safety wire, nut and plug.		
2. Re-install the plug, nut and safety wire.		
3. Reference Section 12-10-00 Return-to-Service Practices for the GDC 74H		

Table 5-02 -1 year (Annual) Inspection

Registration No.	Serial No.	Helicopter Total Hours

1 Year (Annual) Scheduled Inspection

- The 1 Year inspection shall be accomplished at least at an interval of once every year of elapsed calendar time.
- Initial each item after accomplishing the inspection.
- Record all findings and attach a copy of findings to this inspection form.
- After correction of all findings, make maintenance record entry.

1 year (Annual) Pre-inspection

Requirement	**Initial**
1. Review Airworthiness Directives.	

1 year (Annual) Inspection

Requirement	**Initial**
GDU 620	
1. Locate GDU 620 (reference Section 6-00-00 Access and Dimension). Inspect all knobs and buttons for legibility.	
2. Inspect instrument panel for damage, corrosion, and security. If damaged, replace damaged or cracked Instrument panel. Treat and repair corrosion as required in Section 20-40-00 Corrosion Control Maintenance Practices. Tighten any loose hardware to values listed in Section 20-10-00.	
3. Inspect unit for security of attachment. Replace the damaged or corroded hardware. Replace any missing hardware. Torque all screws in accordance with Section 20-10-00 Torques Maintenance Practice.	
4. Conduct visual inspection of wires, backshells, and connectors looking for signs of wear, deterioration or damage. Replace as required.	
5. Inspect harness connections in back of unit. Secure any loose connections and support unsecure wiring harness with additional clamping and / or tie rap supports if required.	
GRS 77H AHRS	
1. Access GRS 77H (reference Section 6-00-00- Dimensions and Access). Inspect AHRS and mount for physical damage cracks, and corrosion. Treat and repair corrosion as required in Section 20-40-00 Corrosion Control Maintenance Practices.	

2. Conduct visual inspection of wires, backshells, and connectors looking for signs of wear, deterioration or damage. Replace as required.	
3. Inspect harness connections in back of unit. Secure any loose connections and support unsecure wiring harness with additional clamping and / or tie rap supports if required.	
4. Inspect unit for security of attachment. Replace the damaged or corroded hardware. Replace any missing hardware. Torque all screws in accordance with Section 20-10-00 Torques Maintenance Practice.	
GMU 44 Magnetometer Installation	
1. Access GMU 44 (reference Section 6-00-00- Dimensions and Access). Inspect GMU 44 and mount for physical damage cracks, and corrosion. Treat and repair corrosion as required in Section 20-40-00 Corrosion Control Maintenance Practices.	
2. Conduct visual inspection of wires, backshells, and connectors looking for signs of wear, deterioration or damage. Replace as required.	
3. Inspect hardware. Replace the damaged or corroded hardware. Replace any missing hardware. Torque all screws in accordance with Section 20-10-00 Torques Maintenance Practice.	
4. Inspect harness connections in back of unit. Secure any loose connections and support unsecure wiring harness with additional clamping and / or tie rap supports if required.	
Shelf Installation	
1. Access Shelf Installation (reference Section 6-00-00- Dimensions and Access). Inspect for physical damage cracks, and corrosion. Treat and repair corrosion as required in Section 20-40-00 Corrosion Control Maintenance Practices	
2. Inspect hardware. Replace the damaged or corroded hardware. Replace any missing hardware. Torque all screws in accordance with Section 20-10-00 Torques Maintenance Practice.	
GDC 74H ADC Installation	
1. Access GDC 74H (reference Section 6-00-00- Dimensions and Access). Inspect GDC 74H and mount for physical damage cracks, and corrosion. Treat and repair corrosion as required in Section 20-40-00 Corrosion Control Maintenance Practices.	
2. Inspect unit for security of attachment. Replace the damaged or corroded hardware. Replace any missing hardware. Torque all screws in accordance with Section 20-10-00 Torques Maintenance Practice.	
3. Conduct visual inspection of wires, backshells, and connectors looking for signs of wear, deterioration or damage. Replace as required.	
4. Inspect harness connections in back of unit. Secure any loose connections and support unsecure wiring harness with additional clamping and / or tie rap supports if required.	
5. Inspect Pitot-Static System for damage. Replace parts as needed. Complete the 90 Day Inspection found in Table 5-01.	

GTP 59 OAT Probe Installation	
1. Access GTP 59 OAT Probe (reference Section 6-00-00- Dimensions and Access). Inspect GTP 59 OAT and mount for physical damage cracks, and corrosion. Treat and repair corrosion as required in Section 20-40-00 Corrosion Control Maintenance Practices.	
2. Inspect harness connections in back of unit. Secure any loose connections and support unsecure wiring harness with additional clamping and / or tie rap supports if required.	
3. Inspect unit for security of attachment. Replace the damaged or corroded hardware. Replace any missing hardware. Torque all screws in accordance with Section 20-10-00 Torques Maintenance Practice.	
Terminal Block Installation	
1. Access Terminal Block Installation (reference Section 6-00-00- Dimensions and Access). Inspect installation for physical damage cracks, and corrosion. Treat and repair corrosion as required in Section 20-40-00 Corrosion Control Maintenance Practices.	
2. Inspect unit for security of attachment. Replace the damaged or corroded hardware. Replace any missing hardware. Torque all screws in accordance with Section 20-10-00 Torques Maintenance Practice.	
Cooling Fan Installation (If option is installed)	
1. Access Cooling Fan Installation (reference Section 6-00-00 Dimensions and Access). Inspect installation for physical damage, cracks, and corrosion. Treat and repair corrosion as required in Section 20-40-00 Corrosion Control Maintenance Practices.	
2. Inspect cooling fan hoses for physical damage and security. Repair or replace any damaged hoses. Replace any damaged or missing Tywraps	
3. Inspect unit for security of attachment. Replace the damaged or corroded hardware. Replace any missing hardware. Torque all screws in accordance with Section 20-10-00 Torques Maintenance Practices.	

Table 5-03 -5 Year Inspection

Registration No.	Serial No.	Helicopter Total Hours
5 Year Scheduled Inspection • The 5 Year Inspection shall be accomplished at least at an interval of once every 5 years of elapsed calendar time. • Initial each item after accomplishing the inspection. • Record all findings and attach a copy of findings to this inspection form. • After correction of all findings, make maintenance record entry.		
5 Year Pre-inspection		
Requirement		**Initial**
1. Review Airworthiness Directives.		
5 Year Inspection		
Requirement		**Initial**
GRS 77H AHRS		
1. The GRS 77 utilizes an Earth magnetic field model which is updated once every five years as part of the Aviation Database maintained by the owner/operator. If the magnetic model is not current, the unit will issue an alert upon startup indicating the model has expired. The model can be updated by inserting an aviation database card with an updated IGRF model and powering on the system. A prompt will direct the user to press ENT to update the model.		

Table 5-04 -10 Year/2000 Flight Hour Inspection

Registration No.	Serial No.	Helicopter Total Hours

10 Year/ 2000 Flight Hour Scheduled Inspection

- The 10 Year/ 2000 Flight Hour Inspection shall be accomplished at least at an interval of once every 10 years of elapsed calendar time or 2000 Flight Hours, whichever occurs first.
- Initial each item after accomplishing the inspection.
- Record all findings and attach a copy of findings to this inspection form.
- After correction of all findings, make maintenance record entry.

10 Year/2000 Flight Hour Pre-inspection	
Requirement	**Initial**
1. Review Airworthiness Directives.	

10 Year/2000 Flight Hour Inspection	
Requirement	**Initial**
GRS 77H AHRS	
1. Access GRS 77H, (Reference Section 6-00-00 Dimensions and Access) and disconnect all harness connectors.	
2. Measure the resistance between the GRS 77H and a nearby exposed portion of aircraft metallic structure. Verify that the resistance is less than or equal to 20 milliohms. If greater must be restored to the value specified in the G500H STC Installation Manual.	
3. Reconnect all disconnected harness connectors and ensure they are secure.	
GDU 620	
4. Access GDU 620, (Reference Section 6-00-00 Dimensions and Access) and disconnect all harness connectors.	
5. Measure the resistance between the GDU 620 and a nearby exposed portion of aircraft metallic structure. Verify that the resistance is less than or equal to 40 milliohms. If greater must be restored to the value specified in the G500H STC Installation Manual.	
6. Reconnect all disconnected harness connectors and ensure they are secure.	

GDC 74H ADC	
7. Access GDC 74H, (Reference Section 6-00-00 Dimensions and Access) and disconnect all harness connectors.	
8. Measure the resistance between the GDC 74H and a nearby exposed portion of aircraft metallic structure. Verify that the resistance is less than or equal to 20 milliohms. If greater must be restored to the value specified in the G500H STC Installation Manual.	
9. Reconnect all disconnected harness connectors and ensure they are secure.	
GMU 44	
10. Access GMU 44, (Reference Section 6-00-00 Dimensions and Access) and disconnect all harness connectors.	
11. Measure the resistance between the GMU 44 and a nearby exposed portion of aircraft metallic structure. Verify that the resistance is less than or equal to 20 milliohms. If greater must be restored to the value specified in the G500H STC Installation Manual.	
12. Reconnect all disconnected harness connectors and ensure they are secure.	
GTP 59	
13. Access GTP 59, (Reference Section 6-00-00 Dimensions and Access) and disconnect all harness connectors.	
14. Measure the resistance between the GTP 59 and a nearby exposed portion of aircraft metallic structure. Verify that the resistance is less than or equal to 5 milliohms. If greater must be restored to the value specified in the G500H STC Installation Manual.	
15. Reconnect all disconnected harness connectors and ensure they are secure.	

4. Post Inspection Maintenance Practices

After completion of the 1 Year (Annual) Inspection, 5 Year Inspection and 10 Year/2000 Flight Hour Inspection and all discrepancies found have been corrected, the Return-to-Service Practices (Reference Section 12-00-00 Return-to-Service Practices) should be accomplished in preparation for returning the rotorcraft to service

Section 05-20-20 Continued Airworthiness Special Inspections

1. General

This section contains requirements for special inspections. Also included is a list of special tools required to perform the scheduled inspections. If any part of the installation appears to be functioning improperly, consult the troubleshooting guide. If a major component is damaged or continues to malfunction, the component in question should be returned to the manufacturer for replacement.

2. Special Inspection Program

Conditions may arise from incidents or accidents that may warrant additional inspection requirements. A Special Inspection is required if the aircraft is involved in a hard landing or is subjected to total immersion in water. If either of these conditions occurs, the G500H Installation must be inspected using the same procedures called out in the Annual Inspection Procedures in Table 5-02.

The G500H Installation has a Post-Lightning Strike Inspection that must be performed in the event of a suspected or actual lightning strike to the aircraft. The Post-Lightning Strike Inspection requirements are specified in Table 5-05.

3. Tools and Special Tools for Special Inspections

Although not necessarily considered special tools, the adjustable ball swivel mirror and bright flashlight and / or drop light are standard requirements for doing inspections. These items should be used freely and frequently to enhance inspection quality and help ensure discrepancies are not missed. It is important to have adequate lighting for all phases of the inspection.

The special tools necessary for the G500H inspection are listed as follows:

a) Milliohm meter (for electrical bonding testing).

Table 5-05 -Post-Lightning Strike Inspection

Registration No.	Serial No.	Helicopter Total Hours
Post-Lightning Strike Inspection • The Post-Lightning Strike Inspection shall be accomplished in the event of a suspected or actual lightning strike to the aircraft. • Initial each item after accomplishing the inspection. • Record all findings and attach a copy of findings to this inspection form. • After correction of all findings, make maintenance record entry.		
Post-Lightning Strike Pre-inspection		
Requirement		**Initial**
1. Review Airworthiness Directives.		
Post-Lightning Strike Inspection		
Requirement		**Initial**
GTP 59 OAT Probe Installation		
1. Access the GTP 59 OAT Probe Installation. Reference Section 6-00-00 Dimensions and Access.		
2. Inspect the probe and the doubler (P/N: 115-01812-00) for signs of structural damage. If there are visible signs of damage, replace the parts as needed.		
Post-Lightning Strike Post- Inspection		
Requirement		**Initial**
1. Verify that the OAT is displayed on the GDU 620 PFD normally.		

CHAPTER 6

Section 06-00-00 Dimensions and Access

1. Access Methods

For removal and installation of specific components, reference Section 31-00-00 Instruments, Removal and Replacement

a) GMU 44, Magnetometer

Magnetometer is located in the tail boom between TB 868 and 1578. (Figure 6-01)

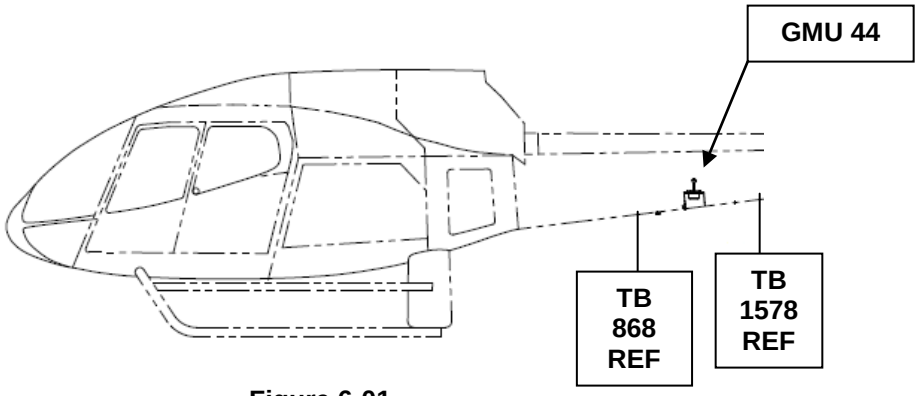


Figure 6-01

Access Methods

i. Removal

1. Un-latch and open the battery door on the left side of the aircraft.
2. If a battery is installed it may be necessary to remove the battery to gain access to the magnetometer. Consult the manufacturers Installation and removal instructions for proper removal of unit.

ii. Installation

1. Re-install battery if removed to gain access to the magnetometer. Consult the manufacturers Installation and Removal instructions for proper installation of unit.
2. Close the battery access door and latch it.

Caution: Use of power tools during removal or installation of panels and attaching hardware may damage nut plates or deform holes in composite doors, covers, panels, and fairings.

b) GDC 74H, Air Data Computer

GDC 74H is located underneath the cabin floor between station 2249 and 2737 on the left side of the aircraft. (Figure 6-02)

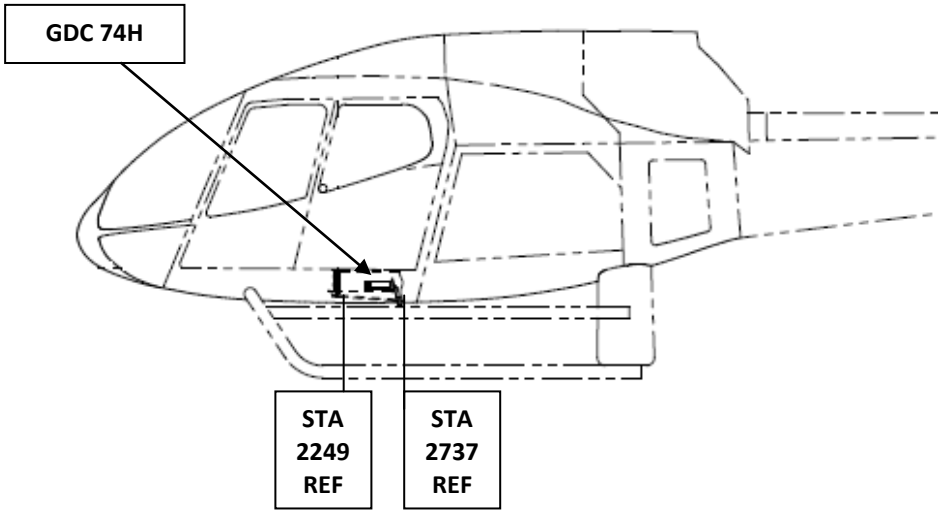


Figure 6-02

Access Methods

i. Removal

1. Un-latch the Center lower belly access panel.
2. Disconnect the retaining straps that prevent the panel from falling to the floor.
3. If aftermarket items are attached to the Center lower belly panel it may be necessary to remove or disconnect them in order to remove the lower belly panel. Consult the manufacturers Installation and Removal instructions for proper removal of items.

ii. Installation

1. Re-install aftermarket items if removed to gain access to the air data computer. Consult the manufacturers Installation and Removal instructions for proper installation of items.
2. Connect the retaining strap that was disconnected to gain access to the air data computer.
3. Close the Center lower belly access panel and latch it.

Caution: Use of power tools during removal or installation of panels and attaching hardware may damage nut plates or deform holes in composite doors, covers, panels, and fairings.

c) GRS 77H, AHRS

GRS 77H is located underneath the cabin floor between station 2249 and 2737 on the left side of the aircraft. (Figure 6-03)

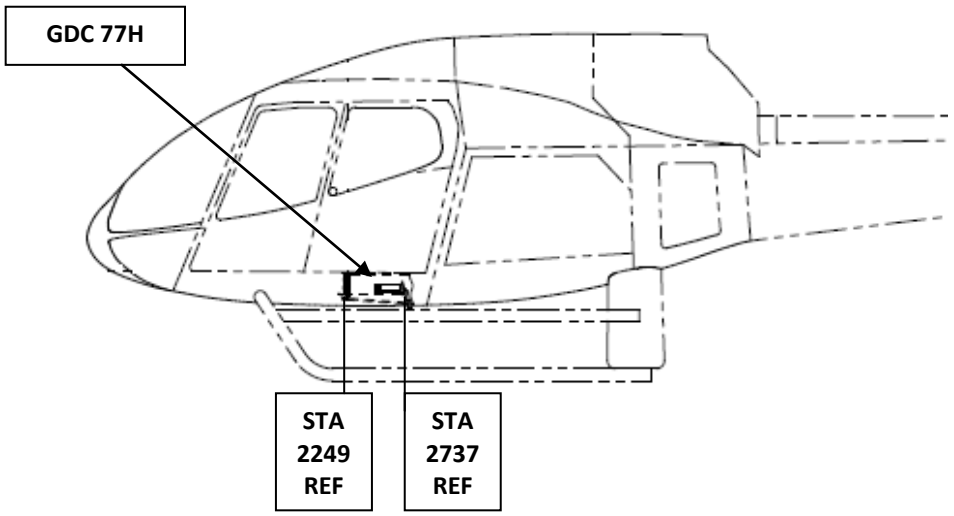


Figure 6-03

Access Methods

i. Removal

1. Un-screw the Center lower belly access panel.
2. Disconnect the retaining straps that prevent the panel from falling to the floor.
3. If aftermarket items are attached to the Center lower belly panel it may be necessary to remove or disconnect them in order to remove the lower belly panel. Consult the manufacturers Installation and Removal instructions for proper removal of items.

ii. Installation

1. Re-install aftermarket items if removed to gain access to the AHRS. Consult the manufacturers Installation and Removal instructions for proper installation of items.
2. Connect the retaining strap that was disconnected to gain access to the AHRS.
3. Close the Center lower belly access panel and attach screws.

Caution: Use of power tools during removal or installation of panels and attaching hardware may damage nut plates or deform holes in composite doors, covers, panels, and fairings.

d) Shelf Installation

The shelf installation is located underneath the cabin floor between station 2249 and 2737 on the left side of the aircraft. (Figure 6-04)

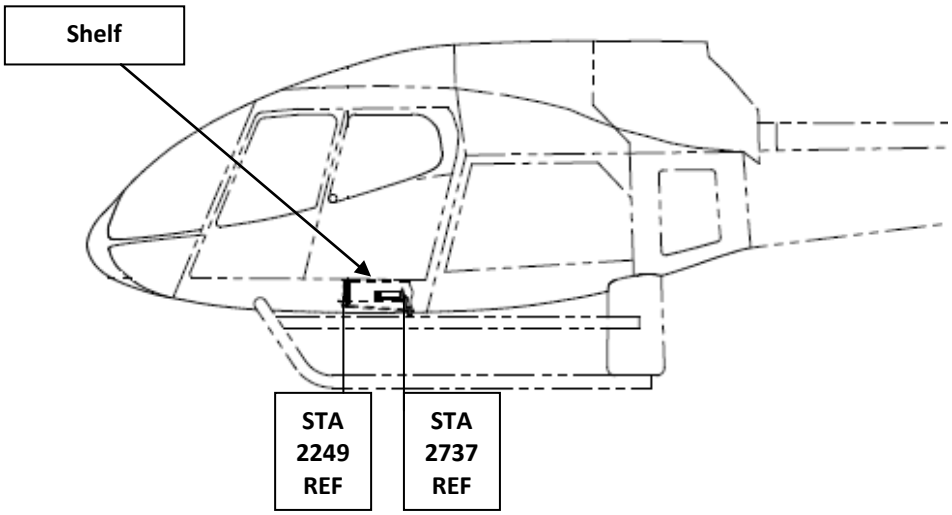


Figure 6-04

Access Methods

i. Removal

1. Un-screw the Center lower belly access panel.
2. Disconnect the retaining straps that prevent the panel from falling to the floor.
3. If aftermarket items are attached to the Center lower belly panel it may be necessary to remove or disconnect them in order to remove the lower belly panel. Consult the manufacturers Installation and Removal instructions for proper removal of items.

ii. Installation

1. Re-install aftermarket items. Consult the manufacturers Installation and Removal instructions for proper installation of items.
2. Connect the retaining strap that was disconnected to gain access to the air data computer.
3. Close the Center lower belly access panel and attach screws.

Caution: Use of power tools during removal or installation of panels and attaching hardware may damage nut plates or deform holes in composite doors, covers, panels, and fairings.

e) Terminal Block Installation

Terminal Block is located underneath the cabin floor between station 1703 and 1766 on the left side of the aircraft. (Figure 6-05)

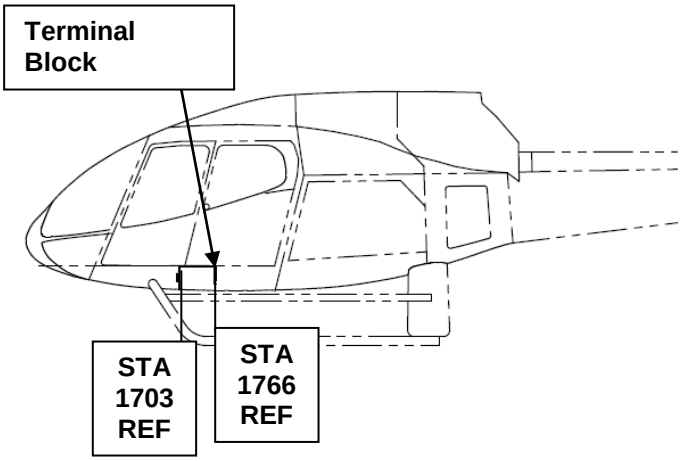


Figure 6-05

Access Methods

i. Removal

1. Un-latch the Center lower belly access panel.
2. Disconnect the retaining straps that prevent the panel from falling to the floor.
3. If aftermarket items are attached to the Center lower belly panel it may be necessary to remove or disconnect them in order to remove the lower belly panel. Consult the manufacturers Installation and Removal instructions for proper removal of items.

ii. Installation

1. Re-install aftermarket items if removed to gain access to the terminal block. Consult the manufacturers Installation and Removal instructions for proper installation of items.
2. Connect the retaining strap that was disconnected to gain access to the terminal block.
3. Close the Center lower belly access panel and latch it.

Caution: Use of power tools during removal or installation of panels and attaching hardware may damage nut plates or deform holes in composite doors, covers, panels, and fairings.

f) GTP 59 OAT Probe Installation

The GTP 59 OAT Probe is located on the existing belly panel between station 2205 and 2269. (Figure 6-06)

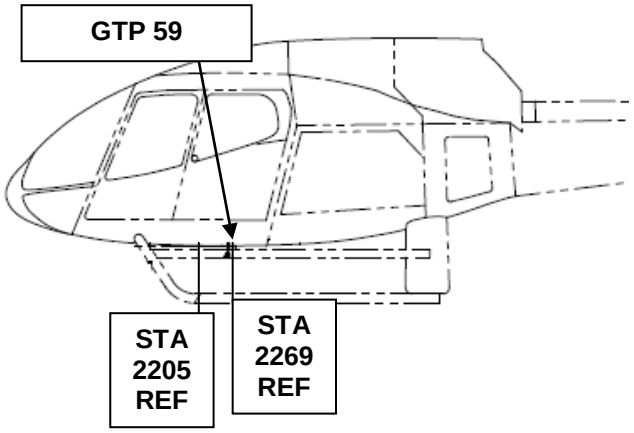


Figure 6-06

Access Methods

i. Removal

1. Un-latch the Center lower belly access panel.
2. Disconnect the retaining straps that prevent the panel from falling to the floor.
3. If other aftermarket items are attached to the Center lower belly panel it may be necessary to remove or disconnect them in order to remove the lower belly panel. Consult the manufacturers Installation and Removal instructions for proper removal of items.

ii. Installation

1. Re-install any other aftermarket items if removed to gain access to the GTP59 OAT Probe. Consult the manufacturers Installation and Removal instructions for proper installation of items.
2. Connect the retaining strap that was disconnected to gain access to the GTP59 OAT Probe.
3. Close the Center lower belly access panel and latch it.

Caution: Use of power tools during removal or installation of panels and attaching hardware may damage nut plates or deform holes in composite doors, covers, panels, and fairings

g) GDU 620 Installation

The GDU 620 is located in the left hand side of the instrument panel (Reference Section 31-00-00 Instruments, Figures 31-08 through 31-11 for specific location based on installation configuration)

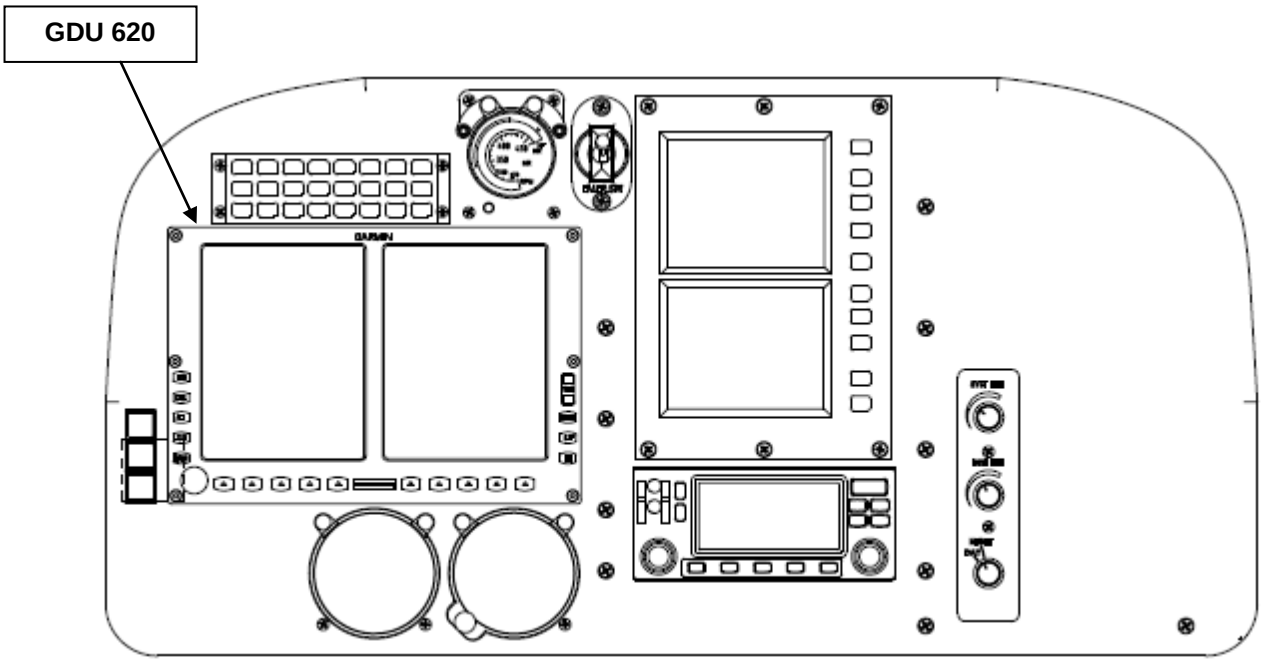


Figure 6-07

Access Methods

i. Removal

1. Un-screw the screws on the front of the instrument panel.
2. For items that are attached to the instrument panel it may be necessary to remove or disconnect them in order to remove the instrument panel. Consult the manufacturers Installation and Removal instructions for proper removal of items.

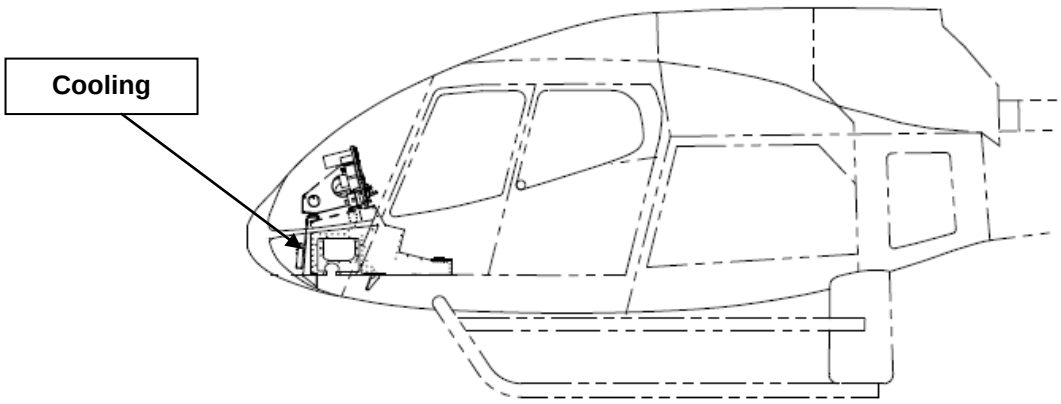
ii. Installation

1. Re-install items if removed or disconnected to remove the instrument panel. Consult the manufacturers Installation and Removal instructions for proper installation of items.
2. Re-install screw on front of instrument panel.

Caution: Use of power tools during removal or installation of panels and attaching hardware may damage nut plates or deform holes in composite doors, covers, panels, and fairings.

h) Cooling Fan Installation (If option is installed)

The Cooling Fan is located on the forward side of the flight control pedestal (Figure 6-08)



Access Methods

i. Unlatch and open door to enter cabin.

ii. Access forward side of the flight control pedestal.

Caution: Use of power tools during removal or installation of panels and attaching hardware may damage nut plates or deform holes in composite doors, covers, panels, and fairings.

CHAPTER 8

Section 8-00-00 Weight and Balance Information

Installation #	Description	Weight	CG Location
190-01527-07	GTP 59 OAT Probe	0.08 lbs	STA 2208, WL -2547, BL 7.2
190-01527-02	GMU 44 Magnetometer	3.49 lbs	STA 6783, WL -2066, BL 0.0
190-01527-03	LH Shelf	2.00 lbs	STA 2463, WL -2780, BL -756.7
190-01527-04	GDC 74H	1.92 lbs	STA 2615, WL -2744, BL -731.9
190-01527-05	GRS 77H AHRS	3.46 lbs	STA 2565, WL -2747, BL -817.9
190-01527-01	Instrument Panel	47.80 lbs	STA 872, WL -2066, BL 0.0
190-01527-06	Terminal Block	0.47 lbs	STA 1766, WL -2600, BL -592.3
190-01527-12	Cooling Fan	0.70 lbs	STA 427, WL -2491, BL 0.0

CHAPTER 11

Section 11-00-00 Placards and Markings

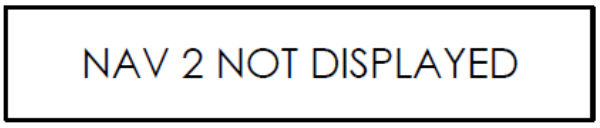
1. Placards and Decals

Shelf Installation

The Shelf Installation requires one (1) placard that is mounted to the upper surface of the Shelf in plain view. The placard will read: "**MAX LOAD 30 LBS**".

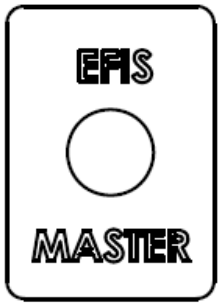
Instrument Panel Installation

When NAV 2 is not displayed on the GDU 620, the Instrument Panel Installation requires one (1) placard that is mounted to the top of the pedestal, just below the Instrument Panel in plain view.



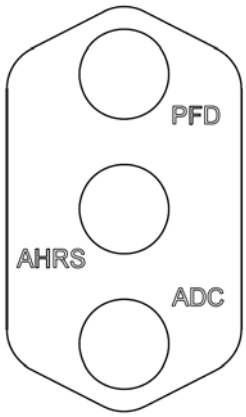
EFIS Master Circuit Breaker Installation

The EFIS Master Circuit Breaker Installation requires one (1) placard that is mounted to the left side of the pedestal with a .50 in diameter hole cut-out in the middle so the circuit breaker can stick through the placard.



E.F.I.S. Circuit Breaker Installation

Circuit Breaker Installation requires one (1) placard that is mounted to the top of the lower pedestal with three .50 in diameter hole cut-outs in the middle so the circuit breakers can stick through the placard.



2. Decal and Placard Application

a) Wipe the surface area with isopropyl alcohol or acetone to thoroughly clean, before applying the decal or placard. Allow cleaned area to dry. Separate backing from adhesive side of decal and apply to cleaned, dry surface. Roll out all wrinkles.

b) Mask around edges, where practical, (do not put tape on decal surface) with masking tape. Seal edges of placard or decal with 3M #3950 Edge Sealer. Remove any masking tape after 1-2 minutes.

CHAPTER 12

Section 12-00-00 Servicing Maintenance Practices

This chapter includes Return-to-Service Practices and Calibration Practices to be used with the G500H Flight Display System Installation.

Section 12-10-00 Return-to-Service Practices

1. General

a) GMU 44 Magnetometer

1. Power up the G500H system with the GDU 620 in normal mode.
2. Verify that the GDU displays valid heading within approximately one minute. Note that heading can remain invalid if the magnetometer is near a large metal structure such as a hangar wall or if the magnetometer is close to a large ground power cart.
3. Verify that no unexpected alerts are present. If alerts are present, troubleshoot using Section 31-00-00 Troubleshooting.

b) GDC 74H

1. Power up the G500H system with the GDU 620 in normal mode.
2. Verify that the GDU displays valid air data within approximately one minute.
3. Verify that no unexpected alerts are present. If alerts are present, troubleshoot using Section 31-00-00 Troubleshooting.
4. Drain pitot-static system (reference table 5-01 90 Day Inspection)
5. Perform a leak check of the pitot-static system and observe the airspeed, altitude, and vertical speed for proper operation.

c) GRS 77H

1. Power up the G500H system with the GDU 620 in normal mode.
2. Verify that the GDU displays valid heading and attitude within approximately one minute. Note that heading can remain invalid if the magnetometer is near a large metal structure such as a hangar wall or if the magnetometer is close to a large ground power cart.
3. Verify that no unexpected alerts are present. If alerts are present, troubleshoot using Section 31-00-00 Troubleshooting.

d) GDU 620

1. Power up the G500H system with the GDU 620 in normal mode.
2. Verify that there are no red-Xs and that no alerts are present. If red Xs or alerts are present, troubleshoot using Section 31-00-00 Troubleshooting.

Section 12-20-00 Calibration Requirements

Condition	Calibrations Required		
	GRS 77H Pitch/Roll Offset See Section 5 of the G500H STC Installation Manual	**GRS/GMU Magnetic Calibration** See Section 5 of the G500H STC Installation Manual	**Engine Run-up Vibration Test** See Section 5 of the G500H STC Installation Manual
GRS 77H AHRS was removed and/or replaced. The mounting tray was NOT removed and the mounting tray bolts were NOT loosened.	None Required.		
GRS 77H AHRS was removed and/or replaced. The mounting tray WAS removed and/or mounting tray bolts WERE loosened.	X	X	X
GRS 77H AHRS Configuration Module was replaced.	X	X	X

CHAPTER 20

Section 20-00-00 Standard Practices

This chapter contains maintenance information and procedures that are common standard practices used on the G500H installation. Information contained in this chapter is standard torque charts and application procedures, corrosion prevention, painting, mechanical fastener sealing, and dye penetrant inspection techniques.

Section 20-10-00 Torques Maintenance Practices

1. Torque Wrenches

a) Torque Wrench Accuracy

Torque wrenches must be of good quality and calibrated at least once a year. Any torque wrench that has been dropped or abused should be calibrated to ensure continued accuracy.

b) Application of Torque Wrench Loads

(1) Be sure the bolt and nut and the surface they bear on are clean and dry, unless otherwise specified by the manufacturer.

(2) Run the nut down to near contact with the washer or bearing surface and check the friction drag torque required to turn the nut. Add the friction drag torque to the desired torque to arrive at the “final torque” to be registered on the torque wrench indicator.

(3) Whenever possible, apply the torque to the nut instead of the bolt. This will reduce rotation of the bolt in the hole and reduce wear.

(4) Apply a smooth even pull when applying torque pressure.

(5) If special adapters are used which will change the effective length of the torque wrench, the final torque indication or wrench setting must be adjusted accordingly. To determine the torque wrench setting or indication with adapter installed reference Figure 20-01.

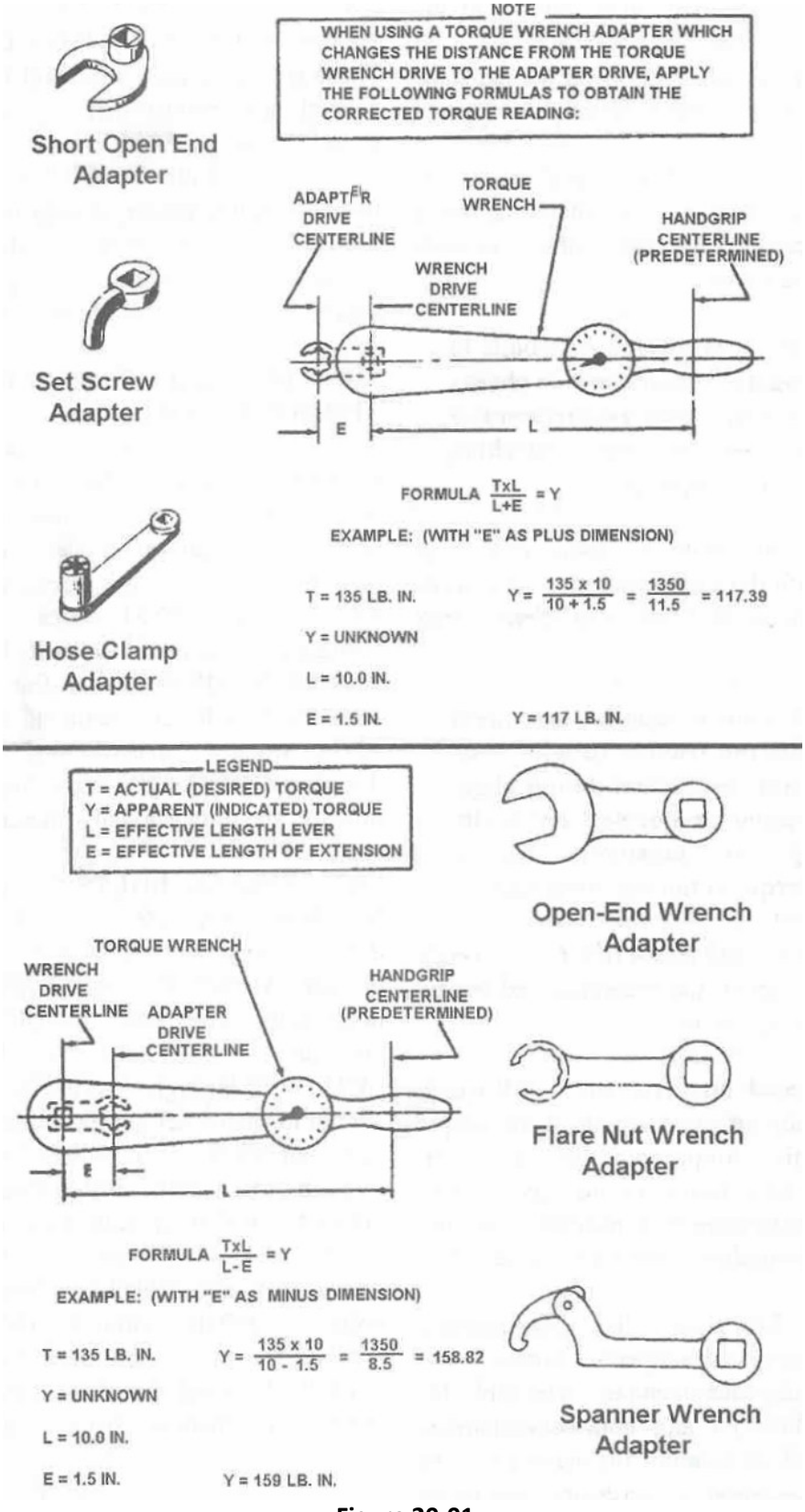


Figure 20-01

20-10-00

2. Torque Wrenches

Warning: Do not exceed maximum allowable torque value. Overstressing of fastener may result.

Standard hardware torque values are given in the following tables 20-01 through table 20-03. Table 20-01 gives recommended torque values for fine thread fasteners, shear and tension applications. Table 20-02 gives recommended torque values for coarse thread fasteners, shear and tension applications. Table 20-03 gives recommended torque values for phillips head screws.

Table 20-01- Recommended Torque Values for Fine Thread Fasteners

Thread Size Fractional (decimal)	Shear		Tension	
	Recommended in-lb (N m)	Maximum in-lb (N m)	Recommended in-lb (N m)	Maximum in-lb (N m)
8-36 (0.1640-36)	7-9 (0.79-1.02)	12 (1.36)	12-15 (1.36-1.69)	20 (2.26)
10-32 (0.1900-32)	12-15 (1.36-1.69)	25 (2.82)	20-25 (2.25-2.82)	40 (4.51)
¼-28 (0.2500-28)	30-40 (3.38-4.51)	60 (6.77)	50-70 (5.64-7.90)	100 (11.29)
5/16-24 (0.3125-24)	60-85 (6.77-9.60)	140 (15.81)	100-140 (11.29-15.81)	225 (25.41)
3/8-24 (0.3750-24)	95-110 (10.73-12.42)	240 (27.11)	160-190 (18.07-21.46)	390 (44.05)
7/16-20 (0.4375-20)	270-300 (30.49-33.88)	500 (56.48)	450-500 (50.83-56.48)	840 (94.88)
½-20 (0.5000-20)	290-410 (32.75-46.31)	660 (74.55)	480-690 (54.22-77.94)	1,100 (124.25)
9/16-18 (0.5625-18)	480-600 (54.22-67.77)	960 (108.44)	800-1,000 (90.36-112.96)	1,600 (180.73)
5/8-18 (0.6250-18)	660-780 (74.55-88.10)	1,400 (158.14)	1,100-1,300 (124.25-146.84)	2,400 (271.10)
¾-16 (0.7500-16)	1,300-1,500 (146.84-169.44)	3,000 (338.88)	2,300-2,500 (259.80-282.40)	5,000 (564.80)
7/8-14 (0.8750-14)	1,500-1,800 (169.44-203.32)	4,200 (474.43)	2,500-3,000 (282.40-338-88)	7,000 (790.72)
1-12 (1.0000-12)	2,200-3,300 (248.51-372.76)	6,000 (677.76)	3,700-5,500 (417.95-621.28)	10,000 (1129.6)
1-1/8-12 (1.1250-12)	3,000-4,200 (338.88-474.43)	9,000 (1016.6)	5,000-7,000 (564.80-790.72)	15,000 (1694.4)
1-1/4-12 (1.2500-12)	5,400-6,600 (609.98-745.53)	15,000 (1694.4)	9,000-11,000 (1016.6-1242.6)	25,000 (2824.0)

Table 20-02. Recommended Torque Values for Coarse Thread Fasteners

Thread Size Fractional (decimal)	Shear		Tension	
	Recommended in-lb (N m)	Maximum in-lb (N m)	Recommended in-lb (N m)	Maximum in-lb (N m)
8-32 (0.1640-32)	7-9 (0.79-1.02)	12 (1.36)	12-15 (1.36-1.69)	20 (2.26)
10-24 (0.1900-24)	12-15 (1.36-1.69)	21 (2.37)	20-25 (2.25-2.82)	35 (3.95)
¼-20 (0.2500-20)	25-30 (2.82-3.38)	45 (5.08)	40-50 (4.51-5.64)	75 (8.47)
5/16-18 (0.3125-18)	48-55 (5.42-6.21)	100 (11.29)	80-90 (9.03-10.16)	160 (18.07)
3/8-16 (0.3750-16)	95-100 (10.73-11.29)	170 (19.20)	160-185 (18.07-20.89)	275 (31.06)
7/16-14 (0.4375-14)	140-155 (15.81-17.50)	280 (31.62)	235-255 (26.54-28.8)	475 (53.65)
½-13 (0.5000-13)	240-290 (27.11-32.75)	520 (58.73)	400-480 (45.18-54.22)	880 (99.40)
9/16-12 (0.5625-12)	300-420 (33.88-47.44)	650 (73.42)	500-700 (56.48-79.07)	1,100 (124.25)
5/8-11 (0.6250-11)	420-540 (47.44-60.99)	900 (101.66)	700-900 (79.07-101.66)	1,500 (169.44)
¾-10 (0.7500-10)	700-950 (79.07-107.31)	1,500 (169.44)	1,150-1,600 (129.90-180.73)	2,500 (282.40)
7/8-9 (0.8750-9)	1,300-1,800 (146.84-203.32)	2,700 (474.43)	2,200-3,000 (248.51-338-88)	4,600 (519.61)
1-8 (1.0000-8)	2,200-3,000 (248.51-338.88)	4,500 (508.32)	3,700-5,000 (417.95-564.80)	7,600 (858.49)
1-1/8-8 (1.1250-8)	3,300-4,000 (372.76-451.84)	7,200 (813.31)	5,500-6,500 (621.28-734.24)	12,000 (1355.5
1-1/4-8 (1.2500-8)	4,000-5,000 (451.84-564.80)	10,000 (1129.6)	6,500-8,000 (734.24-903.68)	16,000 (1807.4 N m)

Table 20-03. Recommended Torque Values for Phillips Head Fasteners

Thread Size Fractional (decimal)	Recommended in-lb (N m)	Maximum in-lb (N m)
8-32 (0.1640-32	12-15 (1.36-1.69)	23 (2.59)
10-32 (0.1900-32)	20-25 (2.25-2.82)	35 (3.95)
¼-28 (0.2500-28)	60-70 (6.77-7.90)	90 (10.16)
5/16-24 (0.3125-24)	110-125 (12.42-14.12)	150 (16.94)
3/8-24 (0.3750-24)	150-175 (16.94-19.76)	225 (25.41)
7/16-20 (0.4375-20)	230-280 (25.98-31.62)	450 (50.83)
½-20 (0.5000-20)	550-650 (62.12-73.42)	850 (96.01)
9/16-18 (0.5625-18)	750-900 (84.72-101.66)	1,200 (135.55)
5/8-18 (0.6250-18)	1,100-1,300 (124.25-146.84)	1,600 (180.73)

Section 20-30-00 Painting Maintenance Practices

The following procedures should be used to touch-up paint flaking, scratches, nicks, and gouges.

Warning: Cleaning solvents and epoxy primer are flammable. Cleaning solvents, epoxy primer, and alodine can cause burns and irritation when skin is contacted. Vapors are harmful and caustic to eyes; Goggles must be worn for eye protection. Cleaning solvents and alodine are poisonous. Vapors are harmful to life or health; work should be performed with proper ventilation and / or respirators should be worn while working with Cleaning solvents, epoxy primer and alodine.

1. Paint Touch-Up of Small Areas

Use the following procedures to touch-up paint of small sanded areas and Nicks, Scratches, Gouges, Etc., that do not go through paint and primer to bare metal.

a. Wipe surface clean with trichloroethane, MIL-T-81533, or equivalent cleaning solvent, and wipe dry immediately.

b. Apply coat of epoxy polymide primer, MIL-P-23377F or equivalent, to match original. Feather primer coating onto surrounding color coat. Allow primer to air dry for 30 minutes.

c. Apply topcoat to match original finish.

Section 20-40-00 Corrosion Control Maintenance Practices

1. Corrosion Control

The G500H mounting components are fabricated primarily of aluminum. All components should be inspected regularly for any signs of corrosion. The following procedures should be used for removing corrosion and treating affected areas.

2. Corrosion Removal

Remove corrosion by either chemical or mechanical means.

a) Paint Removal, Chemical

Caution: Do not use chemical paint stripper on composite materials. Chemical paint strippers can cause composite components to debond and / or loose adhesion of the epoxy matrix.

(1) Mask all non-metallic surfaces in area to be stripped as well as areas where solution may get entrapped.

Warning: Paint stripper can cause burns and irritation when it contacts skin; proper gloves should be worn. Vapors are harmful and caustic to eyes; Goggles must be worn for eye protection. Paint stripper is poisonous. Vapors are harmful to life or health; work should be performed with proper ventilation and / or respirators should be worn while working with paint stripper.

(2) Using a fiber brush, apply sufficient paint stripper, (Turco 5873), to cover area of removal.

Note: If paint stripper evaporates quickly or works slowly, cover area with plastic sheet.

(3) Allow paint remover to remain on surface for a time sufficient to cause wrinkling and lifting of paint (about 10-30 minutes).

(4) Using non-metallic scraper or abrasive pads, (3M scotchbrite 63), scrub area to further loosen paint.

(5) Re-apply paint stripper, (Turco 5873), as necessary in areas where paint remains tightly adherent.

(6) Wash and scrub surface with demineralized water and alkaline cleaner to neutralize paint stripper.

(7) Remove masking materials and any residual paint or stripper

(8) Rinse with demineralized water.

b) Paint Removal, Mechanical

Caution: Do not sand into or expose composite fibers. Do not remove more material than necessary. Do not use aluminum oxide abrasive materials on epoxy/graphite materials.

Use abrasive flap wheel, abrasive disk, abrasive paper, or plastic media blast to remove paint.

c) Corrosion Removal

Note: Aircraft shall be electrically grounded during corrosion removal operations. When removing exterior corrosion from electronic boxes, the unit case shall be electrically grounded during the complete operation.

(1) Corrosion shall be removed by the mildest method possible.

(a) Hand scrub with dry non-metallic brush/pad. (3M scotchbrite 63 cellulose/nylon scouring pad).

(b) Use abrasive cloth. (Aluminum oxide 240 grit). Caution: Do not use on epoxy/graphite materials.

(c) Use 320 grit sandpaper.

(d) Glass bead blast.

(e) Use 240 grit abrasive wheel.

Note: On high strength steel, do not use power tools other than a flap brush or mandrel with abrasive mat; overheating and notching may occur.

(2) Ensure all active corrosion and corrosion products have been removed.

(3) Using 320 grit sandpaper blend edges of paint (if applicable) surrounding repair area to create a smooth transition. Vacuum area thoroughly to remove all contaminates.

(4) Apply aluminum surface treatment if applicable. (Ref. Item 4. Below).

(5) Touch-up primer and paint to match original

3. Mechanical Defects (Nicks, Scratches, Gouges, Etc.)

a) Determine if damage is through the paint. If not touch-up the paint (Ref. Section 20-30-00,).

b) If damage is through the paint surface prepare area for paint touch-up using following methods.

Note: On high strength steel, do not use power tools other than a flap brush or mandrel with abrasive mat; overheating and notching may occur.

(1) Remove defect using flap wheel, abrasive disk, abrasive paper, or plastic media blast.

(2) Using 320 grit sandpaper, blend edges of paint surrounding repair area to create a smooth transition.

(3) Apply aluminum surface treatment if applicable. (Ref. Item 4. Below).

(4) Touch-up primer and paint to match original.

4. Aluminum Alloy Surface Touch-Up Treatment

Note: If there is any question of whether or not the protective coating is removed, surface treatment shall be applied.

Warning: Alodine and solvents can cause burns and irritation when it contacts skin; proper gloves should be worn. Vapors are harmful and caustic to eyes; Goggles must be worn for eye protection. Alodine is poisonous. Vapors are harmful to life or health; work should be performed with proper ventilation and / or respirators should be worn while working with Solvents and alodine. Solvent cleaners are flammable.

a) Scuff surface using 3M scotchbrite 63 cellulose/nylon scouring pad.

b) Wipe exposed surface with isopropyl alcohol or aliphatic naphtha. Allow area to air dry for 10 minutes. Do not touch or otherwise contaminate surface after solvent wipe.

c) Apply Alodine 1200 or equivalent with cotton swap, non-metallic brush, or by dipping. Maintain moist surface for 1-3 minutes with repeated application. Surface will become amber or brown in color.

d) Irrigate surface with demineralized or distilled water, to remove surface treatment chemical. Allow to air dry for approximately 1 hour.

e) If there are any surface without color change, repeat procedure.

f) Apply paint touch-up as required. (Ref Section 20-30-00)

Section 20-90-00 Dye Penetrant Inspection Methods

Warning: solvents can cause burns and irritation when it contacts skin; proper gloves should be worn. Vapors are harmful and caustic to eyes; Goggles must be worn for eye protection. Vapors are harmful to life or health; work should be performed with proper ventilation and / or respirators should be worn while working with Solvents. Solvent cleaners are flammable.

Use the following steps to perform dye penetrant inspection:

1. Using cleaning solvent trichloroethane, MIL-T-81533, clean area to be inspected.
   Note: Parts to be inspected must be dry and heated to at least 70° F (21.1° C), but not over 130° F (54.4° C).

   Note: Manufacturers instructions on Dye Penetrant Kit take precedence over the following instructions.

2. Apply penetrant from dye penetrant kit, MIL-25135, by brushing, spraying, or by dipping. Allow to stand for a minimum of 2 minutes.

3. Remove excess penetrant with remover (available with dye penetrant kit), or by cleaning with plain water. Allow part to dry.

4. Apply a light even layer of developer from dye penetrant kit by brushing, spraying, or by dipping. When dipping, avoid excess quantity.

5. Penetrant, which has penetrated into cracks (or other openings) in the surface of the part will be drawn out by the developer resulting in a bright red indication.

6. If part is serviceable or repairable, clean part free of penetrant and developer with trichloroethane, MIL-T-81533 cleaning solvent

CHAPTER 31

Section 31-00-00 Instruments

1. Description and Operation

The Garmin G500H Flight Display System consists of an instrument panel mounted GDU 620 display and remote mounted LRUs which provide data to the display. The GDU 620 provides controls for the G500H system and a PFD and MFD in the pilot's primary field of view. The remote mounted LRUs include one GRS 77H AHRS, one GMU 44 Magnetometer, one GDC 74H ADC, and one GTP 59 OAT probe.

The G500H system depends on electrical power to function. The Garmin Display Unit (GDU), Attitude and Heading Reference System (AHRS), and Air Data Computer (ADC) are connected to the aircraft main bus.

The major components of the G500H are circuit breaker protected with push-pull type circuit breakers available to the pilot. These breakers are located in the pedestal circuit breaker panel (30 α) and are labeled as shown in Table 31-01.

Table 31-01 Circuit Breakers

Label	Unit Controlled
PFD	Garmin Display Unit (PFD/MFD), GDU 620
AHRS	Attitude and Heading Reference System, GRS 77H
ADC	Air Data Computer, GDC 74H

2. Removal and Installation

If any G500H LRUs are removed and reinstalled or a new unit is installed, verify that the LRU unit power-up self-test sequence is successfully completed and no failure messages are annunciated on the GDU 620 display.

If any work has been done on the rotorcraft that could affect the system wiring or any interconnected equipment, verify the G500H system unit power-up self-test sequence is successfully completed and no failure messages are annunciated on the GDU 620 display.

Whenever removing or installing units, remove power from the LRU by removing aircraft power or opening the LRU circuit breaker.

a) GMU 44 Magnetometer

i Removal

1. Access the GMU 44 magnetometer (reference Section 6-00-00 Dimensions and Access).
2. Unscrew the three screws that hold the GMU 44 to its mounting rack.
3. Carefully lift the GMU 44 from the rack.
4. Disconnect the wiring harness.

ii Installation

1. Visually inspect the connectors to ensure there are no bent or damaged pins. Repair any damage.
2. Connect the wiring harness to the GMU 44.
3. Lower the GMU 44 into the rack and secure the plate with the three Phillips screws.

Original GMU 44 is Reinstalled

If the original GMU 44 was reinstalled, then software loading is not required. This does not include units that were returned for repair as their software and configuration files are deleted during the repair testing process. Recalibration is required only if the mount for the magnetometer was changed. If the magnetometer mount was changed, refer to Section 5.6.2 of the G500H STC Installation Manual for the GRS 77H/GMU 44 Magnetic Calibration.

New, Repaired or Exchange GMU 44 is Installed

If a new, repaired, or exchange GMU 44 unit is installed, then software must be loaded and the GRS 77H/GMU 44 Magnetic Calibration must be performed. Refer to Section 5 of the G500H STC Installation Manual for instructions on software loading (5.4.3) and Magnetic Calibration (5.6.2).

iii Return to Service

After removing and reinstalling the GMU 44, the following return-to-service checks should be performed (reference Section 12-00-10 Return to Service Checks).

b) GDC 74H Air Data Computer

i Removal

1. Access the GDC 74H, (reference Section 6-00-00, Dimensions and Access)
2. Disconnect the pitot/static plumbing from the rear of the unit. Disconnect the single connector.
3. Remove the two (2) screws on the mounting plate near the pitot/static ports. Loosen the other two (2) screws.

4. Carefully remove the unit from its mounting location.

ii Installation

1. Position the unit and fasten using the four (4) screws.
2. Connect the pitot/static plumbing.
3. Inspect the connector and pins for damage. Repair any damage.
4. Connect the connector to the unit, ensuring that each jackscrew is secured.

Original GDC 74H is Reinstalled

If the original GDC 74H is re-installed, then no software loading is required. This does not include units that were returned for repair as their software and configuration files are deleted during the repair testing process.

New, Repaired or Exchange GDC 74H is Installed

If a new, repaired, or exchange GDC 74H unit is installed, then software must be loaded to the unit. Refer to Section 5.4.4 of the G500H STC Installation Manual for more information.

GDC 74H Configuration Module is Replaced

If the GDC 74H Configuration Module is replaced, the GDC 74H must be configured. Refer to Section 5.5.8 of the G500H STC Installation Manual

iii Return to Service

After removing and reinstalling the GDC 74H, the return-to-service checks must be performed (reference Section 12-00-00 Return-to-Service Check).

C) GRS 77H AHRS

i Removal

1. Disconnect the GRS 77H connector.
2. Loosen the four Phillips thumbscrews with a screwdriver.
3. Gently lift the GRS 77H from the mounting plate (if the supports for the mounting plate are removed, the GRS 77H must be recalibrated)

ii Installation

1. Place the GRS 77H on the mounting plate, ensuring the orientation is correct.
2. Fasten the unit to the plate using the Phillips thumbscrews. Recommended torque is 22-25 inch pounds.

3. Visually inspect the connectors to ensure there are no bent or damaged pins. Repair any damage.
4. Connect the connector to the GRS 77H, ensuring that each slidelock is secured on both sides.

Original GRS 77H is Reinstalled

If the original GRS 77H is reinstalled, then no software loading is required. This does not include units that were returned for repair as their software and configuration files are deleted during the repair testing process. Reference Section 12-20-00 Calibration Requirements to determine whether recalibration is required.

New, Repaired, or Exchange GRS 77H is Installed

If a new, repaired, or exchange GRS 77H unit is installed then software must be loaded per Section 5.4.2 of the G500H STC Installation Manual. Reference Section 12-20-00 Calibration Requirements to determine whether re-calibration is required.

GRS 77H Configuration Module is Replaced

If the GRS 77H Configuration Module is replaced, the GRS 77H must be re-calibrated. Reference Section 12-10-20 Calibration Requirements.

iii Return to Service

After removing and reinstalling the GRS 77H, the return-to-service check should be performed. (Reference Section 12-00-10)

d) GDU 620 MFD

i Removal

1. Remove the six mounting screws from the bezel of the GDU 620.
2. Pull the GDU 620 far enough out from the instrument panel to access the three rear connectors.
3. Disconnect the rear connectors.
4. Remove the GDU 620.

ii Installation

1. Visually inspect the connectors to ensure that there are no bent or damaged pins. Repair any damage.

2. Connect the rear connectors, ensuring that each slidelock is secured on both sides.
3. Set the GDU 620 into place.
4. Install the six mounting screws into the bezel of the GDU 620.

NOTE: The installation configuration settings are stored in the configuration module and will be retained when the GDU 620 is replaced with a new unit. User settings, such as map orientation preferences, are stored internally and will be lost when the GDU 620 is replaced with a new unit.

Original GDU 620 is Reinstalled

If the original GDU 620 is reinstalled, then no software loading is required. This does not include units that were returned for repair as their software and configuration files are deleted during the repair process. No configuration is required.

New, Repaired or Exchange GDU 620 is Installed

If a new, repaired, or exchange GDU 620 unit is installed, then software must be loaded. No configuration is required.

NOTE: Upon first power-up after installing a new GDU 620, it is normal to see a series of "LOADING…" messages appear on the screen. These messages indicate that the GDU 620 is updating its configuration settings from the configuration module.

Refer to Section 5 of the G500H STC Installation Manual for the GDU 620 Software Loading procedure (5.4.1), followed by the Manifest Configuration (5.5.5) and the Configuration Module Update (5.5.12).

GDU 620 Configuration Module is Replaced

If the GDU 620 Configuration Module is replaced, the GDU 620 will update the configuration module from its internally-stored settings when the UPDT CFG soft key is pressed. If the GDU 620 is replaced at the same time as the Configuration Module, then the System Setup will need to be performed per Section 5.5 of the G500H STC Installation Manual.

e) Cooling Fan (if option is installed)

i Removal

1. Disconnect the hoses from the cooling fan.
2. Remove the three screws mounting the cooling fan to the pedestal.

3. Disconnect the connectors.
4. Remove the cooling fan.

ii Installation

1. Connect the connectors.
2. Set the cooling fan into place.
3. Install the three mounting screws into the cooling fan.

3. Illustrated Parts List

This section contains information on parts for the G500H Flight Display System, for use in ordering replacements if necessary.

Table 31-01 Parts List for Figure 31-01

ITEM NUMBER	QUANTITY	PART NUMBER	DESCRIPTION	MANUFACTURER
1	1	115-01814-00	DOUBLER	GARMIN
2	8	MS20470AD4-3	RIVET	
3	6	MS20426AD5-5	RIVET	
4	(3)	211-60037-08	SCREW	GARMIN
5	A/R	MIL-S-8802	SEALING COMPOUND	
6	1	011-00870-10	GMU 44 MAGNETOMETER	GARMIN
7	1	115-00481-10	INSTALL RACK	GARMIN

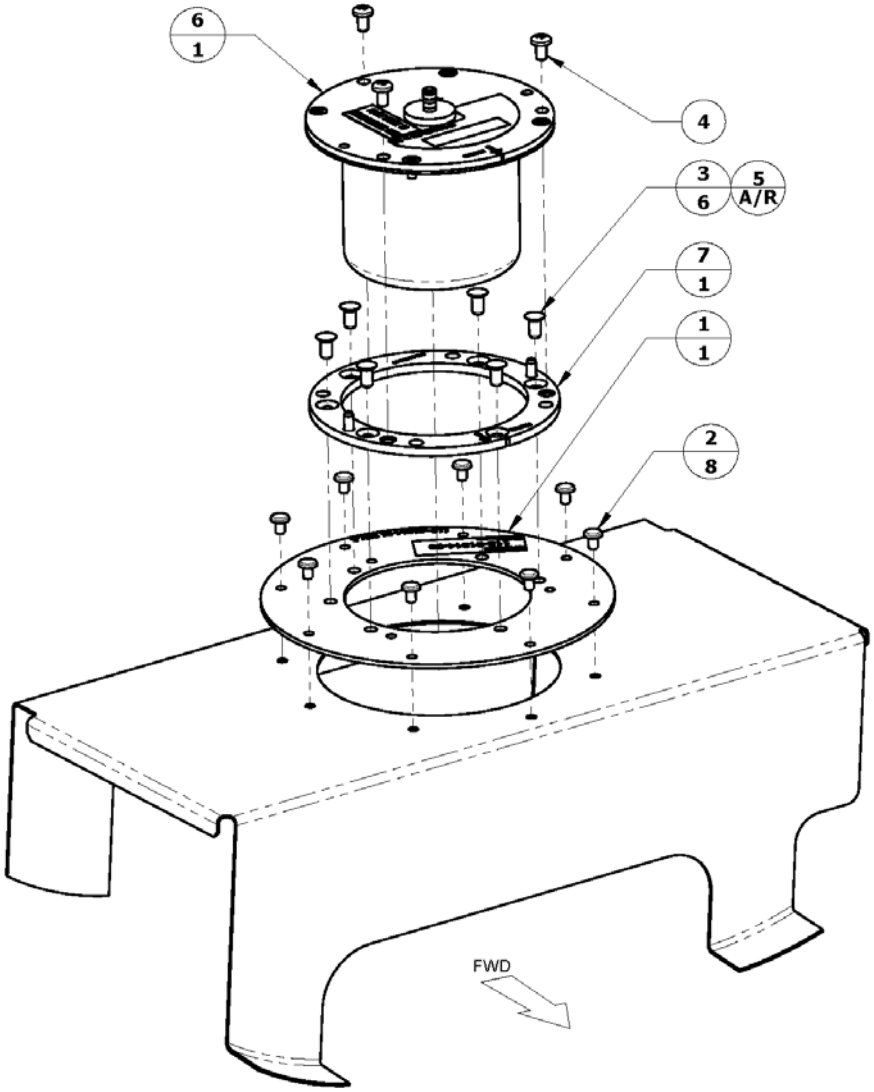


Figure 31-01
GMU 44 MAGNETOMETER INSTALLATION, EXPLODED VIEW
(Reference Table 31-01)

Table 31-02 Part Lists for Figures 31-02				
ITEM NUMBER	QUANTITY	PART NUMBER	DESCRIPTION	MANUFACTURER
1	1	115-01815-00	FWD GUSSET SUPPORT BRACKET	GARMIN
2	1	115-01816-00	AFT GUSSET SUPPORT BRACKET	GARMIN
3	1	115-01817-00	SHELF	GARMIN
4	8	AN3-3A	BOLT	
5	8	AN3-4A	BOLT	
6	16	MS20426AD3-3	RIVET	
7	8	MS21042L3	NUT	
8	16	MS21075L3N	NUT	
9	24	NAS1149D0332K	WASHER	

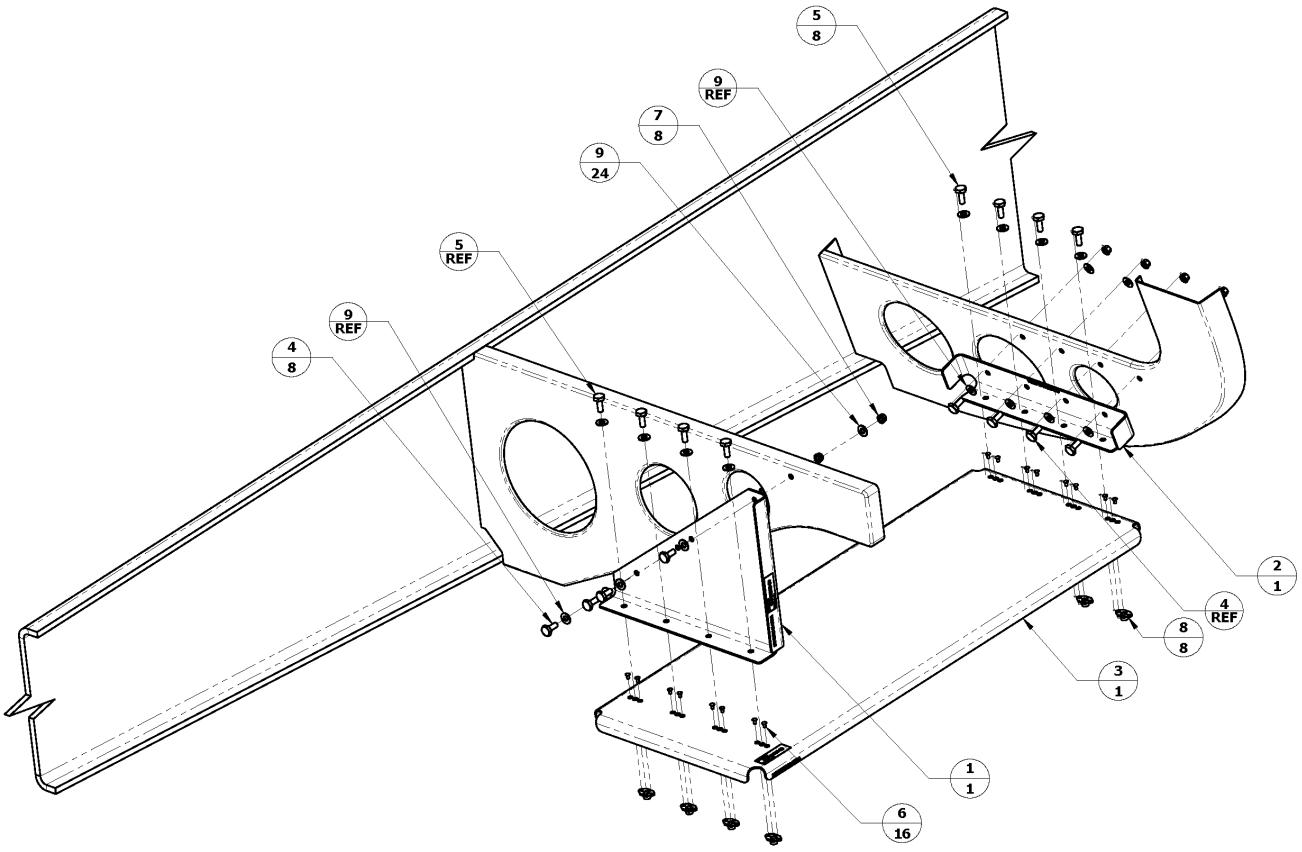


Figure 31-02
SHELF INSTALLATION, EXPLODED VIEW
(Reference Table 31-02)

Table 31-03 Parts List for Figure 31-03				
ITEM NUMBER	QUANTITY	PART NUMBER	DESCRIPTION	MANUFACTURER
1	1	011-00882-11	GDC 74H ADC	GARMIN
2	4	AN525-10R7	SCREW	
3	4	MS21075L3N	NUTPLATE	
4	8	MS20426AD3-3	RIVET	

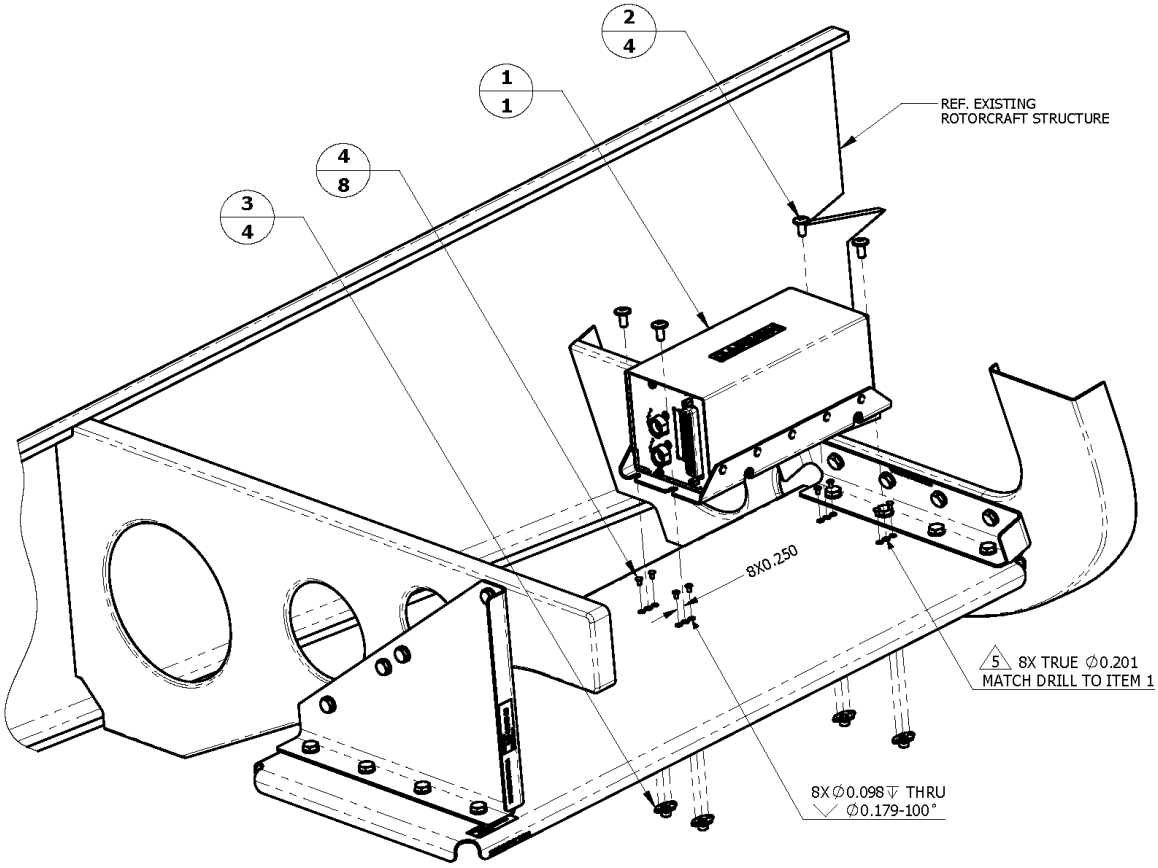


Figure 31-03
GDC 74H INSTALLATION EXPLODED VIEW
(Reference Table 31-03)

Table 31-04 Parts List for Figure 31-04				
ITEM NUMBER	QUANTITY	PART NUMBER	DESCRIPTION	MANUFACTURER
1	1	011-00868-20	GRS 77H AHRS	GARMIN
2	1	115-00459-00	GRS 77 MOUNT RACK	GARMIN
3	5	AN525-10R7	SCREW	
4	5	MS21075L3N	NUTPLATE	
5	10	MS20426AD3-3	RIVET	

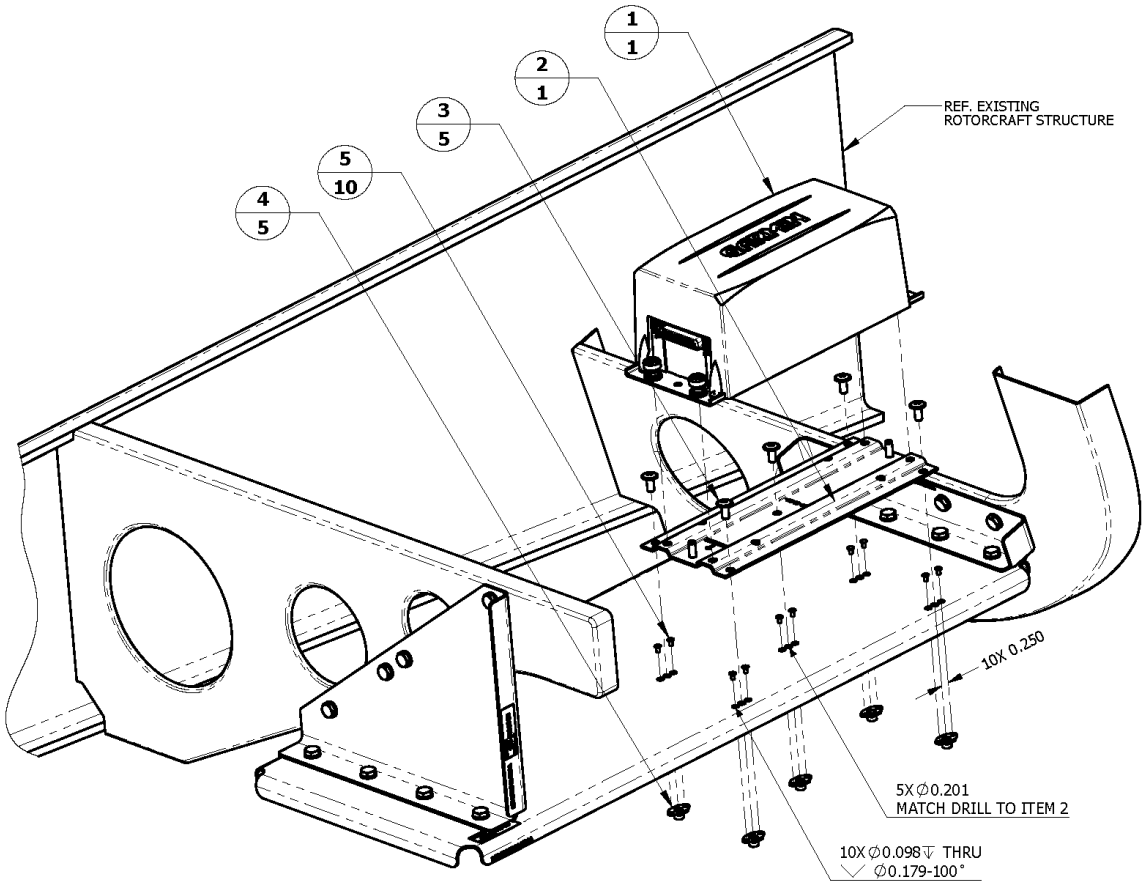


Figure 31-04
GRS 77H INSTALLATION, EXPLODED VIEW
(Reference Table 31-04)

Table 31-05 Part List for Figure 31-05				
ITEM NUMBER	QUANTITY	PART NUMBER	DESCRIPTION	MANUFACTURER
1	1	M81714/67-18	RAIL	
2	2	M81714/60-22-05	TERMINAL BLOCK	
3	1	AN525-10R7	SCREW	
4	1	MS21042L3	NUT	
5	2	NAS1149F0332P	WASHER	

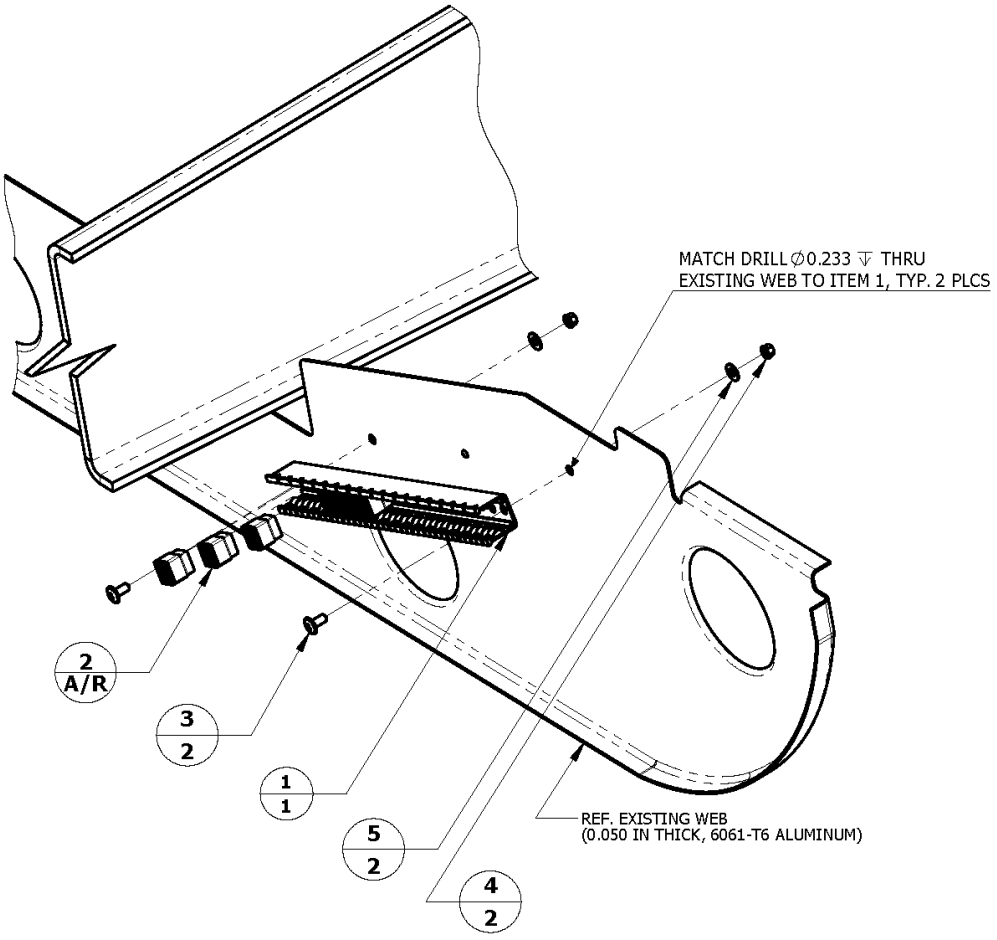


Figure 31-05
TERMINAL BLOCK INSTALLATION, EXPLODED VIEW
(Reference Table 31-05)

Table 31-06 Parts List for Figure 31-06				
ITEM NUMBER	QUANTITY	PART NUMBER	DESCRIPTION	MANUFACTURER
1	1	115-01812-00	DOUBLER	GARMIN
2	1	011-00978-00	GTP 59 OAT PROBE	GARMIN
3	8	MS20470AD4-3	RIVET	
4	A/R	MIL-S-8802	SEALING COMPOUND	

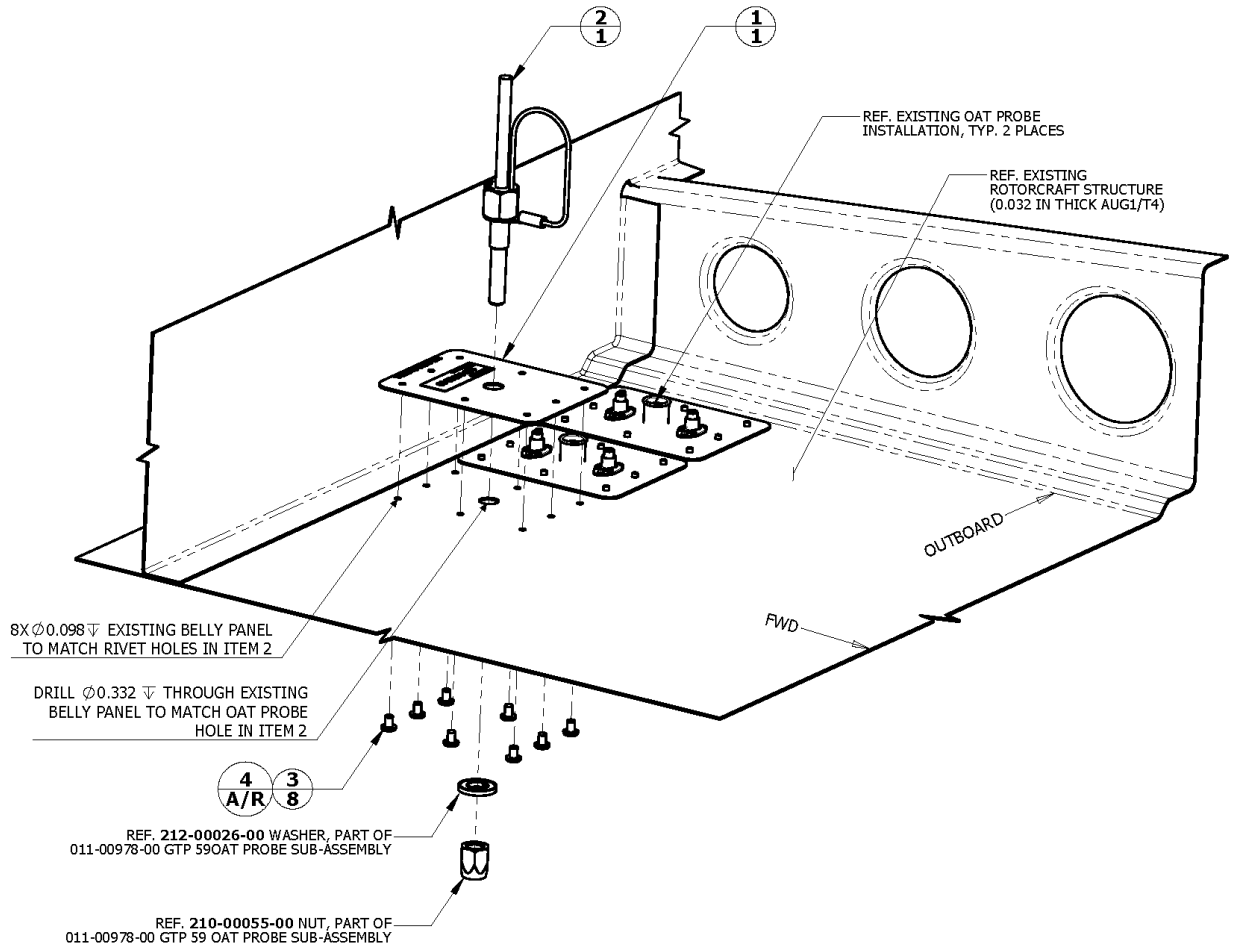


Figure 31-06
GTP 59 OAT PROBE INSTALLATON, EXPLODED VIEW
(Reference Table 31-06)

31-00-00

Table 31-07 Parts List for Figures 31-07				
ITEM NUMBER	**QUANTITY**	**PART NUMBER**	**DESCRIPTION**	**MANUFACTURER**
1*	1	011-03096-01	INSTRUMENT PANEL ASSEMBLY	GARMIN
2	1	011-01264-50	GDU 620 PFD/MFD	GARMIN
3	1	233-40024-00	DIMMING CONTROL PANEL	GARMIN
4	REF	EXISTING	GNS 430	GARMIN
5	REF	EXISTING	NR TACHOMETER	EUROCOPTER
6	REF	350A67-0159-20	2 IN EYEBROW LIGHT	EUROCOPTER
7†	REF	350A62118800	EMERGENCY BATTERY SWITCH	EUROCOPTER
8	REF	EXISTING	3 IN AIRSPEED	EUROCOPTER
9	REF	EXISTING	3 IN ALTIMETER	EUROCOPTER
10	REF	B19030MD05	V.E.M.D.	THALES
11	REF	704A47723072	ANNUNCIATOR PANEL	COMTRONIC
12	4	71450B23	LED POST LIGHT	WHELEN
13	1	LED-40-17-HE-E0FVP	ANNUNCIATOR (FAN)	VIVISUN
14	1	LED-40-17-HE-E0G3T	ANNUNCIATOR (LDG/TAXI)	VIVISUN
15	1	LED-40-17-HE-E0FYH	ANNUNCIATOR (LIMIT)	VIVISUN
16	2	MS21042L06	NUT	
17	3	MS33737-16C	INSTRUMENT NUT	
18	8	MS35214-29	SCREW	
19	7	MS35214-31	SCREW	
20	6	MS35214-44	SCREW	
21	6	NAS1149DN832H	WASHER	

*Reference Table 31-08 and Figure 31-08.

† Alt P/N for the Emergency Switch Overlay that comes with item 24 is 4332-28-15-NC, Vendor Aero Dynamix Inc. Item 7 is only required if the Emergency Switch is installed in the instrument panel.

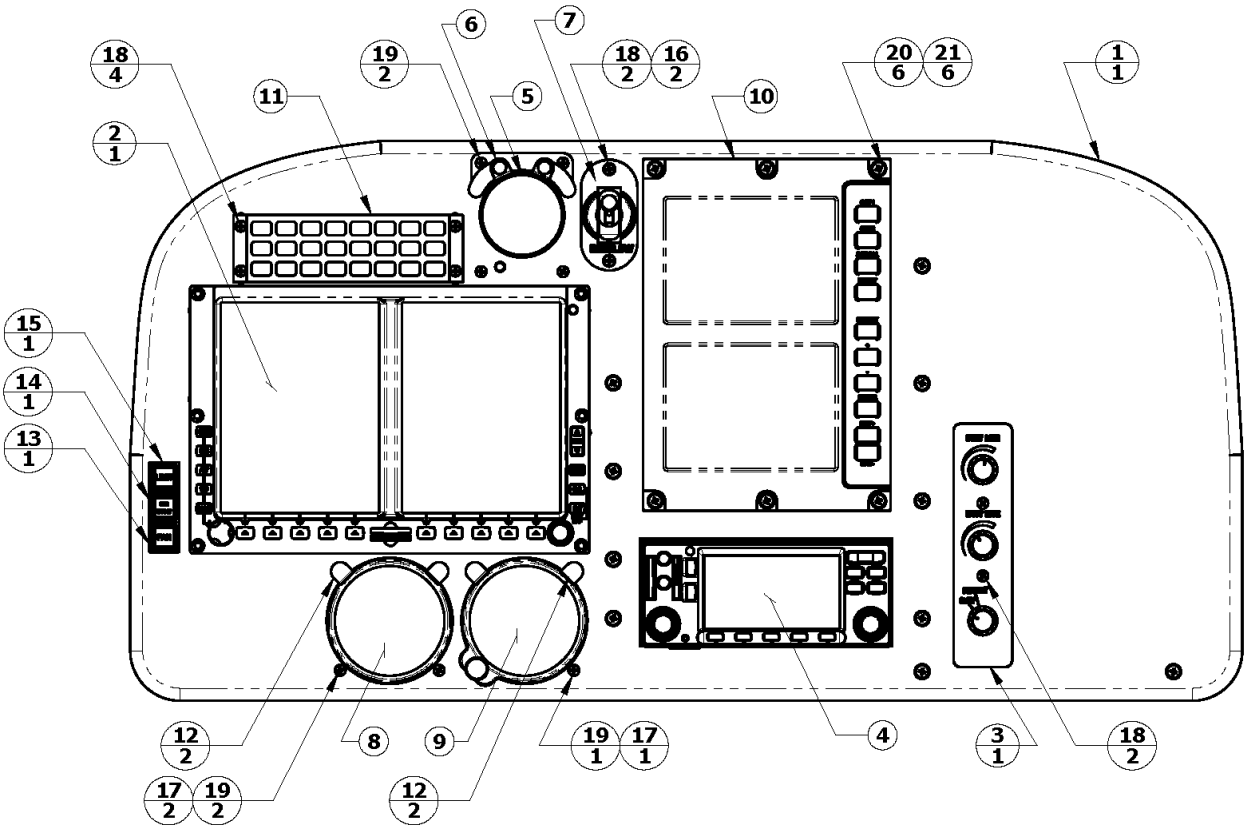


Figure 31-07
INSTRUMENT PANEL INSTALLATION
(Reference Table 31-07)

Table 31-08 Parts List for Figure 31-08				
ITEM NUMBER	**QUANTITY**	**PART NUMBER**	**DESCRIPTION**	**MANUFACTURER**
1	1	115-01818-01	INSTRUMENT PANEL	GARMIN
2	1	161-03095-01	LABEL	GARMIN
3	4	MS21061-08	NUTPLATE	
4	6	MS21069-08	NUTPLATE	
5	6	MS21071-06	NUTPLATE	
6	2	MS21075-08	NUTPLATE	
7	36	MS20426AD3-4	RIVET	

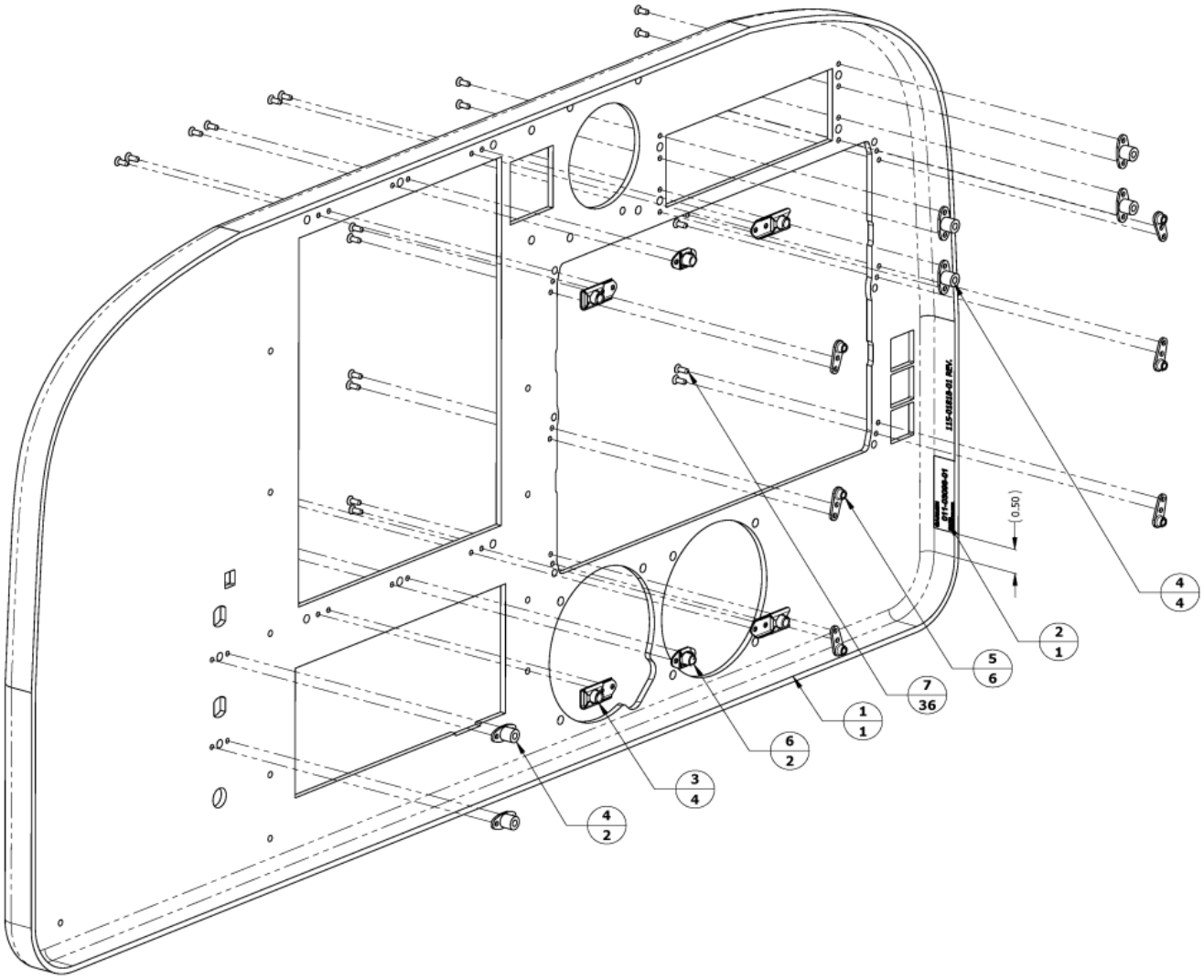


Figure 31-08
INSTRUMENT PANEL ASSEMBLY
(Reference Table 31-08)

Table 31-09 Parts List for Figure 31-09				
ITEM NUMBER	**QUANTITY**	**PART NUMBER**	**DESCRIPTION**	**MANUFACTURER**
1	1	013-00103-00	COOLING FAN	GARMIN
2	6	MS20426AD3-3	RIVET	
3	3	MS21059L06	NUTPLATE	
4	3	MS35206-236	SCREW	
5	3	NAS43DD1-20	SPACER	
6	3	MB-3A	CABLE TIE MOUNT	TYTON
7	7	TI8L-0	TYWRAP	TYTON
8	A/R	5700-1	COOLING HOSE	EDMO

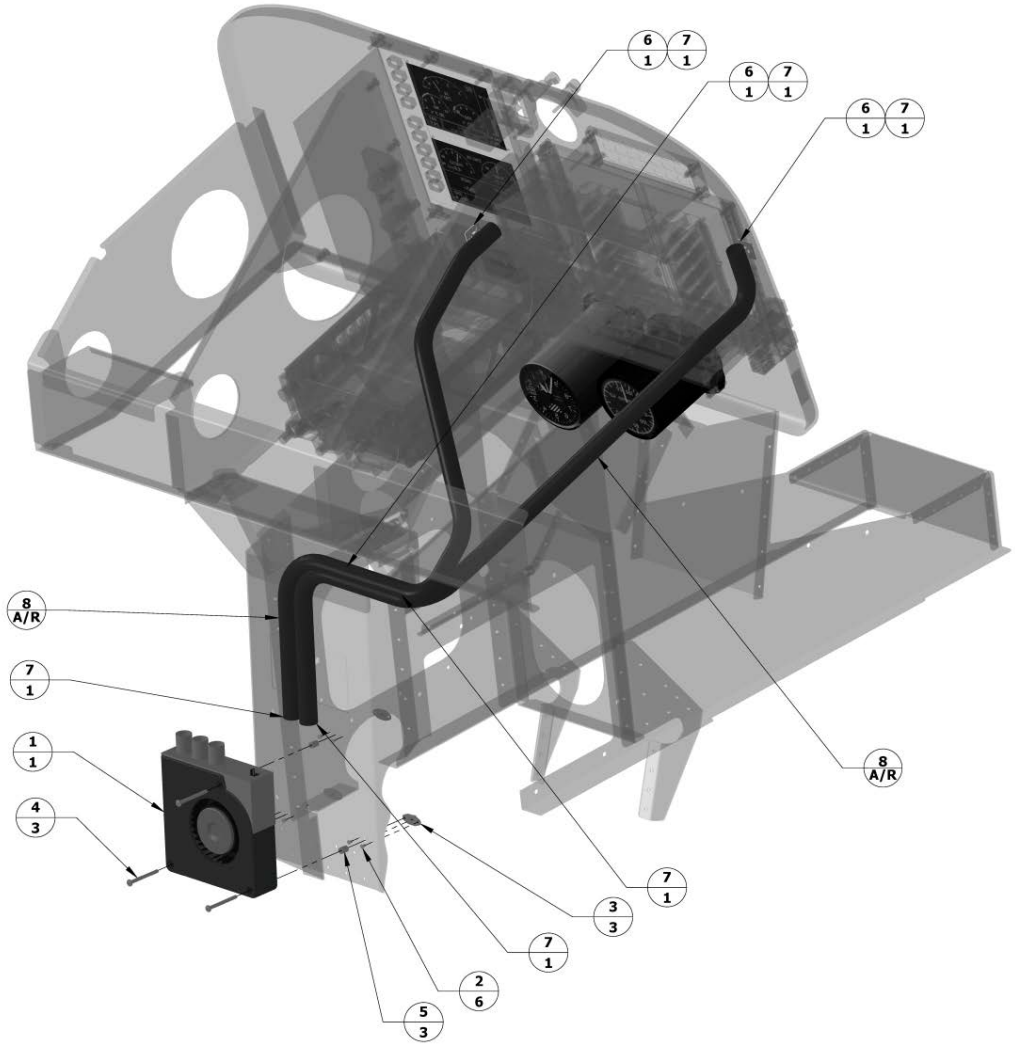


Figure 31-09
COOLING FAN INSTALLATION (OPTIONAL)
(Reference Table 31-09)

31-00-00

Table 31-10 List of Consumable Materials

DESCRIPTION	P/N	VENDOR/SPECIFICATION
THREAD LOCK	242	LOCTITE
ADHESIVE	1300L	3M
Cleaning cloth, Low-Lint	--	Commercial
Mineral Spirits, Cleaning Solvent	--	MIL-PRF-680, TYP II OR ASTM-D235
Alodine	Alodine 1200	--
Alodine	Iridite 14-2	--
Paint Stripper	Turco 5873	--
Polyamide Paint Primer	--	--
Dye Penetrant Kit	--	--
Acetone	--	ASTM-D329
Isopropyl Alcohol	--	TT-I-735
Trichloroethane	--	MIL-T-81533
Nylon Scouring Pad	(3M) Scotchbrite 63	3M
240 Grit Sandpaper	--	Commercial
320 Grit Sandpaper	--	Commercial
240 Grit Aluminum Oxide Abrasive	--	Commercial
Cloth	--	Commercial
Sealant	--	MIL-S-8802
Adhesive transfer tape 950 (2")	70-0060-3057-4	3M

4. Troubleshooting guide

If error indications are displayed on the GDU 620 display unit, consult the Troubleshooting section contained in Table 31-11.

The G500H will display a number of alerts on the GDU 620 MFD. These are listed in the Table 31-12.

Table 31-11 GDU 620 Troubleshooting Guide

Problem	Cause	Solution
Unit does not power up – blank screen.	Improper wiring; circuit breaker open.	Ensure power is properly wired to the GDU 620 and the circuit breaker is closed.
	Unit intensity turned down.	Ensure that unit is not in manual intensity control mode with the intensity turned down.
All expected configuration pages are not displayed.	An Installer Unlock Card is not inserted into the GDU 620.	Insert the Installer Unlock Card P/N 010-00769-60 into the bottom slot of the GDU 620 and cycle power.
The GDC OAT probe type shows up as UNKNOWN	The RS-232 connection to the GDC 74H is not working.	Ensure that the GDC 74H RS-232 connection to the GDU is properly wired, and ensure that the GDC 74H circuit breaker is closed.
When loading software, the LRU software is not being displayed on the SOFTWARE UPLOAD page.	The software loader card is installed in the bottom slot of the GDU 620.	Insert the loader card in the top slot and cycle power to the GDU.
	The software loader card contains no information.	Repeat the process for making the software loader card.
Configuration errors are displayed on power-up, before the GDU enters normal mode.	The configuration module has not been updated.	Update the configuration module.
Vertical GPS deviation is not displayed on the GDU 620.	For 400W/500W Series units, the ARINC 429 vertical deviation labels are not being transmitted.	Enable Labels on the 400W/500W Series unit ARINC 429 configuration page.
Unable to control the GPS course when in OBS mode.	The GPS navigator is not correctly configures as LNAV1/2 or SYS1/2.	Configure the ARINC 429 inputs/outputs for LNAV1 (SYS1) or LNAV2 (SYS2) based upon whether the navigator is GPS1 or GPS2.
Data is not being received from an ARINC 429 device.	ARINC 429 bus hi and low are swapped.	Verify wiring.

Problem	Cause	Solution
(valid data is being received on the 429 input port as shown on the GDU 620 PORT MONITORING page)	Wrong device is connected to port on GDU 620.	Use correct ports (refer to interconnect details).
Data is not being received from an ARINC 429 device. (no data is being received on the 429 input port as shown on the GDU 620 PORT MONITORING page)	On the transmitting LRU, the ARINC 429 transmitter speed is not set correctly.	Set the ARINC 429 transmitter speed to correct speed.
	Wiring is not correct.	Check for continuity/shorts and correct as required.
Attitude and heading on GDU 620 red 'X' / GRS 77H resets during air data ground testing.	Attitude and heading errors/resets are possible if the air data tests are conducted indoors without a good GPS signal. With marginal or no GPS signals present, sudden changes in airspeed caused by using a pressure tester may result in attitude and heading errors and possibly cause the GRS 77H to reset. This occurs because the artificial changes in airspeed cause disagreement with the other sensor measurements internal to the GRS 77H. This sensor disagreement will not occur in the normal conditions of flight.	This is expected behavior and no troubleshooting is required if this occurs. To reduce the chances of inducing attitude and heading errors/resets while conducting the air data tests, ensure that the G500H is receiving good GPS signals.
Heading red 'X' during air data ground testing	Invalidation of heading is possible if the air data tests are conducted indoors, due to typical magnetic anomalies, even with a good GPS signal.	This is expected behavior and no troubleshooting is required if this occurs.

Table 31-12 GDU 620 Alert Troubleshooting Guide

Alert Text	Cause	Solution
AHRS1 GPS – AHRS 1 using backup GPS source.	AHRS is using the backup GPS information	Verify GPS1 power and check the wiring
AHRS1 GPS - AHRS is not receiving any GPS information	AHRS is not receiving any GPS information.	Verify GPS power and check the wiring
AHRS1 GPS – AHRS 1 operating in exclusively in no-GPS mode.	AHRS is not receiving any GPS information.	Ensure that at least one GPS has acquired a valid position.
		If GDU 620 does not have a valid position, verify wiring between GDU and GPS receiver, and configuration of GDU 620 and GPS receiver.
		If GDU has a valid GPS position, verify wiring between GDU and GRS. Also verify time mark wiring.
AHRS1 GPS – AHRS 1 not receiving backup GPS information.	AHRS is not receiving GPS information from GPS2.	Verify GPS2 power and check the wiring
AHRS1 SRVC	AHRS magnetic field model should be updated. Appears on ground only.	Update GRS 77H IGRF model (current model is with aviation database).
AHRS1 TAS	AHRS is not receiving true airspeed from ADC.	GDC not powered up. Close ADC C/B.
		GDC not receiving input from GTP 59 OAT probe. Verify wiring is correct.
		ARINC 429 connection from GDC 74H to GRS 77H is not working. Verify wiring is correct.
CAL LOST	Registry reports that it has lost calibration data.	Contact Garmin Technical Support.
CNFG MODULE	The configuration module is inoperative.	Verify wiring to configuration module
		Replace configuration module
DATA LOST	Pilot stored data was lost. Recheck data and settings.	
FAN 1 FAIL	Fan 1 has reported 0 RPM when it was powered with a PWM duty cycle higher than or equal to 10%	Inspect the GDU fan for an obstruction. Contact Garmin Technical Support.

Alert Text	Cause	Solution
FAN 2 FAIL	Fan 2 has reported 0 RPM when it was powered with a PWM duty cycle higher than or equal to 10%	Inspect the GDU fan for an obstruction. Contact Garmin Technical Support.
GDL69 CONFIG	The GDL 69 configuration information stored in the GDL 69 and the GDU 620 configuration module do not match.	With the GDU 620 in configuration mode, go to the GDL 69 page in the GDL page group. Verify that the SET and ACTIVE configuration settings are the same. If not, use the SET>ACTV soft key to copy the configuration settings from the GDU 620 into the GDL 69.
	The GDL 69 configuration was updated using another LRU (e.g. the GMX 200 or 400W/500W).	Update the GDL 69 configuration using the GDU 620.
GDU CONFIG	This error appears whenever the GDU is replaced with a GDU that was configured for a different installation.	Cycle power to the GDU. This error automatically clears on the second power up with a different configuration module.
	Error in the configuration of the GDU 620.	
GDU (1/2) COOLING	Specific GDU has poor cooling, and power usage is being reduced.	Ensure fans on indicated GDU are functioning
		Ensure fans on indicated GDU are not obstructed
GDU (1/2) DB ERR	Error in specific database, where GDU (1/2) DB denotes specific database.	Verify the correct card is installed, reload the DB on the card.
GDU (1/2) VOLTAGE	GDU supply voltage is below 12 VDC.	Increase the voltage above 12VDC.
GEO LIMITS	Location is too far north/south for GRS 77H magnetic compass.	
GPS(1/2) FAIL	No GPS1 or GPS2 data is available.	Ensure GPS (1/2) is turned on
		Verify RS-232 wiring from the GPS to the GDU 620.

Alert Text	Cause	Solution
GPS(1/2) PPS Failure	This alert will be set if the PPS signal has not been received in more than 5 sec. If the unit is configured for dual GPSs then the side will be specified in the error.	Ensure GPS (1/2) is turned on
		Verify 1PPS wiring from the GPS to the GDU 620.
GPS2 FPL USED	The GPS1 has failed and GPS2 is configured and operating.	
HDG FAULT	AHRS magnetometer fault has occurred.	GRS 77H not receiving information from GMU 44. Verify wiring to GMU 44.
HDG LOST	Heading from the GRS77/ GMU 44 is not valid.	Caused by a local magnetic anomaly. No action required.
<LRU> SERVICE	Specific LRU should be serviced, where <LRU> denotes specific LRU.	Return indicated LRU to Garmin for service.
MANIFEST	GDU has received product data for an LRU that should have a manifest entry, but is not in the manifest.	Ensure the manifest is properly configured.
	The LRU software P/N and version number in the manifest does not match the values being reported by that LRU.	Update the LRU software to match the manifest
		Update the manifest to match the LRU software
NAV1 FAIL	No navigation receiver 1 data.	
NAV2 FAIL	No navigation receiver 2 data.	
SIMULATOR	The simulator mode is active.	Ensure P6202-36 is not grounded.
SVT DISABLED - Out of available terrain region.	Location is beyond region covered by terrain database.	
SVT DISABLED - Terrain DB resolution too low.	A 30 arc-second terrain database is being used.	Update the Supplemental Data card with the 9 arc-second terrain database.
SW MISMATCH	GDU software version strings do not match.	Verify the correct SW is loaded

Alert Text	Cause	Solution
TRAFFIC FAIL	The traffic information system has failed.	The GDU 620 is not receiving traffic information from the traffic sensor. Verify wiring between GDU 620 and traffic sensor.
		The GDU 620 is receiving information from the traffic sensor, but the information is indicating that the traffic sensor has failed. Troubleshoot traffic system.
TRK LOST	GPS1 TRK lost. HSI defaulted to GPS2 TRK.	
TRK TRAFFIC	Heading Lost. Traffic is now based on track.	See HDG errors.
RA FAIL	GDU-620 is not receiving radar altimeter data	Verify wiring between GDU 620 and Radar Altimeter sensor.

CHAPTER 98

Section 98-00-00 Wiring Diagrams and Pitot-Static System Schematics

This chapter includes the Wiring Diagrams and Pitot-Static System Schematics for the G500H Flight Display System.

OPTIONS:

01 G500H WITHOUT RADAR ALTIMETER

02 G500H WITH RADAR ALTIMETER

45	1	1	54	SSC800-25-24	SOLID STATE RELAY	CRYDOM
	AR	AR	53	SWT316	3/16 TEFLON SPIRAL WRAP	DALLAS AVIONICS
45	1	1	52	M12883/45-01	RELAY SOCKET	
	1	1	51	M83536/1-024M	RELAY	
	2	2	50	M81714/65-20-1	IN-LINE JUNCTION	
	1	1	49	010-00769-60	GDU INSTALLER UNLOCK CARD	
	1	1	48	010-00844-00	G500H DOWNLOAD SW SD CARD	GARMIN
			47	----DELETED----		
			46	----DELETED----		
			45	----DELETED----		
	1	1	44	DHS712-121.20	CONNECTOR RECEPTACLE	EUROCOPTER
	2	2	43	02-06-2103	TERMINAL CRIMP MALE	
	2	2	42	02-06-1103	TERMINAL CRIMP FEMALE	
	1	1	41	03-06-2024	PLUG	
	1	1	40	03-06-1022	RECEPTACLE	WALDOM
	1	1	39	C4E0116-01	BRIDGE LIGHTING WHITE	
	1	1	38	350A67015920	BRIDGE SUPPORT	EUROCOPTER
	5	5	37	7084402 OR 71450b23	LED POST LIGHT	WHELEN
	2	2	36	5207908-1	CABLE CLAMP/BACKSHELL	
	1	1	35	5746881-1	SCREW LOCK MALE	AMP
	02	01	ITEM	PART NUMBER	DESCRIPTION	MANUFACTURER
	QTY					

1	1	34	5205817-1	SCREW LOCK FEMALE	AMP
1	1	33	205204-9	D-SUB PLUG	↑
1	1	32	205203-8	D-SUB RECPTACLE	AMPLIMITE
1	1	31	233-40024-00	DIMMING CONTROL PANEL	GARMIN
1	1	30	350A62118800	EMERGENCY SWITCH OVERLAY	EUROCOPTER
1	1	29	1180-01-1A	CIRCUIT BREAKER (1 AMP)	ETA
1	1	28	M81714/60-20-02	TERMINAL BLOCK	
AR	AR	27	MIL-C-39029/22-192	CONTACT SOCKET	
2	2	26	18-200	QUICK CONNECT PLUG	↑
1	1	25	LED-40-17-HE-E0FYH	ANNUNCIATOR (LIMIT)	
1	1	24	LED-40-17-HE-E0G3T	ANNUNCIATOR (LDG/TAXI LT)	
1	1	23	LED-40-17-HE-E0G7V	ANNUNCIATOR (EFIS FAN FAIL)	VIVISUN
1	1	22	013-00103-00	COOLING FAN	GARMIN
3	3	21	1N-4006	DIODE	
1	1	20	M81714/60-22-01	TERMINAL BLOCK	
4	4	19	B-040-22-N	COAX TERMINATION	TYCO ELECTRONICS
AR	AR	18	RG-179 (MIL-C-17/094G)	75 OHM COAX	
AR	AR	17	392404	ETHERNET CABLE	ECS
1	1	16	M81714/67-18	TERMINAL BLOCK RAIL	
16	16	15	M81714/60-22-05	TERMINAL BLOCK	
1	1	14	MS3320-20	CIRCUIT BREAKER	
3	3	13	MS26574-5	CIRCUIT BREAKER	
1	1	12	115-00481-10	GMU 44 INSTALLATION RACK	↑
1	1	11	011-00871-00	GMU 44 CONNECTOR KIT	
1	1	10	011-01656-00	GMU 44 MAGNETOMETER	
1	1	9	011-01010-03	GDC 74H CONNECTOR KIT	
1	1	8	115-00459-00	GRS 77H INSTALLATION RACK	
1	1	7	011-00869-01	GRS 77H CONNECTOR KIT	
1	1	6	011-02078-00	GDU 620 MOUNTING SCREW KIT	
1	1	5	011-01656-00	GDU 620 CONNECTOR KIT	
1	1	4	011-00978-00	GTP 59 OAT PROBE	
1	--	3	SOFTWARE P/N 006-B1071-30	GDU 620 SOFTWARE VERSION 5.00	
--	1	3	SOFTWARE P/N 006-B1071-21	GDU 620 SOFTWARE VERSION 4.01	
--	--	--	011-01264-50	GDU 620 PFD/MFD	
1	1	2	011-00882-11	GDC 74H ADC	
1	--	1	SOFTWARE P/N 006-B0223-H1	GRS 77H AHRS SOFTWARE VERSION 3.51	
--	1	1	SOFTWARE P/N 006-B0223-H0	GRS 77H AHRS SOFTWARE VERSION 3.50	
--	--	--	011-00868-20	GRS 77H AHRS	GARMIN
02	01	ITEM	PART NUMBER	DESCRIPTION	MANUFACTURER
QTY					

NOTES:

1. UNSHIELDED WIRE IS M22759/16; UNSHIELDED HIGH TEMP WIRE IS M22759/8. TWISTED SHIELDED WIRES ARE M27500-xx-TGxT14 (xx INDICATES AWG, X NUMBER OF CONDUCTORS). SUFFIX OF EACH WIRE NUMBER INDICATES WIRE AWG.
2. WIRE LEGEND:
   NEW: ————————————
   EXISTING: – — — — — — — — –
3. ALL WIRES ARE 22 AWG EXCEPT WHERE NOTED OTHERWISE; ALL SPLICES ARE TO BE MIL-S-81824/1-X.
4. GROUND DESIGNATIONS: SHIELD BLOCK GROUND AIRFRAME GROUND
   THE LENGTH OF SHIELD GROUNDS MUST NOT EXCEED 3 INCHES.
5. ROUTE AND TIE WIRES ALONG EXISTING ROTORCRAFT WIRE HARNESS FOLLOWING GUIDELINES SPECIFIED IN SECTION 20-02001-411 (CABLE BINDING METHODS) OF EUROCOPTER STANDARD PRACTICES MANUAL (M.T.C)
6. RG-179 IS MIL-C-17/094G

7. REFER TO GARMIN DRAWING 190-01527-11, CIRCUIT BREAKER INSTALLATION, EUROCOPTER EC130.
8. SEE DETAIL A FOR TERMINAL BLOCK CONFIGURATION OF ITEM 15.
   SEE DETAIL C FOR TERMINAL BLOCK CONFIGURATION OF ITEM 20.
   SEE DETAIL E FOR TERMINAL BLOCK CONFIGURATION OF ITEM 28.
9. GPS 2 IS AN OPTIONAL CONNECTION. DO NOT CONNECT IF ONLY ONE GPS IS USED IN THE INSTALLATION.
10. THE NAV 1 AND NAV 2 CONNECTIONS MAY BOTH BE ARINC 429 OR ONE ARINC 429 AND ONE RS232 CONNECTION. CONNECTIONS MUST ONLY BE MADE TO AUTHORIZED NAV UNITS. REFER TO THE G500H INSTALLATION MANUAL FOR ACCEPTABLE NAV UNITS AND CONNECTIONS.
11. THE NAV 2 CONNECTION IS OPTIONAL. DO NOT CONNECT IF ONLY ONE NAV IS USED IN THE INSTALLATION.
12. THE RS-232 5 NAV INPUTS MAY BE CONFIGURED AS NAV 1 OR NAV 2, NOT BOTH. REFER TO THE G500H INSTALLATION MANUAL FOR CONFIGURATION ON THE GDU-620.
13. IF THE HSVT TERRIAN FEATURE IN THE GDU 620 IS ENABLED, THE AUDIO INPUT OF THE AUDIO PANEL MUST BE UNSWITCHED AND UNMUTED. IF THE AUDIO PANEL DOES NOT HAVE AN AVAILABLE UNSWITCHED INPUT, AND THE GDU 620 AUDIO MUST BE COMBINED WITH OTHER AUDIO, REFER TO THE G500H INSTALLATION MANUAL APPENDIX E.
14. TRAFFIC SYSTEM IS OPTIONAL. DO NOT CONNECT IF A TRAFFIC SYSTEM IS NOT INCLUDED IN THE INSTALLATION. ALL WIRES ARE NOT REQUIRED FOR EVERY TRAFFIC SYSTEM. ONLY CONNECT THOSE WIRES REQUIRED BY THE INSTALLATION. REFER TO THE G500H INSTALLATION MANUAL APPENDIX E.
15. SERIAL ALTITUDE OUT IS OPTIONAL. DO NOT CONNECT IF NOT REQUIRED FOR THE INSTALLATION. RS-232 DATA IS SHADIN ALTITUDE 9600 BAUD.
16. POST MOD 07-3245 (FOR 31/32 ALPHA PANEL) AND 07-3540 (FOR 16 ALPHA PANEL) INTRODUCE BREAKER PANEL IN REPLACEMENT OF FUSES PANEL.
17. REFER TO GARMIN DRAWING 190-01527-11, CIRCUIT BREAKER INSTALLATION, EUROCOPTER EC130, FOR LOCATION OF EFIS MASTER CIRCUIT BREAKER. LABEL CIRCUIT BREAKER AS SHOWN.
18. THE GDL-69/69A IS AN OPTIONAL CONNECTION. DO NOT CONNECT IF NOT INCLUDED IN THE INSTALLATION.
19. THE GSR 56 IS AN OPTIONAL CONNECTION. DO NOT CONNECT IF NOT INCLUDED IN THE INSTALLATION.
20. USE ONLY AIRCRAFT GRADE CATEGORY 5 ETHERNET CABLE SUCH AS P/N 392404 FROM ELECTRONIC CABLE SPECIALIST OR P/N E10424 FROM PIC WIRE AND CABLE.
21. THE GDU-620 MUST BE CONFIGURED FOR THE CORRECT LIGHTING BUS VOLTAGE (28 VDC) AND THE PHOTOCELL MUST BE CONFIGURED FOR PROPER AUTO-DIM WHEN THE LIGHTING BUS IS TURNED OFF. FOR CONFIGURATION AND PROGRAMMING INSTRUCTIONS REFER TO THE GARMIN G500H ROTORCRAFT STC INSTALLATION MANUAL, 190-01150-06, REVISION 2 OR LATER FAA APPROVED REVISION FOR THE EC 130 B4 STC. FOR PROGRAMMING DISPLAYED AIRSPEED MARKINGS ON GDU 620 PFD/MFD, REFER TO GARMIN DRAWING 190-01527-14, CONFIGURATION, G500H INSTALLATION, EUROCOPTER EC130.
22. SEE DETAIL B FOR ALTERNATIVE CONNECTIONS.
23. COMPOSITE VIDEO IS AN OPTIONAL CONNECTION. DO NOT CONNECT IF NOT INCLUDED INSTALLATION. VIDEO COAX MUST BE RUN SEPARATE AND NOT INCLUDED IN AIRCRAFT WIRE BUNDLES.
24. CONNECTIONS MUST ONLY BE MADE TO APPROVED GPS WAAS UNITS. REFER TO THE G500H INSTALLATION MANUAL FOR ACCEPTABLE GPS UNITS AND CONNECTIONS.
25. FOR FURTHER WIRING INFORMATION, REFERENCE EUROCOPTER EC 130 WDM, LIGHTING AND INST. PANEL AND CONSOLE, 33-10.

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26. FOR AIR/GROUND STATUS REFER TO DETAIL F FOR THE APPROPRIATE MOD OPTION. THE GDU 620 P6201 PIN 7 TO BE CONNECTED TO MAIN GEAR BOX PRESSURE, SO THAT WHEN ON GROUND A GROUND SIGNAL IS PRESENT AT PIN 7. SPLICE WIRE GDU36A22 NEAR THE 4 ALPHA WARNING PANEL P1 AS SHOWN.

27. CONFIGURATION MODULES ARE MOUNTED IN THE BACKSHELL OF THE P6202, P771 AND P741 CONNECTORS. CONFIGURATION MODULE HARNESS USES 28 AWG WIRES. CONTACTS SUPPLIED WITH CONFIGURATION MODULE MUST BE USED FOR CONNECTING CONFIGURATION MODULE HARNESS TO P6202, P771 OR P741.

28. FOR FURTHER WIRING INFORMATION, REFERENCE EUROCOPTER EC130 WIRING DIAGRAM MANUAL CHAPTER 24.

29. DE-PIN WIRE 1LK745E AT 140L TERMINAL STRIP TERMINAL 5B, CAP AND STOW WIRE AT 140L TERMINAL STRIP.

30. LOCATE SPLICE INSIDE OF THE CONNECTOR BACKSHELL.

31. AT GDU 620, GRS 77H AND GDC 74H, CONNECT SHIELD GROUNDS TO THE CONNECTOR BACKSHELL. THE SHIELD LEADS MUST BE LESS THAN 3 INCHES. DO NOT DAISY CHAIN.

32. SEE DETAIL D FOR ALTERNATIVE CONNECTION OPTIONS.

33. FOR FURTHER WIRING INFORMATION REFER TO TYPICAL STANDBY INTRUMENT LIGHTING, PAGE 5 OF 8.

34. FOR FURTHER WIRING INFORMATION, REFERENCE EUROCOPTER EC130 WIRING DIAGRAM MANUAL, MGB, 63-40.

35. REMOVE EXISTING 2.5 AMP CIRCUIT BREAKER LABELED HSI AND REPLACE WITH ITEM 29 OF THE PARTS LIST, RELABLE CIRCUIT BREAKER EFIS FAN AS SHOWN. REFERENCE EC 130 WIRING DIAGRAM MANUAL, CHAPTER 34.

36. USE THE EXISTING 2.5 AMP FUSE LABELED HSI, FOR EFIS FAN, RELABEL HSI FUSE HOLDER AS SHOWN. REFERENCE EC 130 WIRING DIAGRAM MANUAL CHAPTER 34.

37. RADAR ALTIMETER INTERFACE REQUIRES G500H INSTALLATION WITH -02 SOFTWARE. P6203, PIN 45 MUST BE CONFIGURED FOR RADAR ALTIMETER PUSH TO TEST FUNCTIONALITY. SEE GDU 620 INSTALLATION MANUAL FOR CONFIGURATION PROCEDURES.

38. DE-PIN WIRE 1LM55F AT THE 150L-P1 AND 140L CONSOLE, CAP AND STOW WIRE AS SHOWN. FOR FURTHER WIRING INFORMATION, REFERENCE EUROCOPTER EC 130 WDM, RIGHT HAND LIGHT, 33-43-01, AND LEFT HAND LIGHT 33-43-02.

39. ORDER ITEM 25 OF BOM ONLY FOR AIRCFRAFT WITH PRE MOD 07-3587. INSTALLATION OF THE LIMIT ANNUNCIATOR WILL REQUIRE ORDERING A QTY OF 1 PART NO. 18-200 QUICK CONNECT PLUG AND AS REQUIRED MIL-C-39029/22-192 CONTACT SOCKETS. FOR FUTHER WIRING INFORMATION REFERENCE EUROCOPTER EC 130 WDM, HYDRAULIC DOUBLE, 29-11. REMOVE WIRE 1DH7E AT 150L-P1 PIN 13 AND ROUTE TO THE LIMIT ANNUNCIATOR IN THE INSTRUMENT PANEL. IF WIRE 1DH7E DOES NOT REACH THE LIMIT ANNUNCIATOR (BOM ITEM 25), SPLICE WIRE 1DH7E TO NEW WIRE AS SHOWN.

40. POST MOD 07-3850 DE-PIN WIRE 1LK694E AT 150L-P1 PIN B AND SPLICE TO NEW WIRE AT THE INSTRUMENT PANEL AS AHOWN.

41. PRE MOD 07-3850 SPLICE NEW WIRE TO EXISTING WIRE 3LK294E AT 149L, P2, PIN 12 AS SHOWN. CONNECT NEW WIRE TO 149L, P2, PIN 14 AS SHOWN.

42. FOR FURTHER WIRING INFORMATION, REFERENCE EUROCOPTER EC130 WIRING DIAGRAM MANUAL, KI525 INDICATOR WITH NAV1/NAV2 SWITCHING POST MOD 07-3850. DE-PIN WIRE 1RS2356E AT THE 31 ALPHA 32 CONSOLE BREAKER PANEL X4 PIN 5, CAP AND STOW WIRE 1RS2356E NEAR X4 AS SHOWN.

43. FOR FURTHER WIRING INFORMATION, REFERENCE EUROCOPTER EC130 WIRING DIAGRAM MANUAL, KI525 INDICATOR WITH NAV1/NAV2 SWITCHING POST MOD 07-3245. DE-PIN WIRE 1RS867E AT THE 31 ALPHA 32 CONSOLE BREAKER PANEL X4 PIN 5, CAP AND STOW WIRE 1RS867E NEAR X4 AS SHOWN.

44. FOR FURTHER WIRING INFORMATION, REFERENCE EUROCOPTER EC130 WIRING DIAGRAM MANUAL, KI525 INDICATOR WITH NAV1/NAV2 SWITCHING PRE MOD 07-3245. DE-PIN WIRE 1RS867E AT THE 31 ALPHA 32 CONSOLE BREAKER PANEL 31ALP-B PIN 14, CAP AND STOW WIRE 1RS867E NEAR 31ALP-B AS SHOWN.

45. COOLING FAN AND ASSOCIATED COMPONENTS ARE OPTIONAL. IF THE COOLING FAN OPTION IS NOT UTILIZED REDUCE PARTS ORDERED FOR THE INSTALLATION ACCORDINGLY.

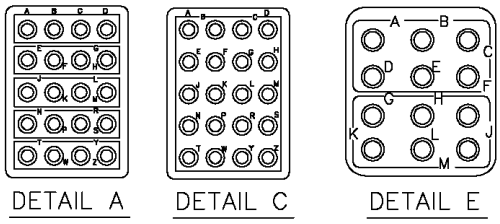
46. DE-PIN WIRE 1LK301E AT THE 140L CONSOLE, CAP AND STOW WIRE AS SHOWN. FOR FURTHER WIRING INFORMATION, REFERENCE EUROCOPTER EC 130 WDM, LIGHTING INST. PANEL AND CONSOLE POST POST MOD 07-3587, CHAPTER 33.

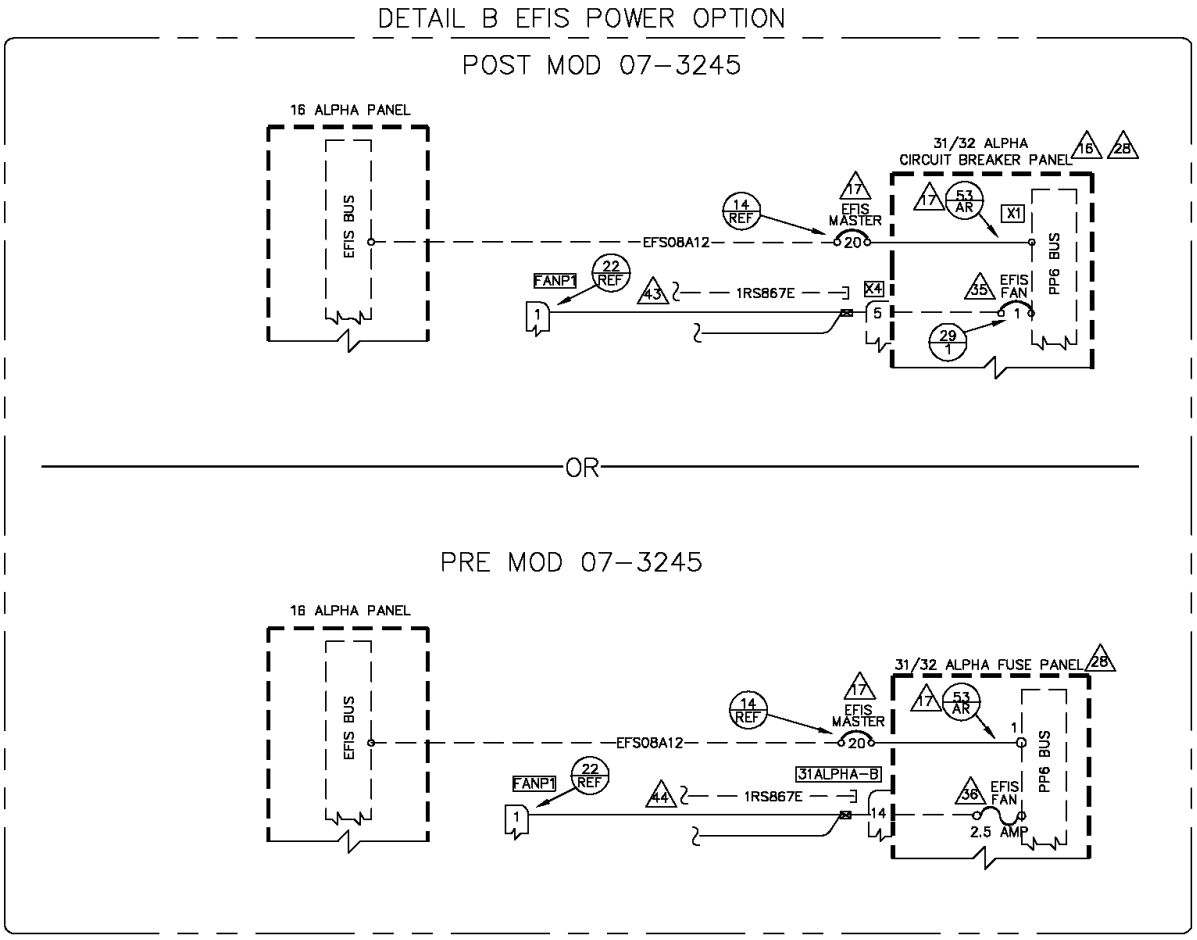
47. FOR FURTHER WIRING INFORMATION, REFERENCE EUROCOPTER EC 130 WDM, LANDING LIGHT 33-43.

48. REFERENCE GARMIN DRAWING 190-01527-14, CONFIGURATION, G500H INSTALLATION, EUROCOPTER EC130. FOR INFORMATION ON DIFFERENT SOFTWARE CONFIGURATIONS.
THE -02 SOFTWARE IS OPTIONAL BUT MUST BE INSTALLED FOR THE FOLLOWING OPTIONAL SYSTEM INTERFACES TO FUNCTION:

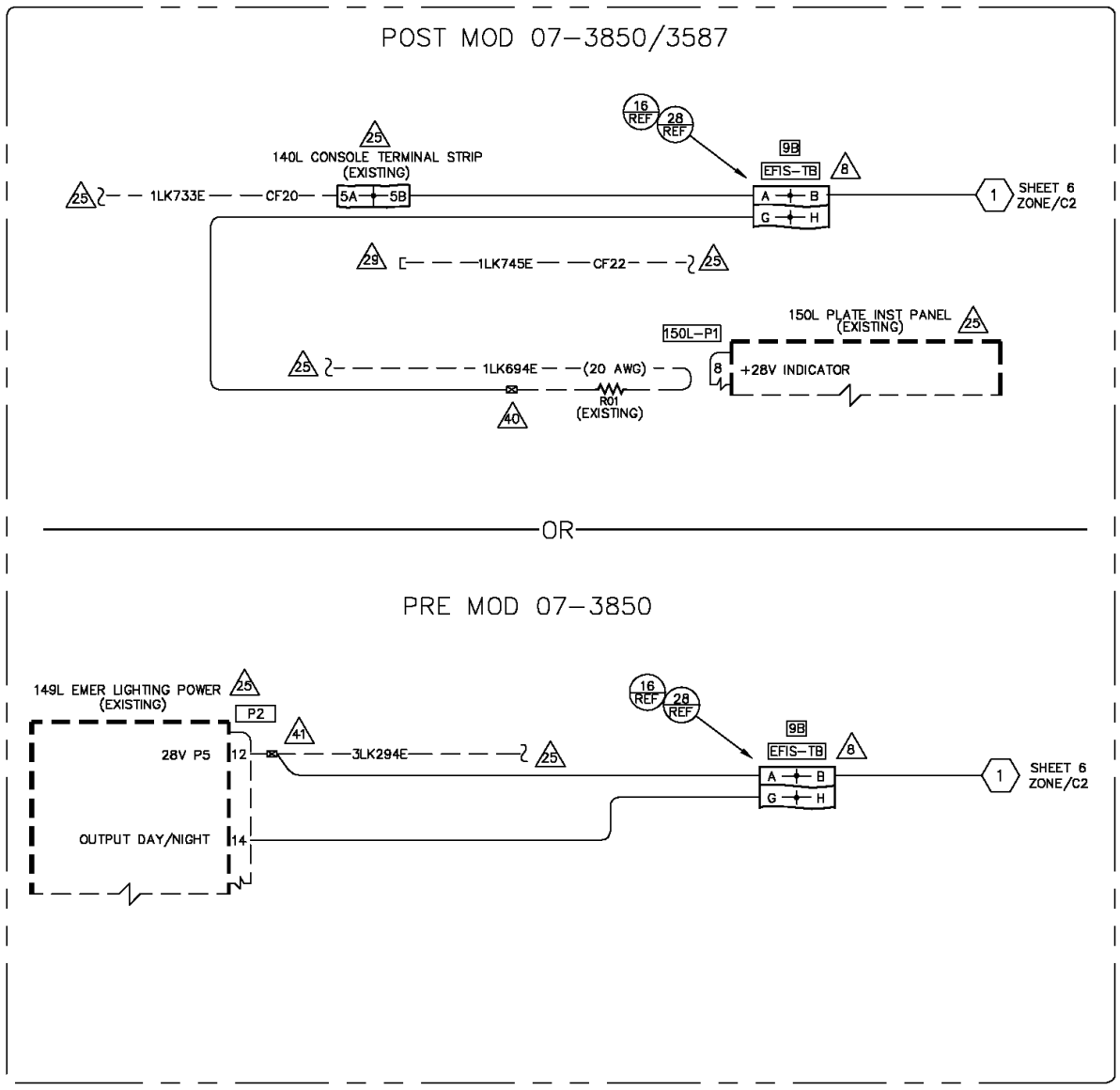
ARINC 429 RADAR ALTIMETER

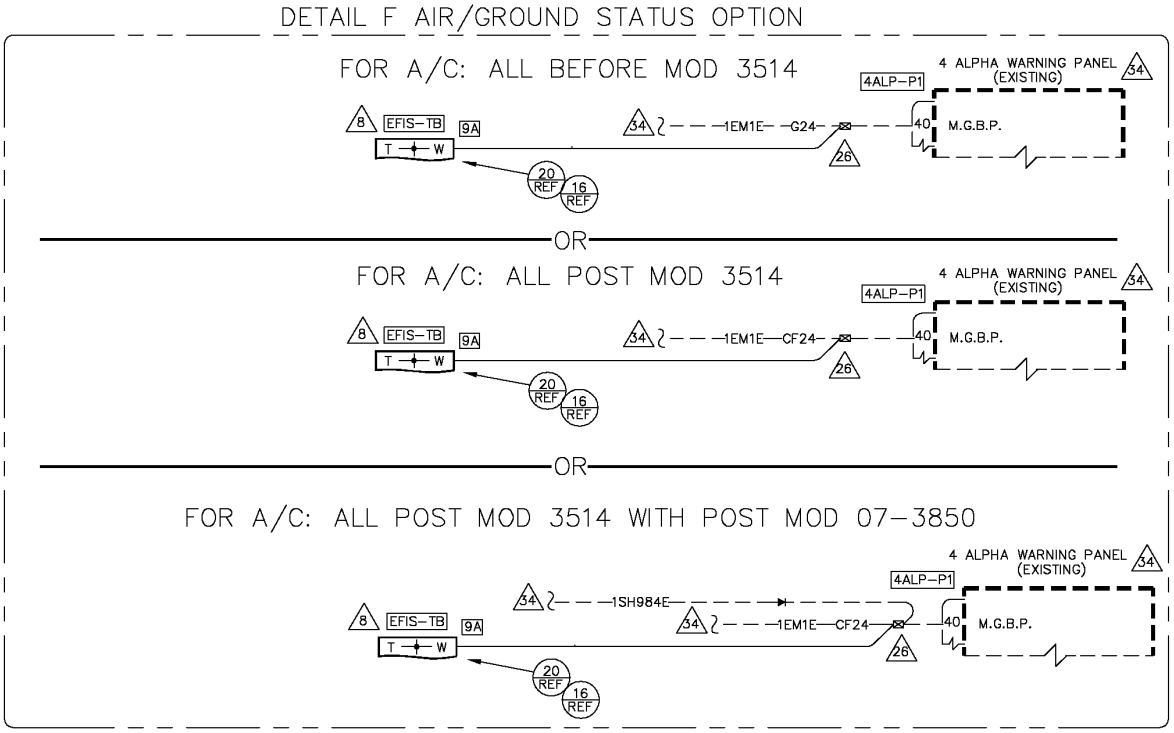
98-10-00


DETAIL A
DETAIL C
DETAIL E

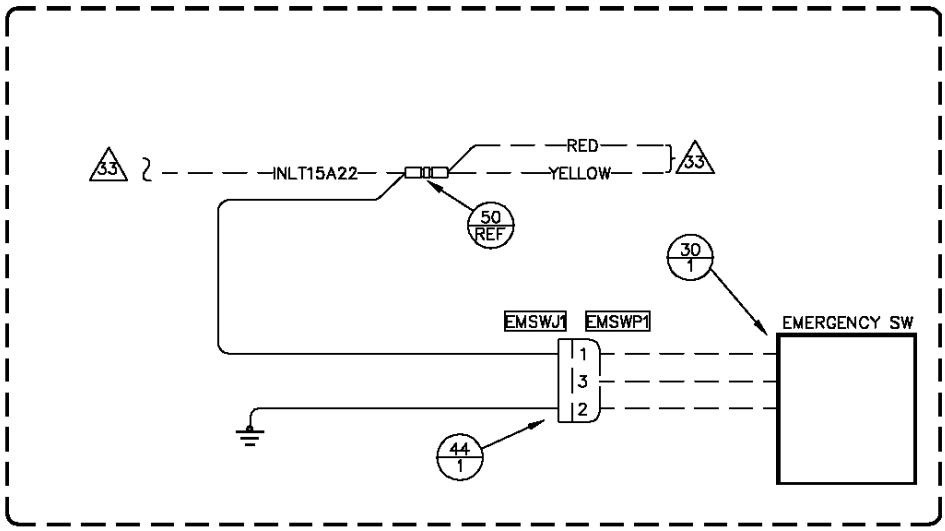

DETAIL B EFIS POWER OPTION
POST MOD 07-3245
16 ALPHA PANEL
EFIS BUS
31/32 ALPHA CIRCUIT BREAKER PANEL
EFS08A12
14 REF
17 EFIS MASTER
20
17
53 AR
X1
PP6 BUS
FANP1
22 REF
43
1RS867E
X4
35 EFIS FAN
1
5
29
OR
PRE MOD 07-3245
16 ALPHA PANEL
EFIS BUS
31/32 ALPHA FUSE PANEL
EFS08A12
14 REF
17 EFIS MASTER
20
17
53 AR
1
PP6 BUS
FANP1
22 REF
31ALPHA-B
44
1RS867E
36 EFIS FAN
2.5 AMP
1
14

DETAIL D INSTRUMENT DIMMING OPTIONS

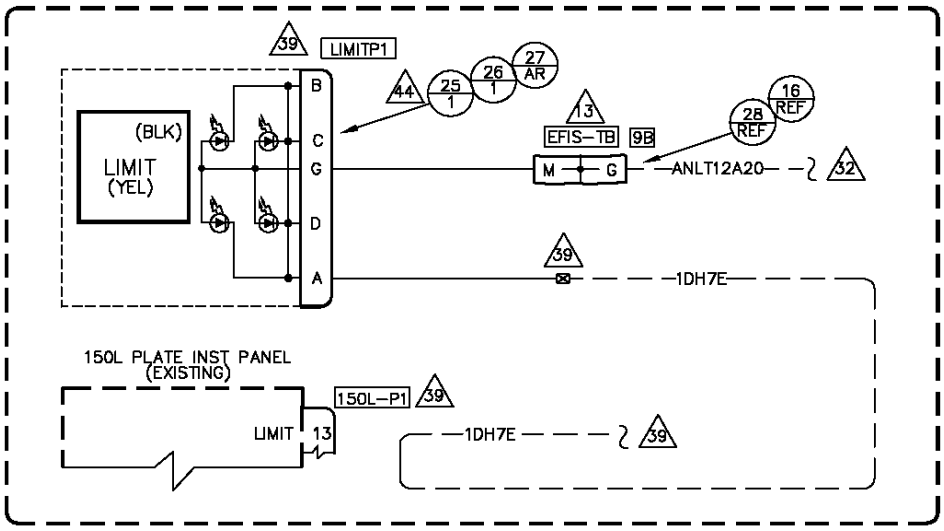


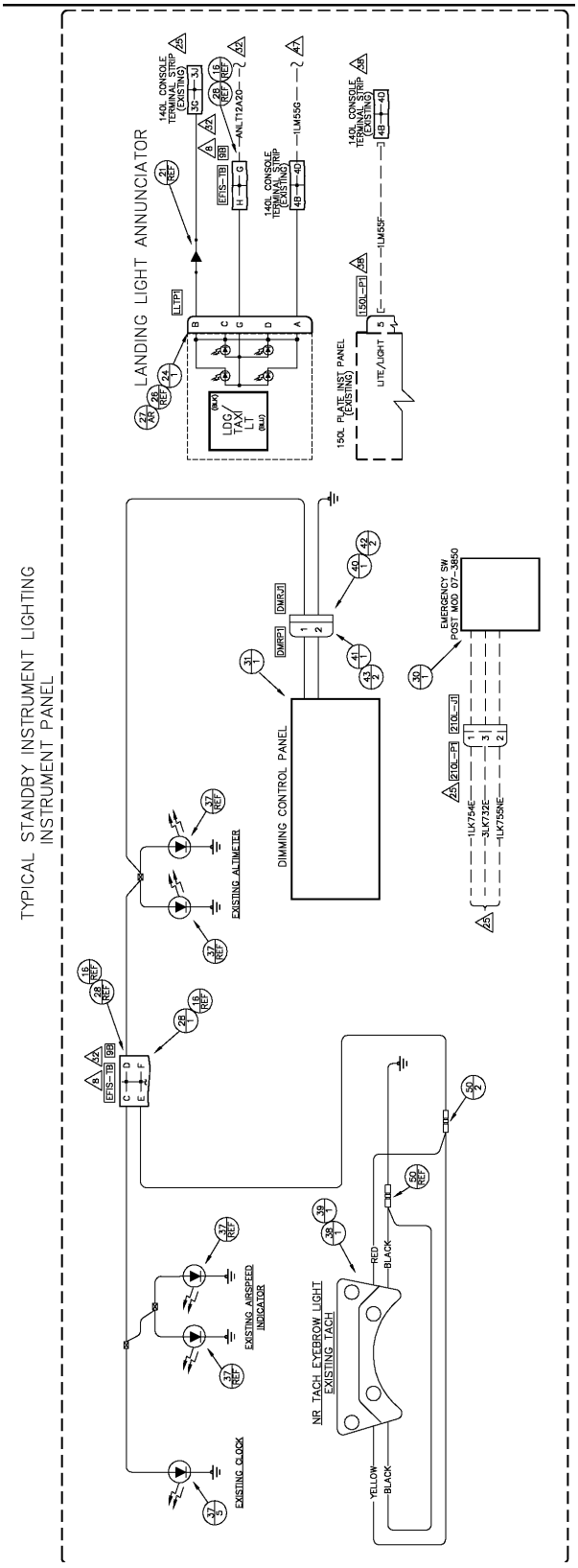

DETAIL F AIR/GROUND STATUS OPTION
FOR A/C: ALL BEFORE MOD 3514
4 ALPHA WARNING PANEL (EXISTING)
4ALP-P1
EFIS-TB
T
W
9A
1EM1E
G24
M.G.B.P.
20 REF
16 REF
OR
FOR A/C: ALL POST MOD 3514
CF24
OR
FOR A/C: ALL POST MOD 3514 WITH POST MOD 07-3850
1SH984E

EMERGENCY SWITCH PRE MOD 07-3850
INSTRUMENT PANEL

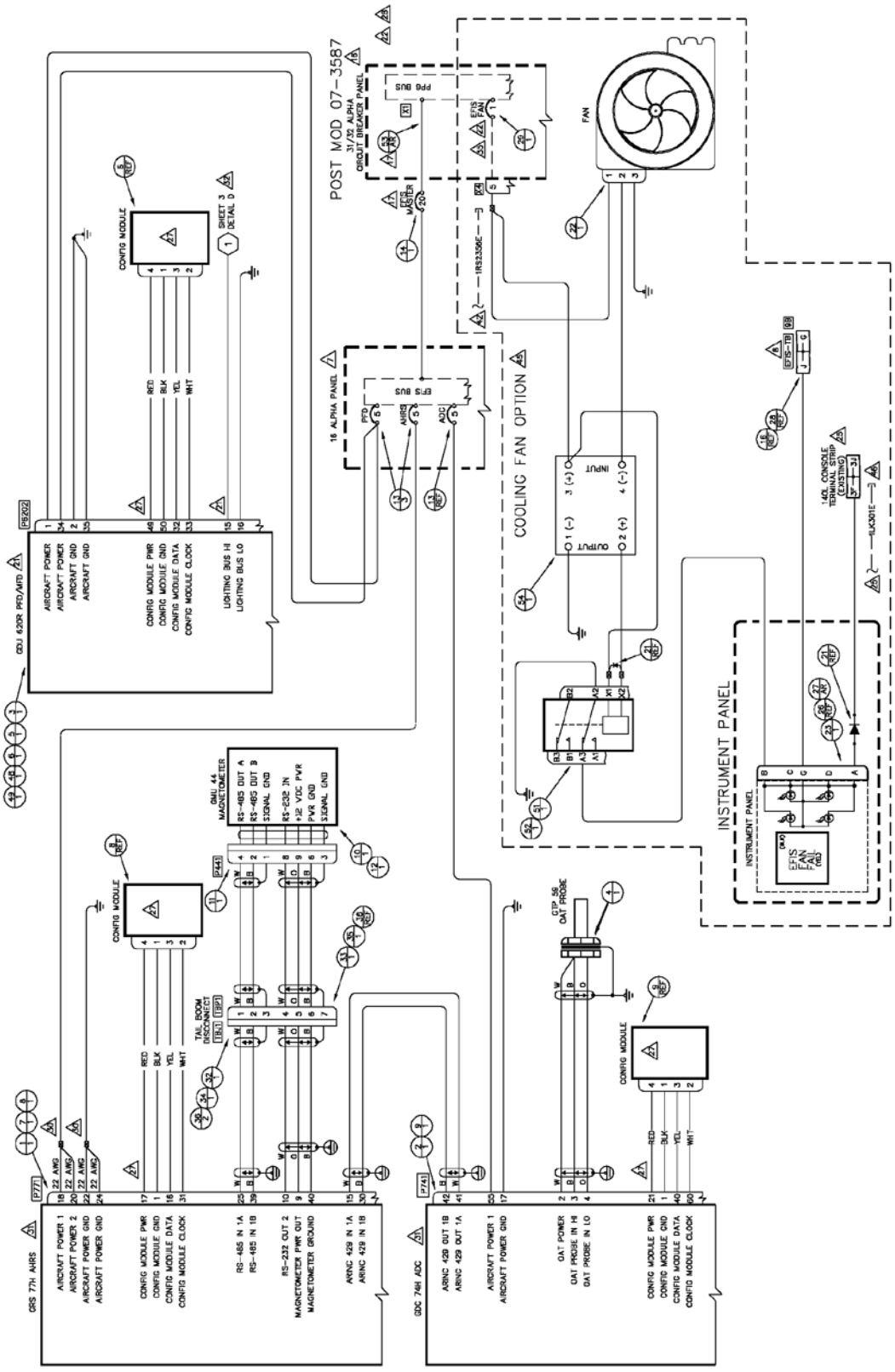


LIMIT ANNUNCIATOR PRE MOD 07-3587
INSTRUMENT PANEL

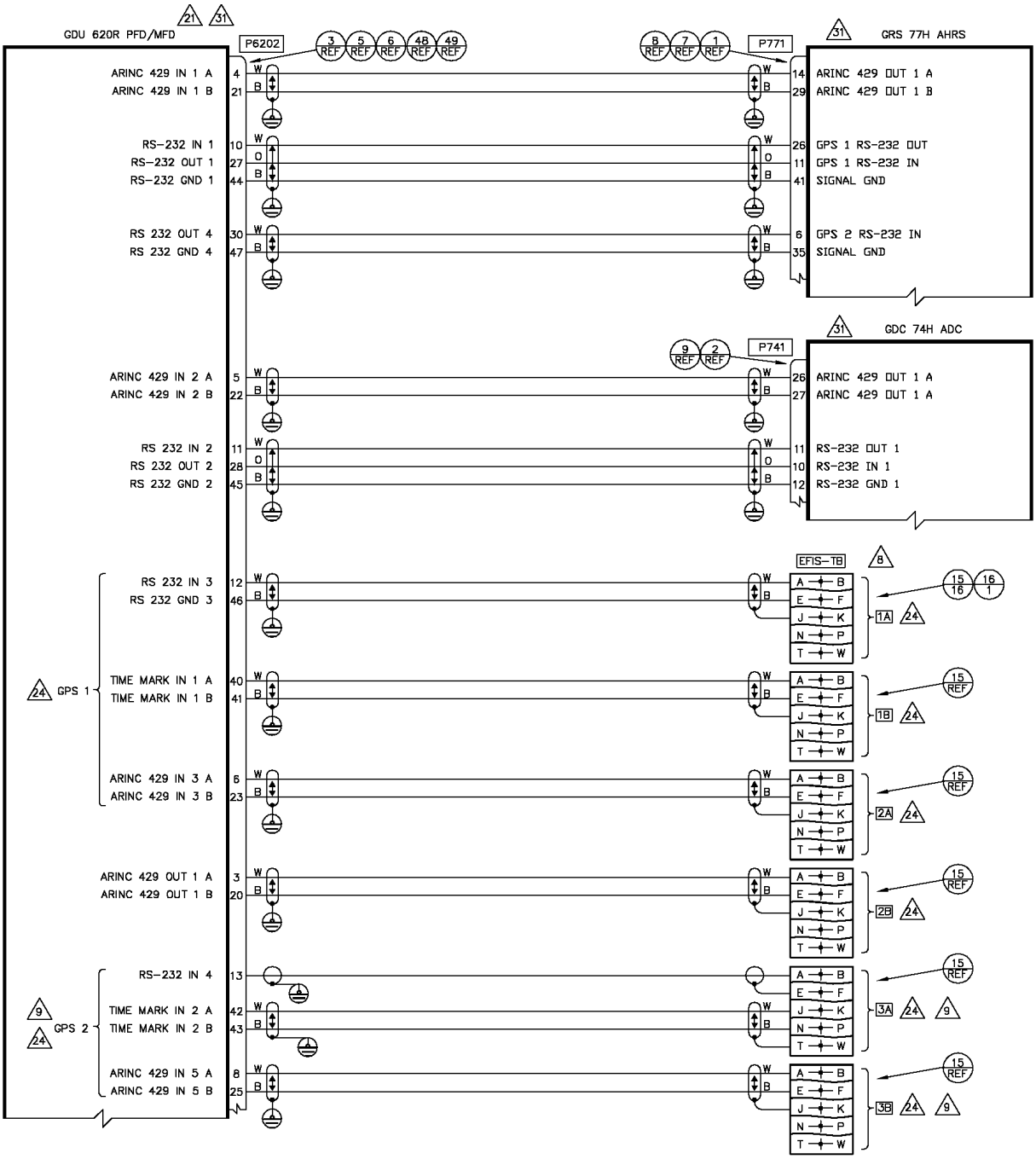


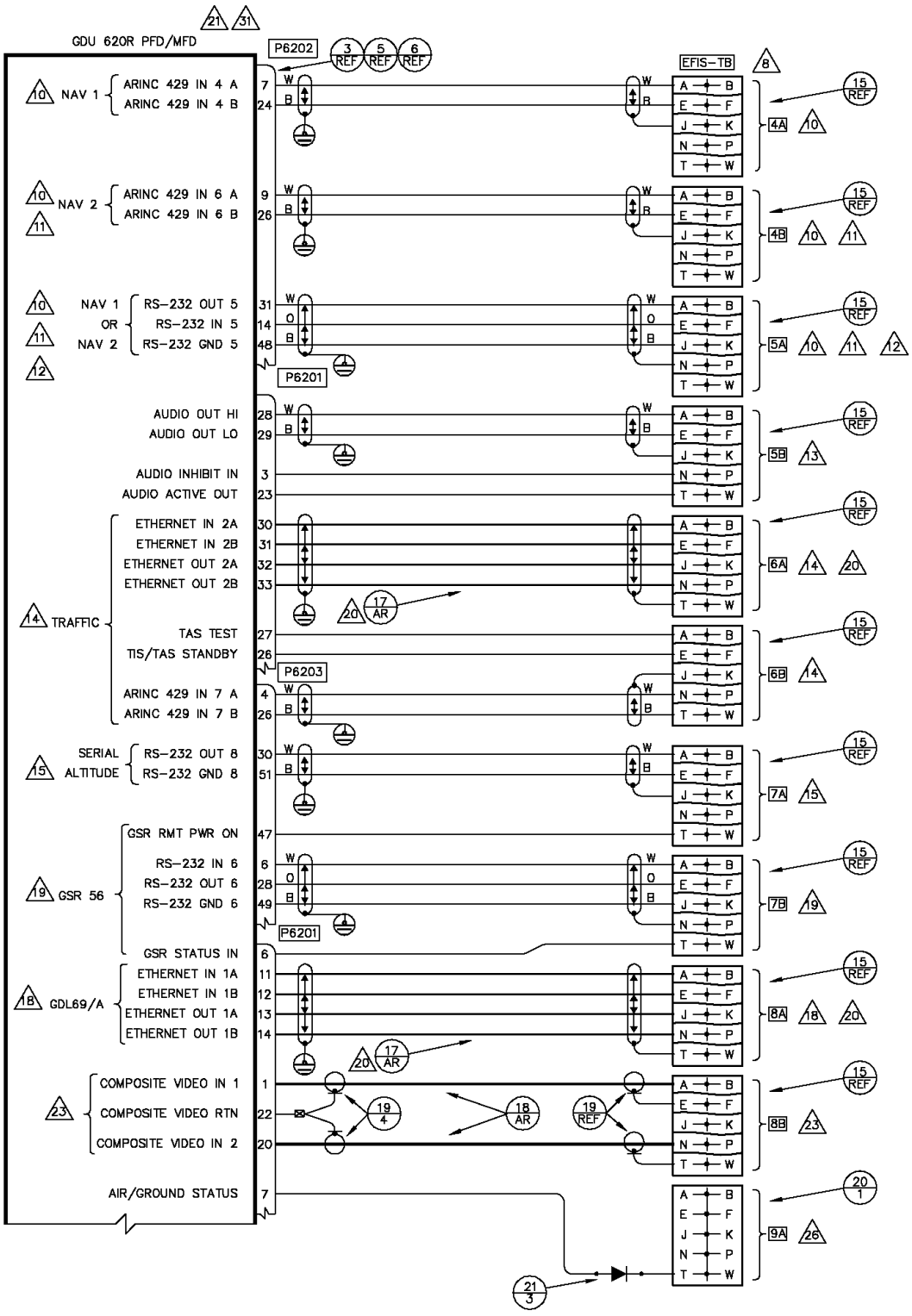

TYPICAL STANDBY INSTRUMENT LIGHTING
INSTRUMENT PANEL
LANDING LIGHT ANNUNCIATOR
LLTP1
LDG/TAX/LT
140L CONSOLE TERMINAL STRIP (EXISTING)
ANL T12A20
ILM55G
ILM55F
150L FLAT INST PANEL (EXISTING)
LITE/LIGHT
DIMMING CONTROL PANEL
DMRP1
DMRJ1
EMERGENCY SW POST MOD 07-3850
210L-P1
210L-J1
1LK754E
3LK732E
1LK755NE
EFIS-1B
EXISTING ALTIMETER
EXISTING AIRSPEED INDICATOR
EXISTING CLOCK
NR TACH EYEBROW LIGHT
EXISTING TACH
RED
BLACK
YELLOW
BLACK

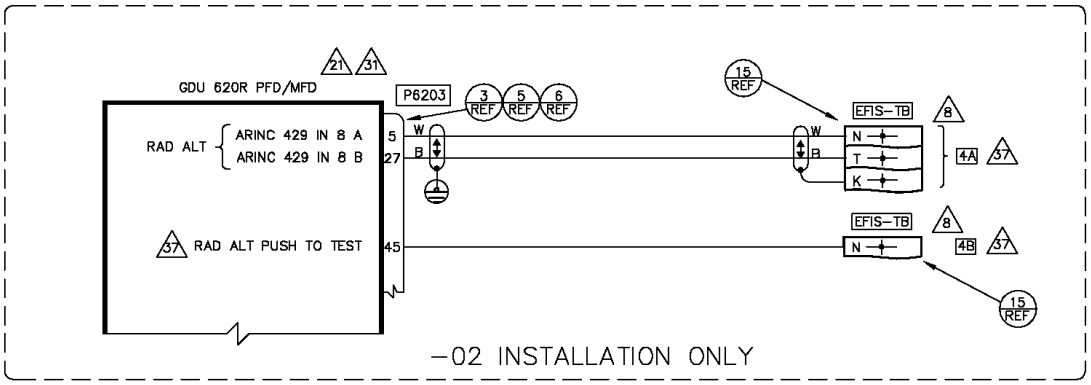
98-10-00


POST MOD 07-3587
31/32 ALPHA CIRCUIT BREAKER PANEL
PFD BUS
EFIS FAN
EFIS MASTER
FAN
COOLING FAN OPTION
INPUT
OUTPUT
16 ALPHA PANEL
EFIS BUS
PFD
AHRS
ADC
CONFIG MODULE
SHEET 3 DETAIL D
GDU 620R PFD/MFD
AIRCRAFT POWER
AIRCRAFT POWER
AIRCRAFT GND
AIRCRAFT GND
CONFIG MODULE PWR
CONFIG MODULE GND
CONFIG MODULE DATA
CONFIG MODULE CLOCK
LIGHTING BUS HI
LIGHTING BUS LO
RED
BLK
YEL
WHT
GMU 44 MAGNETOMETER
RS-485 OUT A
RS-485 OUT B
SIGNAL GND
RS-232 IN
+12 VDC PWR
PWR GND
SIGNAL GND
TAIL BOOM DISCONNECT
GTP 56 OAT PROBE
INSTRUMENT PANEL
EFIS FAN FAIL
GRS 77H AHRS
RS-485 IN 1A
RS-485 IN 1B
RS-232 OUT 2
MAGNETOMETER PWR OUT
MAGNETOMETER GROUND
ARINC 429 IN 1A
ARINC 429 IN 1B
GDC 74H ADC
ARINC 429 OUT 1B
ARINC 429 OUT 1A
OAT POWER
OAT PROBE IN HI
OAT PROBE IN LO

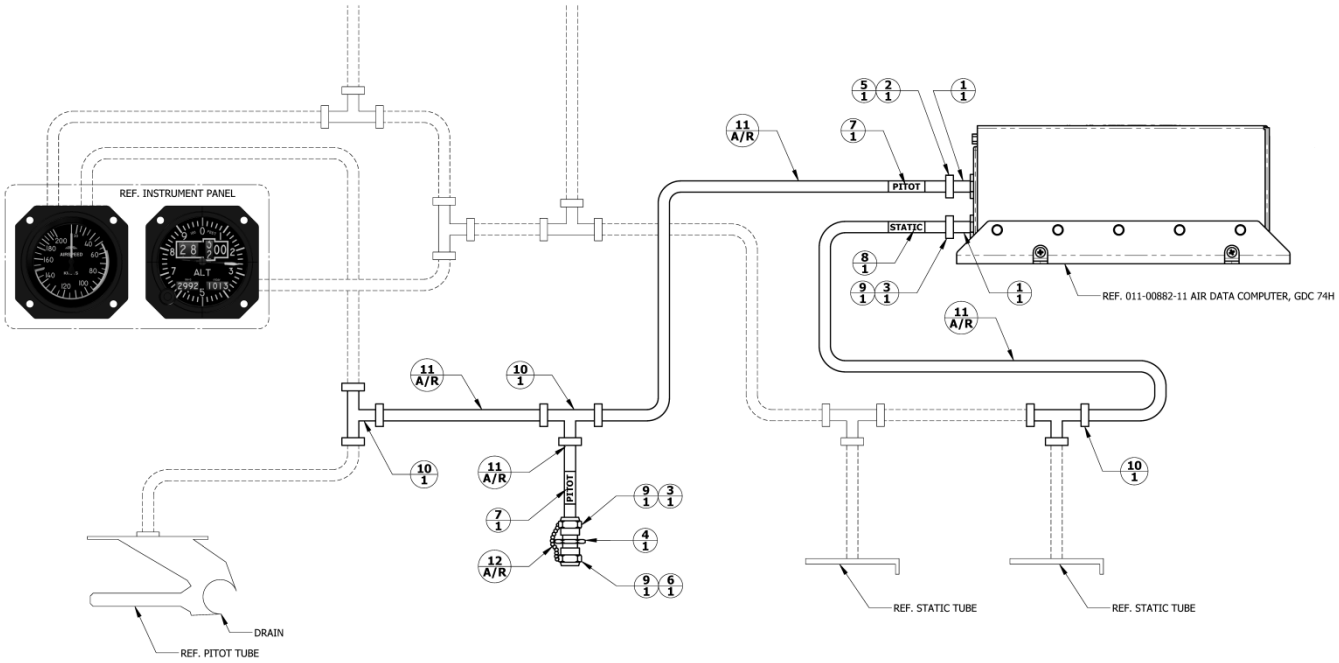
98-10-00


GDU 620R PFD/MFD
P6202
P771
GRS 77H AHRS
GDC 74H ADC
P741
EFIS-TB
ARINC 429 IN 1 A
ARINC 429 IN 1 B
RS-232 IN 1
RS-232 OUT 1
RS-232 GND 1
RS 232 OUT 4
RS 232 GND 4
ARINC 429 IN 2 A
ARINC 429 IN 2 B
RS 232 IN 2
RS 232 OUT 2
RS 232 GND 2
RS 232 IN 3
RS 232 GND 3
GPS 1
TIME MARK IN 1 A
TIME MARK IN 1 B
ARINC 429 IN 3 A
ARINC 429 IN 3 B
ARINC 429 OUT 1 A
ARINC 429 OUT 1 B
RS-232 IN 4
GPS 2
TIME MARK IN 2 A
TIME MARK IN 2 B
ARINC 429 IN 5 A
ARINC 429 IN 5 B
ARINC 429 OUT 1 A
ARINC 429 OUT 1 B
GPS 1 RS-232 OUT
GPS 1 RS-232 IN
SIGNAL GND
GPS 2 RS-232 IN
SIGNAL GND
ARINC 429 OUT 1 A
ARINC 429 OUT 1 A
RS-232 OUT 1
RS-232 IN 1
RS-232 GND 1


GDU 620R PFD/MFD
P6202
P6201
P6203
EFIS-TB
NAV 1
ARINC 429 IN 4 A
ARINC 429 IN 4 B
NAV 2
ARINC 429 IN 6 A
ARINC 429 IN 6 B
NAV 1
OR
NAV 2
RS-232 OUT 5
RS-232 IN 5
RS-232 GND 5
AUDIO OUT HI
AUDIO OUT LO
AUDIO INHIBIT IN
AUDIO ACTIVE OUT
TRAFFIC
ETHERNET IN 2A
ETHERNET IN 2B
ETHERNET OUT 2A
ETHERNET OUT 2B
TAS TEST
TIS/TAS STANDBY
ARINC 429 IN 7 A
ARINC 429 IN 7 B
SERIAL
ALTITUDE
RS-232 OUT 8
RS-232 GND 8
GSR 56
GSR RMT PWR ON
RS-232 IN 6
RS-232 OUT 6
RS-232 GND 6
GSR STATUS IN
GDL69/A
ETHERNET IN 1A
ETHERNET IN 1B
ETHERNET OUT 1A
ETHERNET OUT 1B
COMPOSITE VIDEO IN 1
COMPOSITE VIDEO RTN
COMPOSITE VIDEO IN 2
AIR/GROUND STATUS


21
31
GDU 620R PFD/MFD
P6203
3 REF
5 REF
6 REF
15 REF
EFIS–TB
8
RAD ALT
ARINC 429 IN 8 A
ARINC 429 IN 8 B
5
27
W
B
N
T
K
4A
37
37
RAD ALT PUSH TO TEST
45
4B
–02 INSTALLATION ONLY

Section 98-20-00 Pitot-Static System Schematic



QTY.	ITEM NO.	PART NUMBER	DESCRIPTION	MANUFACTURER
A/R	12	EN3628-050	LOCKWIRE	EUROCOPTER
A/R	11	ASNA 4246-007X01	TUBE	
3	10	355A76607323	UNION, TEE	
3	9	33844	NUT	
1	8	23024-58	LABEL, STATIC	BELL HELICOPTER
2	7	23024-57	LABEL, PITOT	
1	6	21783	PLUG	EUROCOPTER
1	5	21559	UNION, DUCT	
1	4	20059 *	UNION	
2	3	20001	UNION, DUCT	
1	2	120-3005-01	NUT	
2	1	H341-78-4D-39-2	FITTING, MALE CONNECTOR	

*ALT P/N: 12059 UNION, VENDOR: RENAISSANCE MACHINE