Instructions for Continued Airworthiness GTN 6XX/7XX - Eurocopter EC130 Series

as installed in

_____

(Make and Model Aircraft)

Reg. No. _____ S/N _____

Dwg. Number:
190-01007-K9 Rev.2

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Record of Revision

Rev.	Date	Description of Change
1	10/17/2013	Initial Release
2	3/22/2016	Updated Figures in Section 2.8 and Appendix A, Added instructions to disable Airspace Altitude Labels

Company Proprietary Information

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1. INTRODUCTION

1.1 Purpose

This document provides Instructions for Continued Airworthiness compliant with requirements of 14 CFR §27.1529, and Part 27 Appendix A. This ICA is to be used by the agency installing Garmin GTN 6XX/7XX navigators, GMA 35 audio panel, and additional equipment under the GTN 6XX/7XX Part 27 Approved Model List (AML) STC, and includes information required by the operator to adequately maintain installed items.

1.2 Scope

This document provides the Instructions for Continued Airworthiness Eurocopter EC 130B4 and EC 130T2 rotorcraft, modified by the installation of the Garmin GTN 6XX/7XX and optional GMA 35 under the AML STC.

1.3 Document Control

This document shall be released, archived, and controlled in accordance with the Garmin document control system. When this document is revised, refer to Section 2.17 for information on how to gain FAA acceptance or approval and how to notify customers of changes.

1.4 Permission to Use Certain Documents

Permission is granted to any corporation or person applying for approval of a Garmin GTN 6XX/7XX to use and reference appropriate STC documents to accomplish the Instructions for Continued Airworthiness and show compliance with STC engineering data. This permission does not construe suitability of the documents. It is the responsibility of the applicant to determine the suitability of the documents for the ICA.

1.5 Definitions

The following terminology is used within this document:

1) **ACO:** Aircraft Certification Office
2) **AEG:** Aircraft Evaluation Group
3) **BIT:** Built-In Test
4) **COM:** Communications
5) **CFR:** Code of Federal Regulations
6) **FAA:** Federal Aviation Administration
7) **GPS:** Global Positioning System
8) **ICA:** Instructions for Continued Airworthiness
9) **LED:** Light Emitting Diode
10) **LRU:** Line Replaceable Unit
11) **NAV:** Navigation
12) **MFD:** Multi-Function Display
13) **PMI:** Principal Maintenance Inspector
14) **POI:** Principal Operations Inspector
15) **STC:** Supplemental Type Certificate
16) **TSO:** Technical Standard Order
17) **WAAS:** Wide Area Augmentation System

1.6 Terminology

Except where specifically noted, references made to the 'GTN' will equally apply to the GTN 625/635/650/725/750. Also, 'GTN 7XX' refers specifically to the GTN 725 and GTN 750, and 'GTN 6XX' refers specifically to the GTN 625, GTN 635, and GTN 650.

Except where specifically noted, references made to the 'EC 130 Series' will equally apply to the EC 130 T2 and the EC 130 B4 rotorcraft models.

2. INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

2.1 Introduction

Content, Scope, Purpose and Arrangement:	This document identifies the Instructions for Continued Airworthiness for the modification of the aircraft by installation of the Garmin Instructions for Continued Airworthiness GTN 6XX/7XX - Eurocopter EC130 Series.
Applicability:	Applies to Eurocopter EC 130B4/T2 models altered by installation of the Garmin GTN 6XX/7XX Part 27 AML STC.
Definition of Abbreviations:	See Sections 1.5 and Section 1.6
Precautions:	None
Units of measurement:	None
Referenced publications:	*1)* Garmin 190-01007-B1 Rev. 1, *"GTN 6XX/7XX Part 27 AML STC System Maintenance Manual" or later revisions* *2)* Garmin 190-01007-03 Rev. D, *"GTN 725/750 Pilot's Guide" or later revisions* *3)* Garmin 190-01004-03 Rev. D, *"GTN 625/635/650 Pilot's Guide" or later revisions* *4)* Eurocopter, "Standard Practices Manual" (MTC) *5)* Eurocopter, "Aircraft Maintenance Manual for the EC 130"
Retention:	This document, or the information contained within, will be included in the aircraft's permanent records.

2.2 Description of Alteration

The GTN navigators are a family of aviation panel mounted retro-fit products. GTN units utilize a touchscreen as the primary control interface. Traditional knobs and buttons have been minimized to simplify access to the color multi-function display (MFD), NAV and COM transceiver, and GPS/WAAS navigator functions.

The GTN 625/635/650 Navigators (Garmin Touch Navigation) are a family of 2.65-inch tall aviation panel mounted retro-fit products that are intended to supersede the Garmin 400W Series Navigators. The GTN 6XX product family consists of the GTN 625 GPS/WAAS navigator, the GTN 635 GPS/WAAS/COM navigator, and the GTN 650 GPS/WAAS/NAV/COM navigator.

The GTN 725/750 Navigators (Garmin Touch Navigation) are a family of 6.00-inch tall aviation panel mounted retro-fit products that are intended to supersede the Garmin 500W Series Navigators. The GTN 7XX product family consists of the GTN 725 GPS/WAAS navigator, and the GTN 750 GPS/WAAS/NAV/COM navigator.

The optional GMA 35 is an audio panel with a Marker Beacon receiver. The GMA 35 in conjunction with a GTN 7XX provide full audio panel capability, for communication and navigation radios, headsets, microphones, and speakers. The GMA 35 is mounted in a notch behind the GTN 7XX to free up mounting space in the flight deck instrument panel. Rotorcraft model specific installation of the GTN is documented in GTN 6XX/7XX PART 27 AML STC INSTALLATION MANUAL and Garmin 190-01007-H9 Rev. 1, "GTN 6XX/7XX Navigator Installation, Eurocopter EC 130B4/T2 Rotorcraft".

2.3 Control, Operation, and Testing Information

See Garmin 190-01004-03 Rev. D, "GTN 625/635/650 Pilot's Guide" and 190-01007-03 Rev. D, "GTN 725/750 Pilot's Guide" for information on how to operate the system in normal mode.

See the Section 3 of the *GTN 6XX/7XX PART 27 AML STC SYSTEM MAINTENANCE MANUAL*, Section 3 for details on how to operate and access configuration mode and diagnostic pages, and Section 1.5 for document part numbers. See Section 6 for general ground checks and system test procedures.

See *GTN 6XX/7XX PART 27 AML STC SYSTEM MAINTENANCE MANUAL* for a system description.

2.4 Servicing Information

None. In the event of system failure, troubleshoot the GTN 6XX/7XX and GMA 35 in accordance with Section 4 of the *GTN 6XX/7XX PART 27 AML STC SYSTEM MAINTENANCE MANUAL*.

2.5 Periodic Maintenance

The GTN and GMA 35 are designed to detect internal failures. A thorough self-test is executed automatically upon application of power to the units, and built-in tests (BIT) are continuously executed. Detected errors are indicated as failure annunciations, system messages, or a combination of the two.

Operation of the GTN 6XX/7XX and GMA 35 is not permitted unless the inspections described in this section have been completed within time intervals prescribed in Table 1. All antennas connected to the GTN should be maintained in accordance with maintenance and inspection data appropriate for the antenna installation.

Table 1. Maintenance Intervals for GTNs and GMA 35

ITEM **INTERVAL**	**DESCRIPTION/PROCEDURE**
1. EQUIPMENT REMOVAL & REPLACEMENT **ON CONDITION**	Removal and replacement of the following items. (1) GTN 6XX/7XX or GMA 35 units (2) NAV antenna cable splitter (3) NAV antenna cable diplexer (4) Fan See Section 5 of the GTN 6XX/7XX PART 27 AML STC SYSTEM MAINTENANCE MANUAL for instructions.
2. DISPLAY BACKLIGHT **ON CONDITION**	The display backlight LEDs are rated by the manufacturer as having a usable life of at least 36,000 hours. This life may be more or less than the rated time depending on the operating conditions of the GTN. Over time, the backlight lamp may dim and the display may not perform as well in direct sunlight conditions. The user must determine by observation when the display brightness is not suitable for its intended use. Contact the Garmin factory repair station when the backlight lamp requires service.
3. BATTERY REPLACEMENT **ON CONDITION**	The GTN has an internal keep-alive battery that will last about 10 years. The battery is used for GPS system information. Regular planned replacement is not necessary. The GTN will display a low battery' message when replacement is required. Once the low battery message is displayed, the battery should be replaced within 1 to 2 months. If the battery is not replaced and becomes totally discharged, the GTN unit will remain fully operational, but the GPS signal acquisition time may be increased. There is no loss of function or accuracy of the GTN unit with a dead battery. The battery must be replaced by the Garmin factory repair station or factory authorized repair station.

ITEM **INTERVAL**	**DESCRIPTION/PROCEDURE**
4. ELECTRICAL BONDING CHECK, GTN/GMA **BOND CHECK TO BE PERFORMED EVERY 10 YEARS OR 1800 FLIGHT HOURS, WHICHEVER COMES FIRST.** **THE CHECK IS TO BE PERFORMED IN ACCORDANCE WITH CHAPTER 24, SECTION 6.2 OF THE AIRCRAFT MAINTENANCE MANUAL DURING THE EC 130 600 FLIGHT HOUR/24 MONTH INSPECTION**	Perform an electrical bonding check as follows: 1. Remove the GTN and GMA 35 (if installed) from the mounting rack(s) 2. Remove the backplate assembly from the rack(s). ***NOTE*** *For GTN 7XX only, if the GMA 35 is installed, it must be removed from its rack and the GMA 35 backplate assembly must be removed prior to performing Step 3. When a GMA 35 bonding check is planned, perform the GMA 35 bonding check prior to reinstalling the GTN backplate assembly to the rack.* 3. Measure the resistance between each mounting rack and nearby exposed portion of metallic structure and verify that the resistance is less than or equal to 10 milliohms. In the event of bonding test failure, remove the rack and verify that the countersunk areas around the holes, in the rack that are used to attach the rack, are free of corrosion or any other debris. Clean the countersunk areas using an approved solvent per Eurocopter Standard Practices Manual (MTC 20-02-07-401). Reattach the rack to the rails in the panel or pedestal. Re-verify the resistance between the mounting rack and nearby exposed portion of aircraft metallic structure and ensure that the resistance is less than or equal to 2.5 milliohms. 4. Reinstall all backplate assemblies and reinstall the GTN in the mounting rack.
5. VISUAL INSPECTION	The GTN unit, GMA 35 (if installed), switches, and wiring harnesses should

ITEM **INTERVAL**	**DESCRIPTION/PROCEDURE**
TO BE PERFORMED IN ALIGNMENT WITH THE EUROCOPTER EC130 600 FLIGHT HOUR INSPECTION OR EVERY 24 MONTHS, WHICHEVER COMES FIRST.	be inspected to ensure continued integrity of the installation in alignment with Eurocopter Master Servicing Manual (MSM 05-22-00) Visually inspect the following to ensure continued installation integrity - 1. Inspect the GTN unit(s) and GMA 35 for security of attachment, including visual inspection of mounting racks and rotorcraft instrument panel or avionics console supporting structure to which the racks attach. Verify the countersunk fastener heads are in full contact with unit mounting rack holes. If a GTN Navigator is installed in the center console, inspect the condition of the console and unit install rack around the rivets. Repair damage as necessary in accordance with MTC 20-03-06-407. Verify countersunk rivet head is fully seated into the unit mounting rack fastener hole with no slack. For GTNs installed in the instrument panel, re-torque fasteners 12 to 15 in-lbs if required. Verify the electrical bond using the procedure in item 4 above. 2. Inspect for signs of corrosion, and if corrosion is found, treat in accordance with Section 04, *Cleaning, Protective Treatment, and Painting* of Eurocopter Standard Practices Manual MTC 20-04 3. Inspect all switches, knobs, and buttons for damage. If knobs or buttons are missing or damaged, return the unit to Garmin for repair. 4. Inspect placards and switch labels. Ensure that they are legible and properly adhered. Replace any damaged labels as necessary. 5. Inspect condition of wiring, shield terminations, routing, and attachment/clamping. Correct any issues identified by replacing damaged wiring and re-attaching as necessary. 6. Check the fan intake slots on the sides and bottom of the GTN unit's bezel for dust, dirt, or obstructions. Clean as needed

Table 2. Maintenance Intervals for Antennas Installed Under this STC

ITEM **INTERVAL**	**DESCRIPTION/PROCEDURE**
1. ELECTRICAL BONDING CHECK, GPS ANTENNAS (ONLY IF ANTENNA IS INSTALLED BY THIS STC) **BOND CHECK TO BE PERFORMED EVERY 10 YEARS OR 1800 FLIGHT HOURS, WHICHEVER COMES FIRST.** **THE CHECK IS TO BE PERFORMED IN ACCORDANCE WITH CHAPTER 24, SECTION 6.2 OF THE AIRCRAFT MAINTENANCE MANUAL DURING THE EC 130 600 FLIGHT HOUR/24 MONTH INSPECTION.**	An electrical bonding test must be performed on antennas installed by this STC. 1. Gain access to the antenna installation. 2. Disconnect coaxial cable(s) from the antenna connector(s) 3. Measure the resistance between the antenna connector and a nearby exposed portion of conductive aircraft structure (example: exposed rivet) 4. Verify the resistance is equal to or less than 10 milliohms per Eurocopter Standard Practices Manual (MTM 20-02-07). 5. Reconnect the coaxial cable(s) to the antenna connector(s) and ensure it is secured. In the event of bonding test failure, remove antenna and inspect antenna bonding braids. If required, prep the area underneath the washer on the aluminum ground plane or prep bonding braid terminals at their connections to the airframe in accordance with Eurocopter Standard Practices Manual (MTC 20-02-07-401). 6. Re-install using unit replacement procedures in the GTN 6XX/7XX PART 27 AML STC SYSTEM MAINTENANCE MANUAL Section 5. Any reworked antenna installation shall have a resistance of less than or equal to 2.5 milliohms.
2. VISUAL INSPECTION, GPS ANTENNAS (ONLY IF ANTENNA IS INSTALLED BY THIS STC) **TO BE PERFORMED IN ALIGNMENT WITH THE EUROCOPTER AS350 600 FLIGHT HOUR INSPECTION OR EVERY 24 MONTHS, WHICHEVER COMES FIRST.** **PERFORM VISUAL INSPECTION IN EVENT OF SUSPECTED LIGHTING STRIKE.**	Visual inspection on the antenna 1. Clean the antenna with water and mild soap. 2. Verify there are no cracks on the antenna and around attachment fasteners. 3. Verify that all sealing fillets around the antenna are in good condition. 4. If the antenna is broken, cracked, or dented it must be replaced. 5. In the event attachment is not secure, re-attach antenna and complete the Electrical Bonding Test. 6. In the event the antenna seal shows signs of damage, re-seal the antenna and gasket by running a bead of the MIL-A-46146 Non-Corrosive RTV Silicone Adhesive-Sealant along the edge of the antenna where it meets the exterior aircraft skin. MIL-S-8802 Sealing Compound, Temperature-Resistant, High Adhesion can be used as an alternative. Use caution to insure that the antenna connectors are not contaminated with sealant. 7. Visually inspect the rotorcraft exterior skin around installed antenna - (a) Clean the exterior of the aircraft skin within a 10 inch radius of the antenna with water and mild soap. (b) Inspect aircraft skin around the antenna footprint to verify there are no cracks and aircraft skin is not deformed. (c) If the aircraft skin is cracked, or deformed, the internal structure must also be inspected for degradation in the local area. Refer to Section 4-2 *Build-up / Tear-down - Fenestron Equipment Items* of rotorcraft approved Maintenance Manual AMM 53-41-00 for detailed inspection instructions and acceptable repair methods. 8. Verify that antenna fasteners are not loose.

2.6 Troubleshooting Information

If error indications are displayed on the GTN 6XX or 7XX, consult Section 4, Troubleshooting of the GTN 6XX/7XX PART 27 AML STC SYSTEM MAINTENANCE MANUAL. Refer to the GTN System Configuration and Checkout Log retained in the aircraft permanent records for a list of the interfaced equipment and system configuration data.

2.7 Removal and Replacement Information

When replacing a GTN unit or GTN configuration module, the configuration information for the replacement unit must be set based on approved installation data to ensure proper configuration for this STC. In particular, per FAA direction, the setting for Airspace Labels must be configured as "Disable".

For removal and replacement instructions, refer to the *GTN 6XX/7XX PART 27 AML STC SYSTEM MAINTENANCE MANUAL* Section 5, Equipment Removal and Replacement.

2.8 Equipment Location and Access

2.8.1 GTN STC Installation Equipment Layout

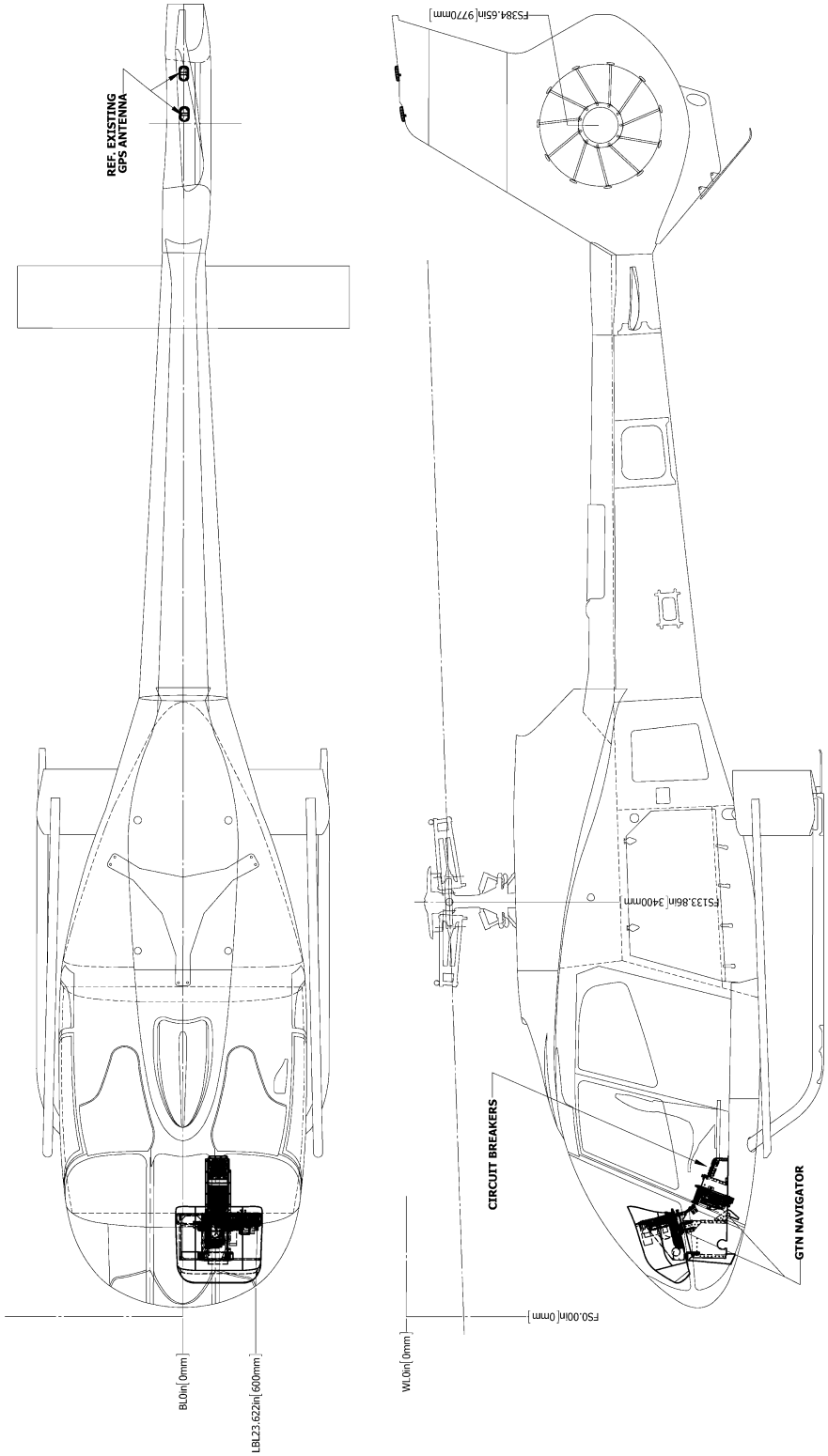

Figure 1. Equipment Location in GTN STC

2.8.2 GTN Navigator Installation

Typical installation of GTN navigator in EC130 is shown in Figure 2 and Figure 3 with corresponding bill of material shown in Table 3.

Table 3. Bill of Materials for GTN Navigators and Optional GMA Audio Panel

(1)	(1)	-	-	-	21	011-02302-00	CONNECTOR KIT, GMA 35 AUDIO PANEL	
(1)	(1)	-	-	-	20	011-02300-00	BACKPLATE SUB-ASSEMBLY, GMA 35 AUDIO PANEL	
(1)	(1)	-	-	-	19	011-02645-00	INSTALL RACK KIT, GMA 35 AUDIO PANEL	
(1)	(1)	-	-	-	18	011-02299-00	GMA 35 AUDIO PANEL, REMOTE	
1	-	-	-	-	17	011-02326-02	CONNECTOR KIT, GTN 750 NAVIGATOR	OR
-	1	-	-	-	16	011-02326-00	CONNECTOR KIT, GTN 725 NAVIGATOR	
-	-	1	-	-	15	011-02325-02	CONNECTOR KIT, GTN 650 NAVIGATOR	OR
-	-	-	1	-	14	011-02325-01	CONNECTOR KIT, GTN 635 NAVIGATOR	
-	-	-	-	1	13	011-02325-00	CONNECTOR KIT, GTN 625 NAVIGATOR	
1				-	12	011-02246-02	BACKPLATE SUB-ASSEMBLY, GTN 750 NAVIGATOR	OR
-	1	-	-	-	11	011-02246-00	BACKPLATE SUB-ASSEMBLY, GTN 725 NAVIGATOR	
-	-	1	-	-	10	011-02245-02	BACKPLATE SUB-ASSEMBLY, GTN 650 NAVIGATOR	OR
-	-	-	1	-	9	011-02245-01	BACKPLATE SUB-ASSEMBLY, GTN 635 NAVIGATOR	
-	-	-	-	1	8	011-02245-00	BACKPLATE SUB-ASSEMBLY, GTN 625 NAVIGATOR	
1	1	-	-	-	7	115-01294-A0	MOUNTING RACK, GTN 7XX SERIES NAVIAGATOR	
-	-	1	1	1	6	115-01293-A0	MOUNTING RACK, GTN 6XX SERIES NAVIAGATOR	
1	-	-	-	-	5	011-02282-A0	GTN 750 TOUCH SCREEN NAVIGATOR, NVIS	OR
						011-02282-50	GTN 750 TOUCH SCREEN NAVIGATOR, GRAY BEZEL	
						011-02282-00	GTN 750 TOUCH SCREEN NAVIGATOR	
-	1	-	-	-	4	011-02281-00	GTN 725 TOUCH SCREEN NAVIGATOR	
-	-	1	-	-	3	011-02256-A0	GTN 650 TOUCH SCREEN NAVIGATOR, NVIS	OR
						011-02256-50	GTN 650 TOUCH SCREEN NAVIGATOR, GRAY BEZEL	
						011-02256-00	GTN 650 TOUCH SCREEN NAVIGATOR	
-	-	-	1	-	2	011-02255-00	GTN 635 TOUCH SCREEN NAVIGATOR	
-	-	-	-	1	1	011-02254-00	GTN 625 TOUCH SCREEN NAVIGATOR	
750	**725**	**650**	**635**	**625**	**ITEM**	**PART**	**DESCRIPTION**	
QTY. PER GTN MODEL					**NO.**	**NUMBER**		

Note that ( ) indicate optional quantities.

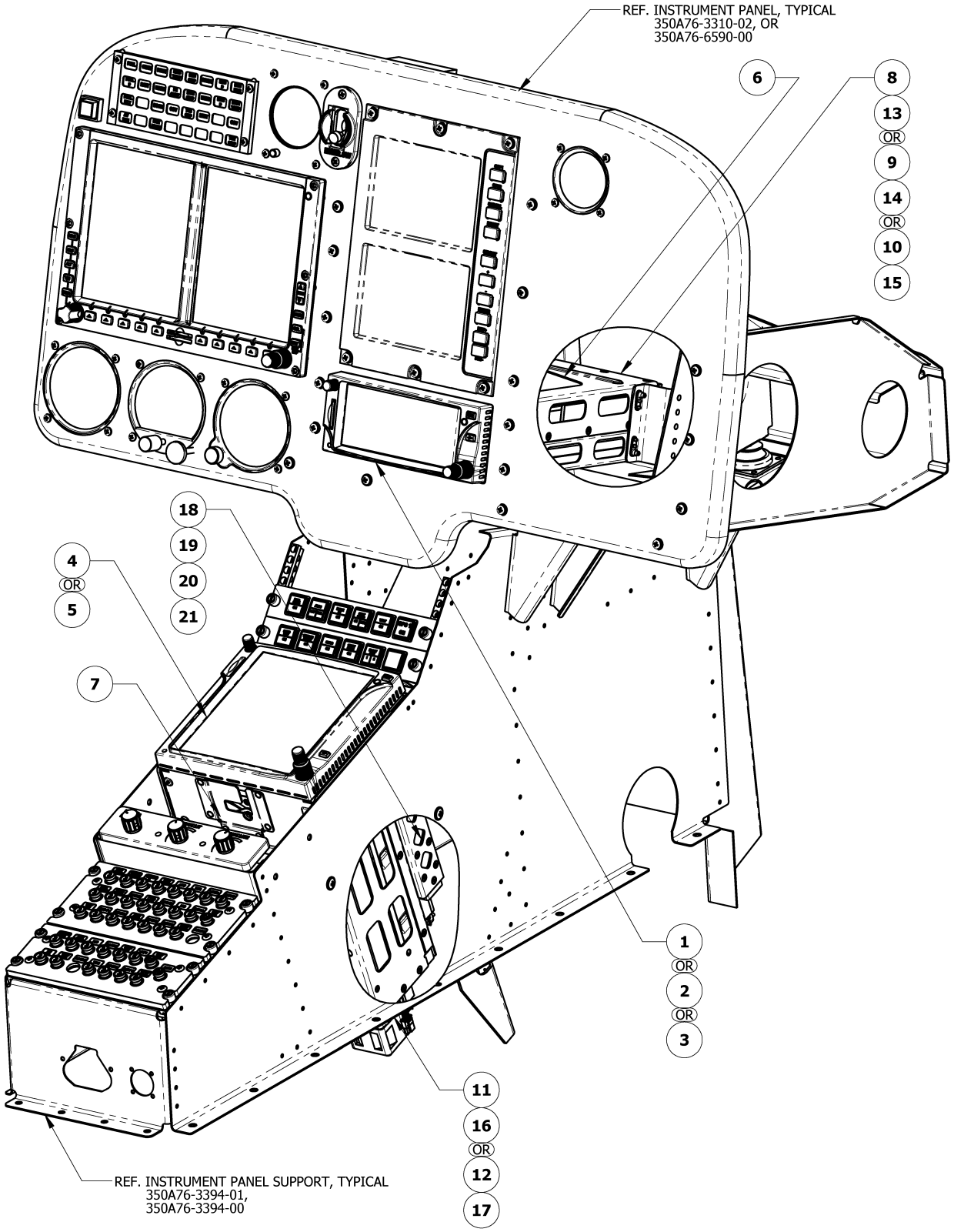

Figure 2. Typical GTN / GMA35 Installation in Eurocopter EC130T2

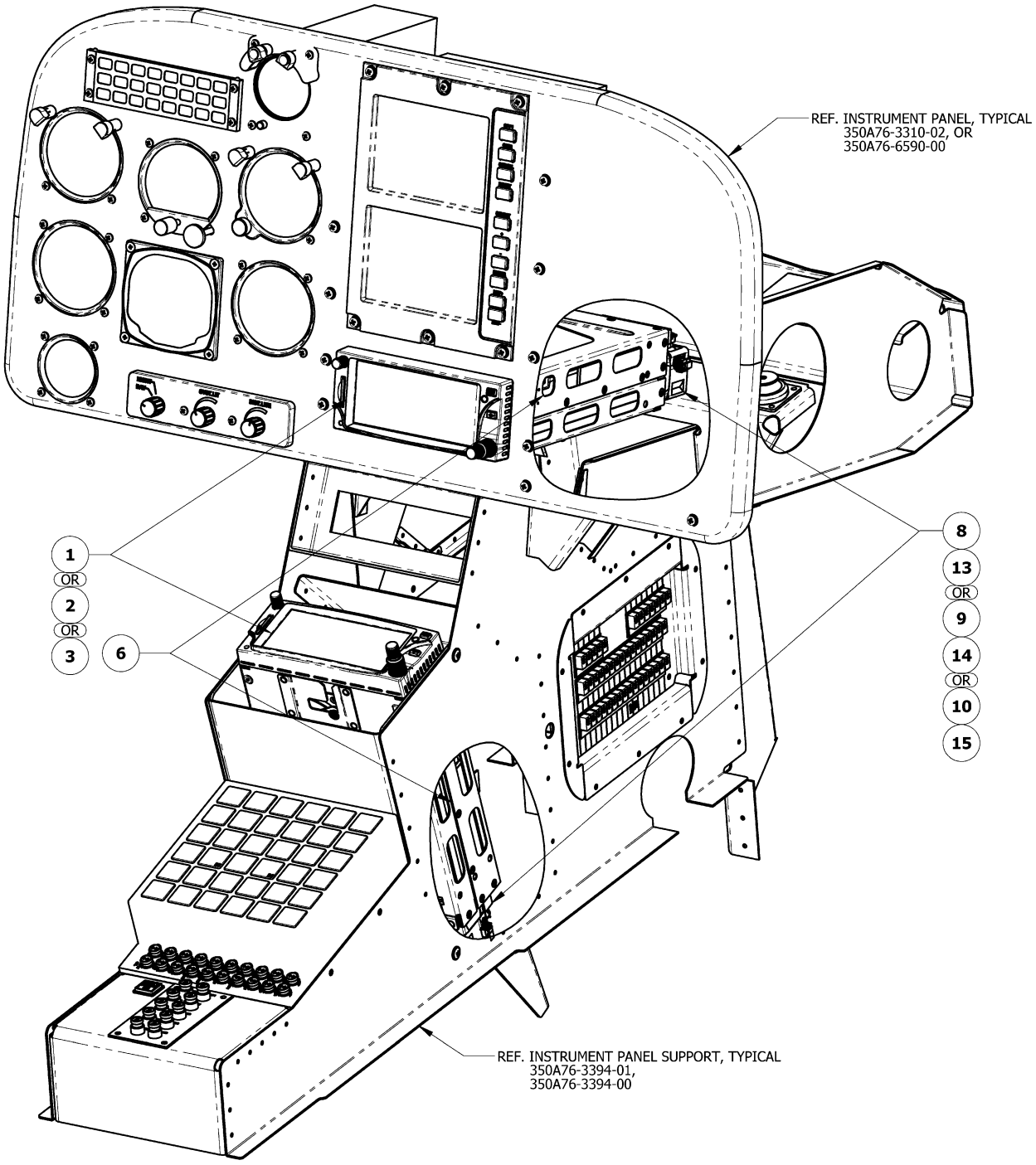

Figure 3. Typical GTN Installation in Eurocopter EC 130B4

2.8.3 Circuit Breaker and GPS Switch Installation

Required circuit breaker labels are shown in Table 4.

Table 4. GTN Circuit Breaker Labels

LRU	POWER INPUT	GTN INSTALLATION	
		SINGLE	DUAL[1]
GMA 35	ROTORCRAFT POWER ON CONNECTOR P3502	Audio	
GTN 650 GTN 750	ROTORCRAFT POWER ON CONNECTOR P1001	GPS/NAV	GPS/NAV 1
	ROTORCRAFT POWER ON CONNECTOR P1004		GPS/NAV 2
	ROTORCRAFT POWER ON CONNECTOR P1003	COM	COM 1
			COM 2
GTN 625 GTN 725	ROTORCRAFT POWER ON CONNECTOR P1001	GPS	GPS 1
			GPS 2
GTN 635	ROTORCRAFT POWER ON CONNECTOR P1001	GPS	GPS 1
			GPS 2
	ROTORCRAFT POWER ON CONNECTOR P1003	COM	COM 1
			COM 2

1. Dual installation labeling applies to GTN LRUs only

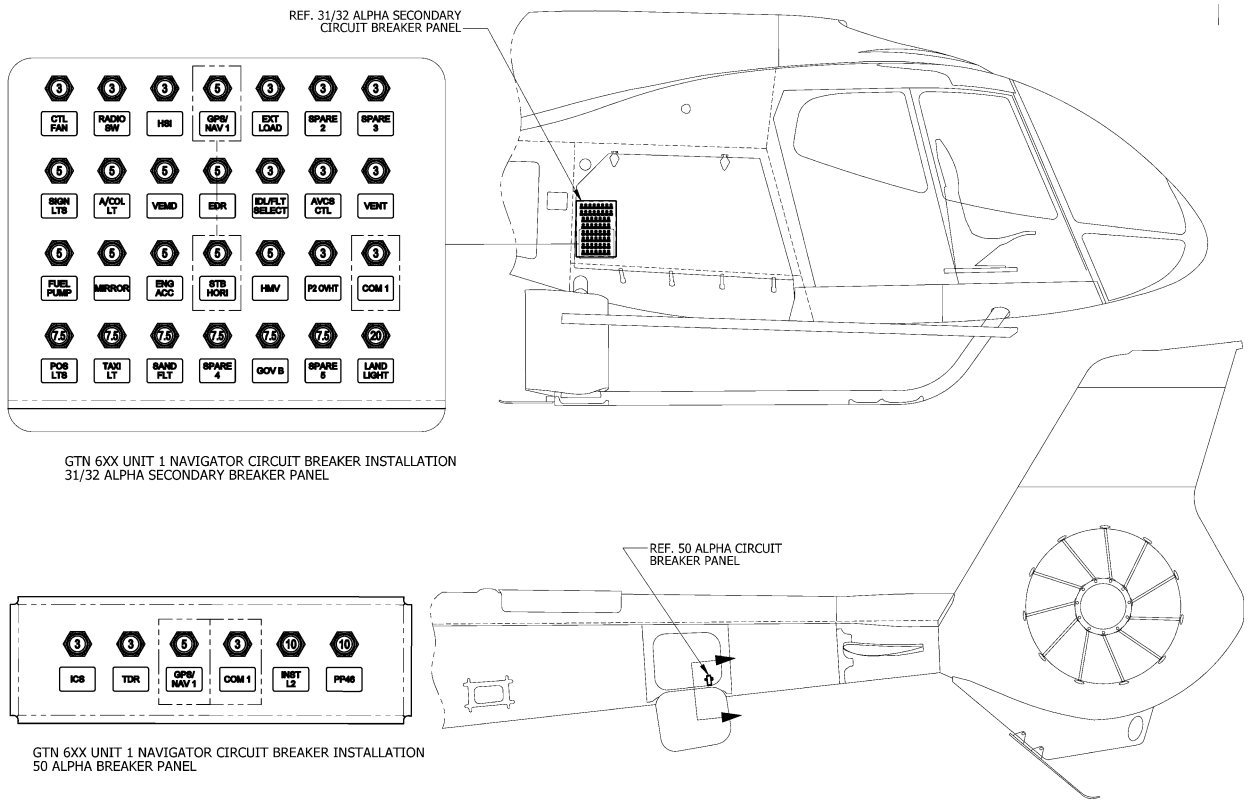

Figure 4. GTN Circuit Breaker Labels in EC130T2

Typical installation of GTN circuit breakers, circuit breaker labels, and GPS on/off switch is shown in Figure 4, Figure 5, Figure 6, Figure 7, Figure 8, Figure 9, and Figure 10 with corresponding bill of material shown in Table 5 and in Table 6.

In the EC 130T2, for GTNs mounted in existing instrument panel support, the circuit breaker panel is located on top of the support, as shown in Figure 8. In the EC 130T2, for GTNs mounted in the instrument panel, the circuit breaker panel is located in the cargo area and tail boom, as shown in Figure 6.

In the EC 130 B4, the circuit breakers for the GTN 6XX are located in the 16 Alpha circuit breaker panel located on top of the instrument panel support, or the in the 31/32 Alpha Secondary circuit breaker panel located on the right hand side of the instrument panel support shown in Figure 5.

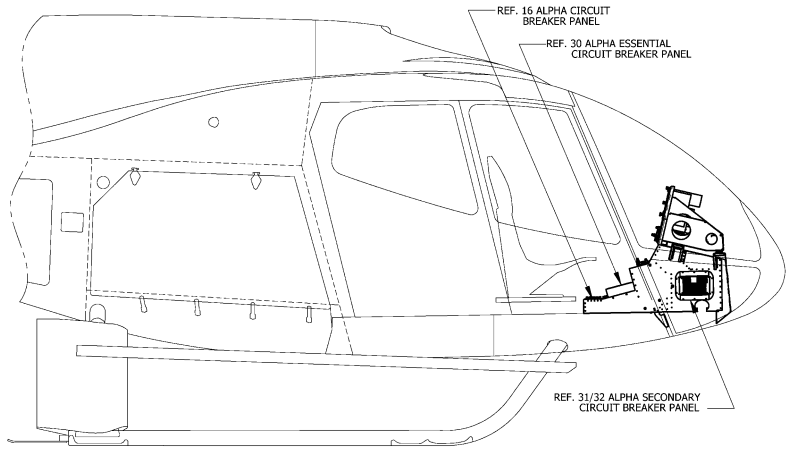

Figure 5. GTN Circuit Breaker Location in EC130B4

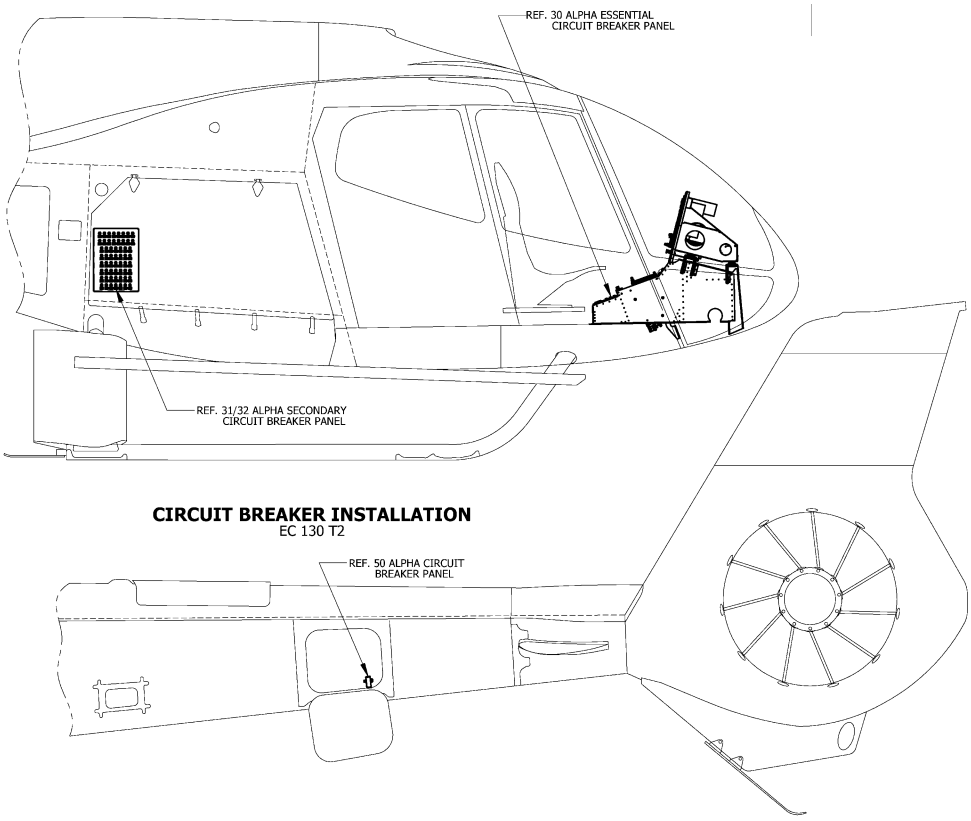

Figure 6 . GTN Circuit Breaker Location in EC130T2

Table 5. Bill of Materials for Circuit Breaker and GPS Switch in EC130T2

-	1	3	49202-043	SWITCH, 4-POLE, PUSH-BUTTON, CHROMALUX 389, GPS COM 1
			49202-042	SWITCH, 4-POLE, PUSH-BUTTON, CHROMALUX 389, GPS 1
(2)	2	2	4120-V110-3A	CIRCUIT BREAKER, MINIATURE, HIGH PERFORMANCE, 3 AMP
1	2	1	4120-V110-5A	CIRCUIT BREAKER, MINIATURE, HIGH PERFORMANCE, 5 AMP
7XX	6XX	**ITEM**	**PART**	**DESCRIPTION**
QTY.		**NO.**	**NUMBER**	

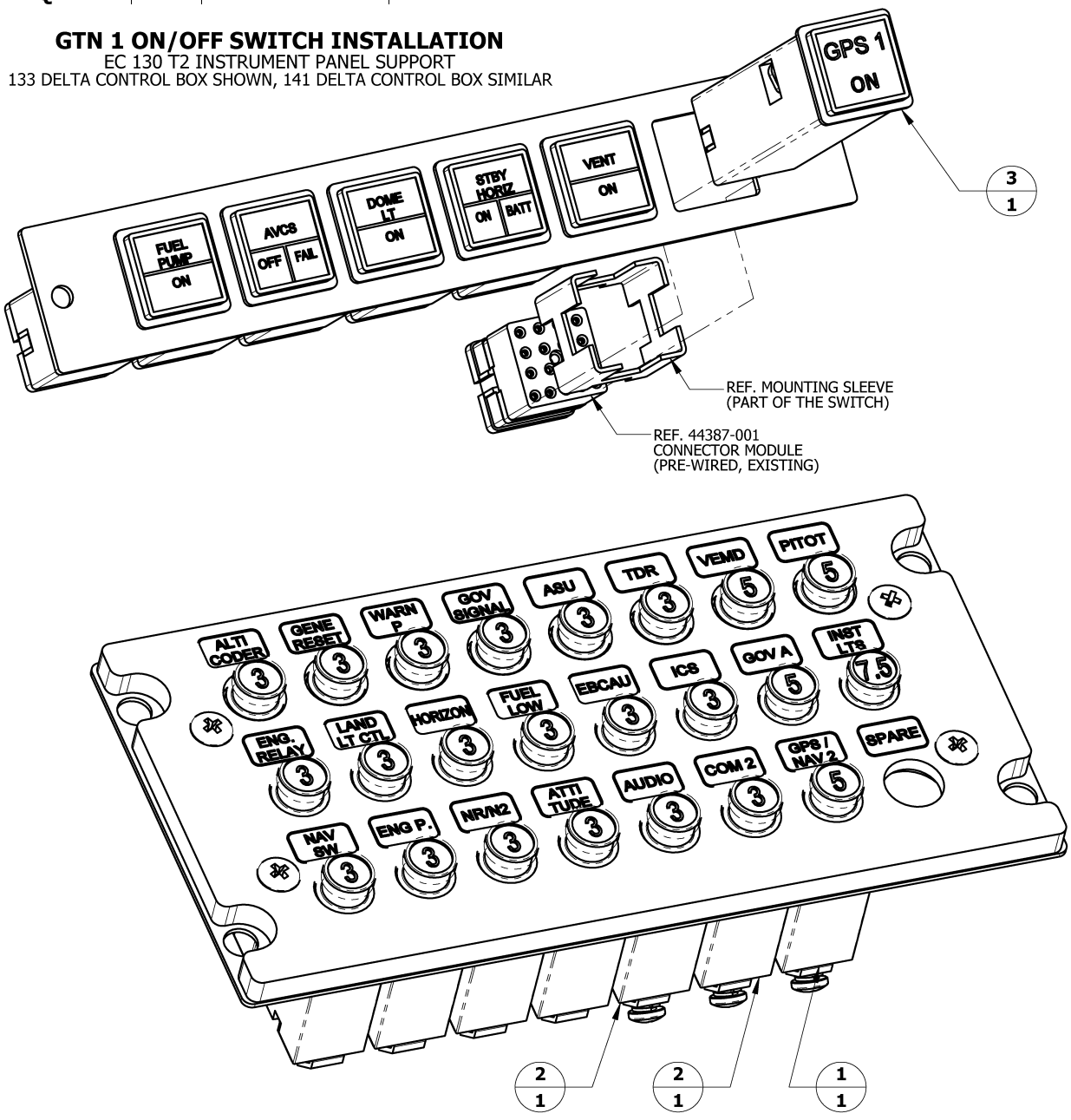

Figure 7. GTN 1 ON/OFF Switch and GTN 2 Circuit Breaker Installation in EC130T2

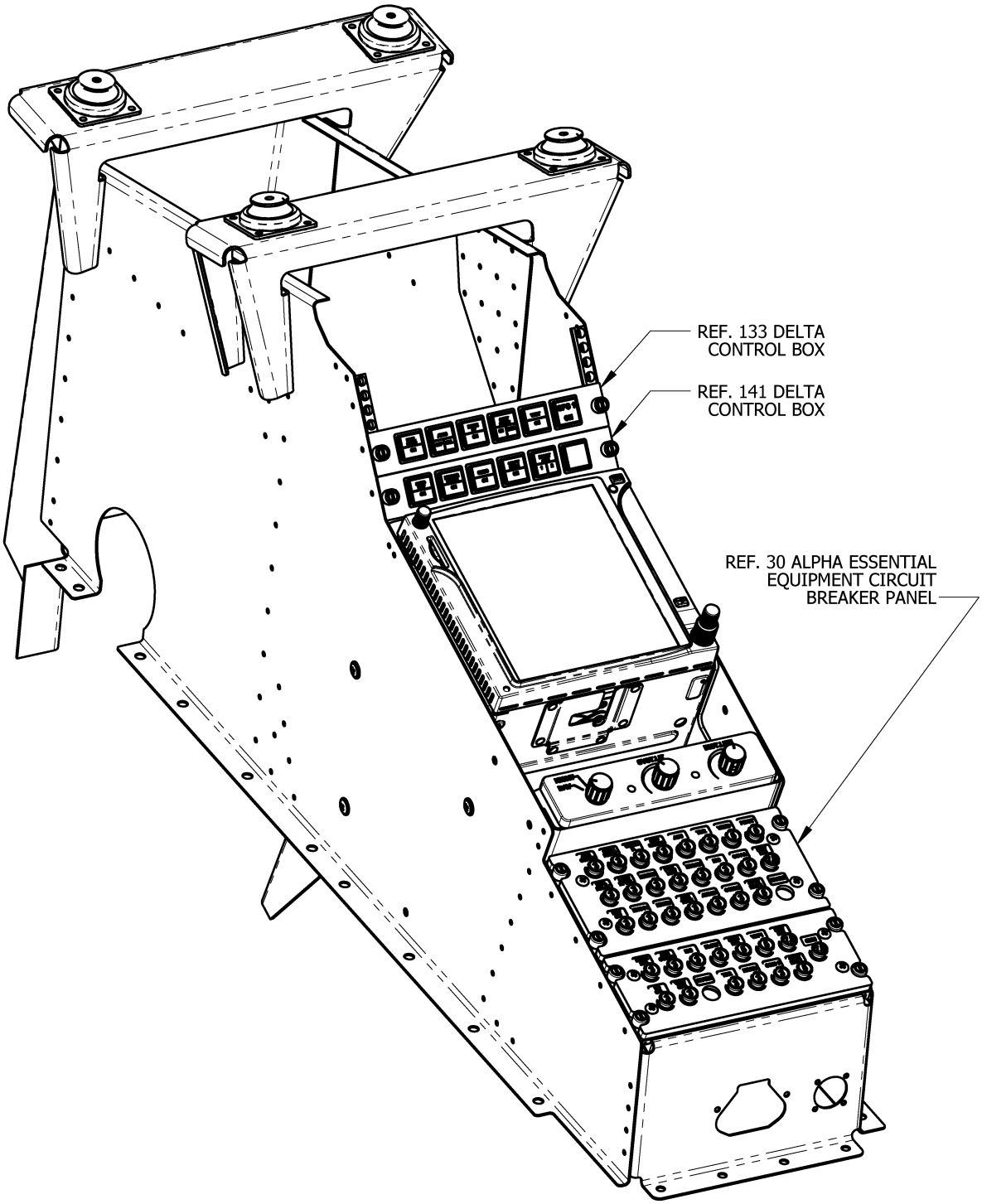

Figure 8. Location of GTN 1 ON/OFF Switch and GTN 2 Circuit Breaker in EC130T2

Table 6. Bill of Materials for Circuit Breaker and GPS Switch in EC130B4

13	6	M39029/57-354	CONTACT, SOCKET, MIL-DTL-38999 SERIES, 22-28 AWG
1	5	44387-001	CONNECTOR MODULE
1	4	29709-001	MOUNTING SLEEVE
1	3	49202-043	SWITCH, 4-POLE, PUSH-BUTTON, CHROMALUX 389, GPS/COM 1
		49202-042	SWITCH, 4-POLE, PUSH-BUTTON, CHROMALUX 389, GPS 1
2	2	1180-01-3A	CIRCUIT BREAKER, THERMAL OVERCURRENT, 3 AMP
		4120-V110-3A	CIRCUIT BREAKER, MINIATURE, HIGH PERFORMANCE, 3 AMP
2	1	1180-01-5A	CIRCUIT BREAKER, THERMAL OVERCURRENT, 5 AMP
		4120-V110-5A	CIRCUIT BREAKER, MINIATURE, HIGH PERFORMANCE, 5 AMP
QTY.	**ITEM NO.**	**PART NUMBER**	**DESCRIPTION**

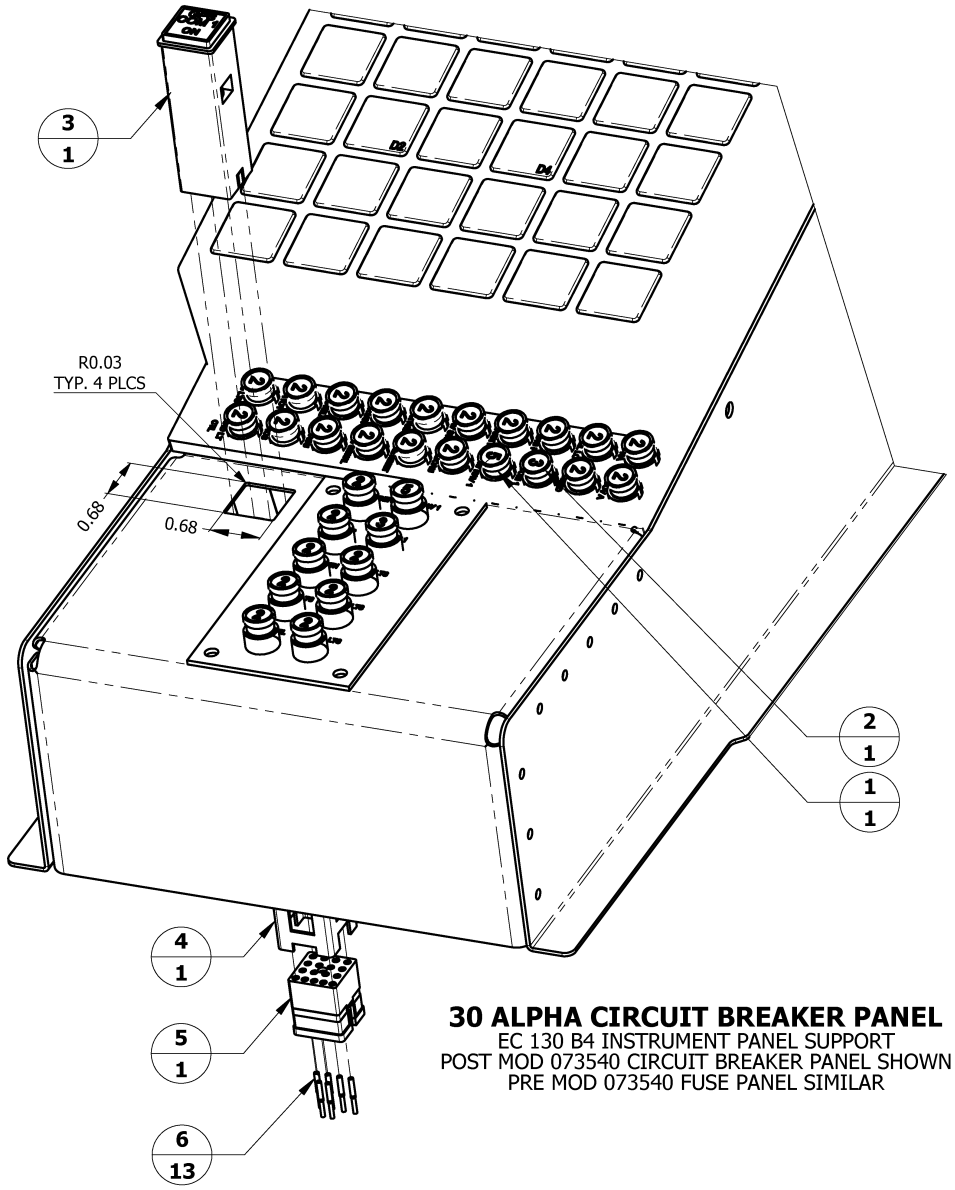

Figure 9. GTN 1 ON/OFF Switch and GTN 2 Circuit Breaker Installation in EC130B4

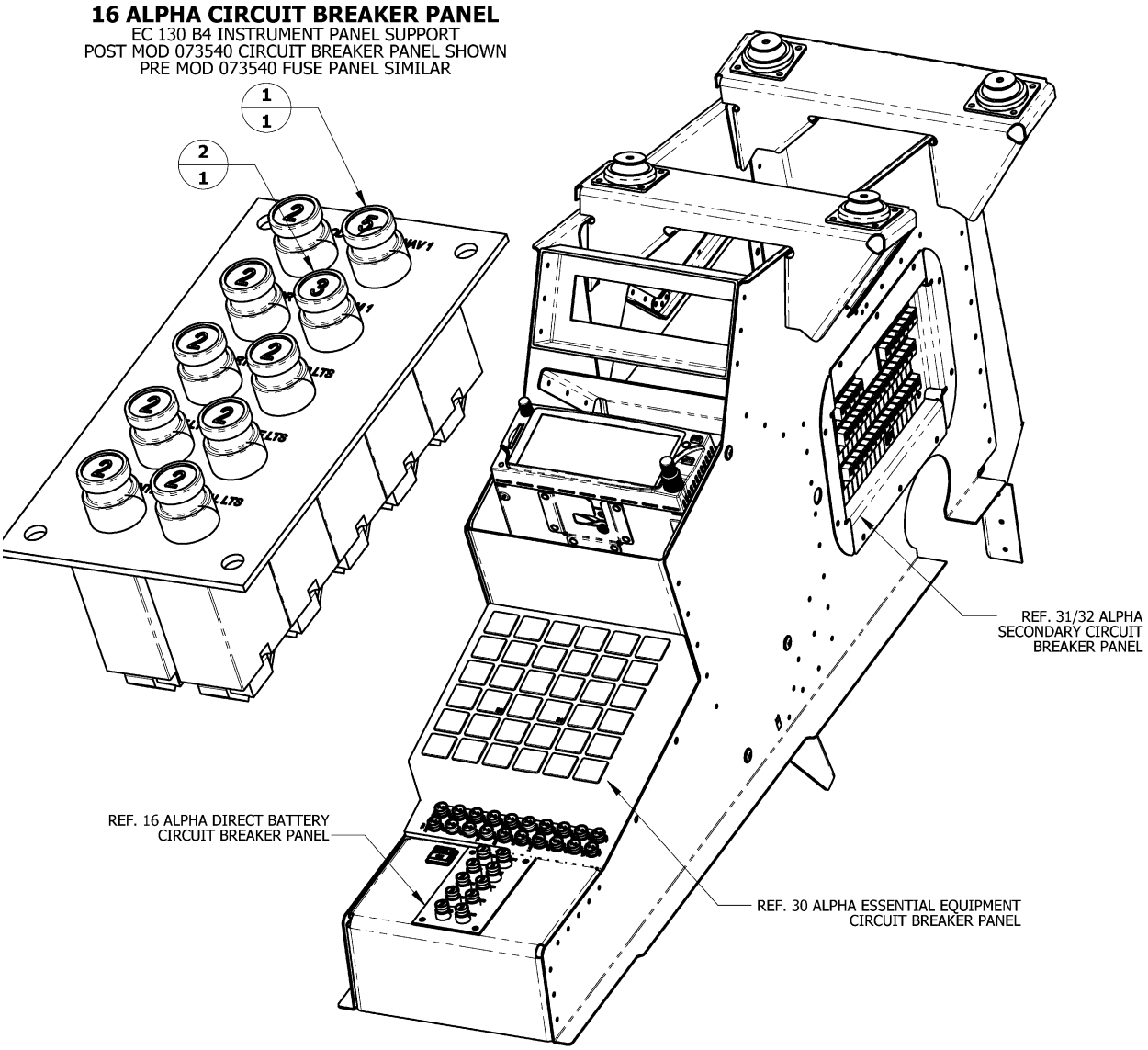

Figure 10. Typical GTN Circuit Breaker Location in Eurocopter EC130B4

2.8.4 Wire Routing

The GTN and optional GMA 35 wiring harness power and switch connections are routed as shown in Figure 11. Coaxial wire routing may differ slightly from the depicted since the GTNs may be interfaced with existing GPS antennas. Refer to the aircraft wire routing worksheets and equipment location forms that were filled out during initial GTN/GMA 35 installation for additional details.

GTN/GMA 35 installation racks, back plates with connectors, and wiring harnesses may be accessed by removing the GTN LRUs as specified in *GTN 6XX/7XX PART 27 AML STC SYSTEM MAINTENANCE MANUAL* Section 5, Equipment Removal and Replacement.

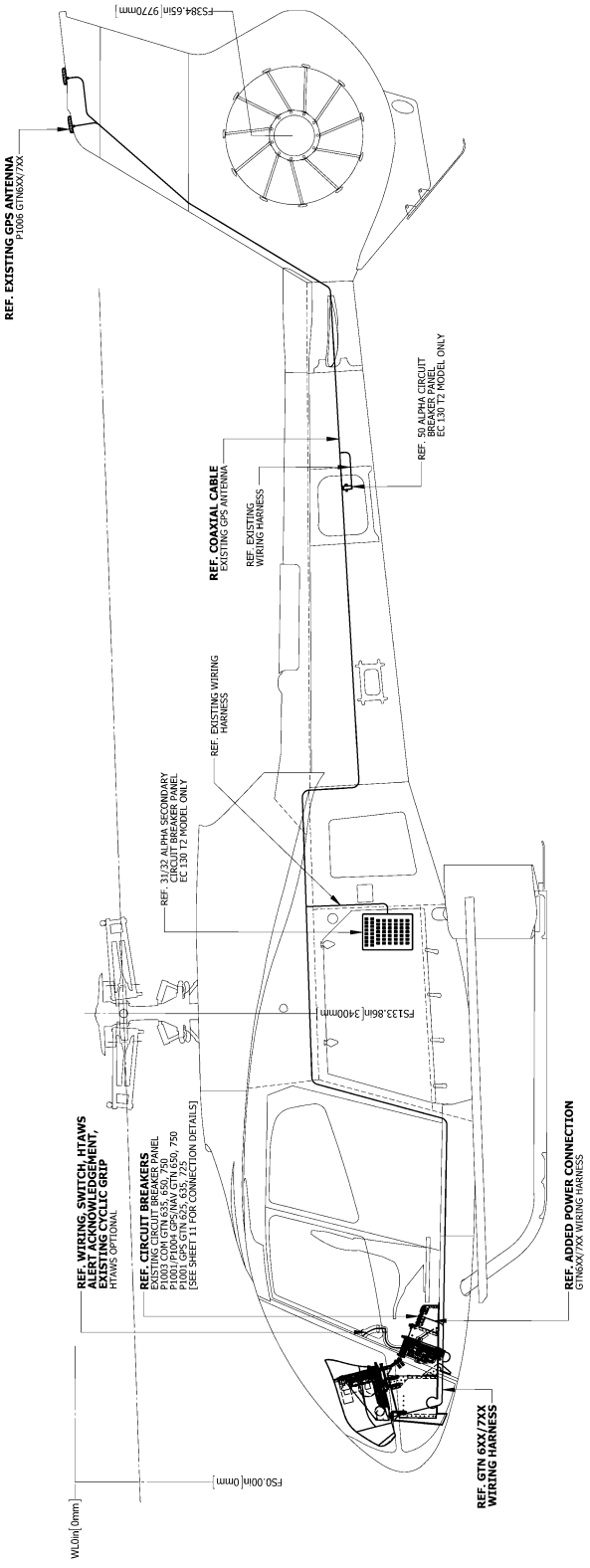

Figure 11. GTN/GMA 35 Wire Routing in Eurocopter EC130

2.9 Weight and Balance

The location of GTN navigator and optional GMA 35 audio panel in reference to rotorcraft fuselage station (FS) and butt line (BL) is shown in Figure 12 with corresponding lateral and longitudinal arms and moments detailed in Table 7 for EC130T2, and in Figure 13 and corresponding Table 8 for EC130B4.

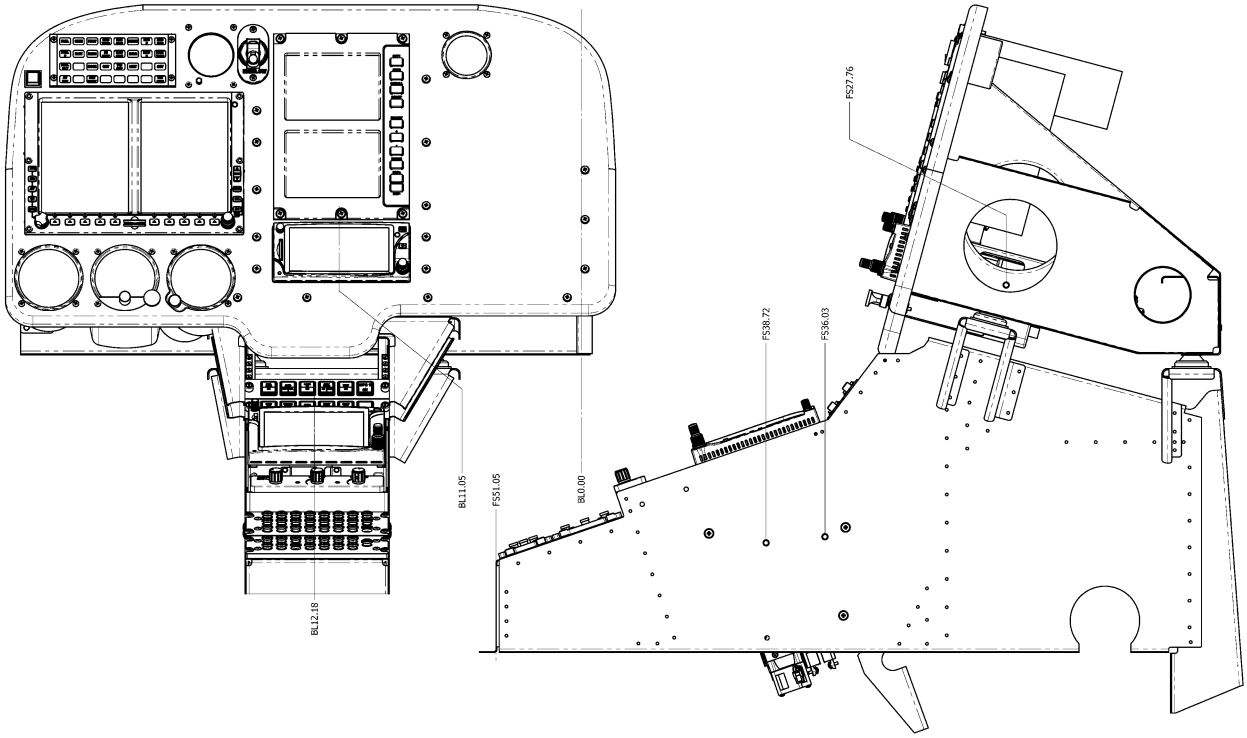

Figure 12. GTN and GMA 35 FS and BL Location in EC130T2

Table 7. Typical Weight and Balance of GTN and GMA 35 Installed in EC130T2

ITEM	DESCRIPTION	PART NUMBER	WEIGHT [LB]	LONGITUDINAL		LATERAL	
				ARM [IN]	MOMENT	ARM [IN]	MOMENT
1	GTN 625 NAVIGATOR	011-02254-00	6.00	27.73	166.38	-10.36	-62.16
2	GTN 635 NAVIGATOR	011-02255-00	6.80	27.73	188.56	-10.36	-70.45
3	GTN 650 NAVIGATOR	011-02256-00	7.60	27.73	210.75	-10.36	-78.74
4	GTN 725 NAVIGATOR	011-02281-00	8.60	38.72	332.99	-11.50	-98.90
5	GTN 750 NAVIGATOR	011-02282-00	10.20	38.72	394.94	-11.50	-117.30
6	GMA 35 REMOTE MOUNT AUDIO PANEL	011-02299-00	2.20	36.03	79.27	-11.50	-25.30

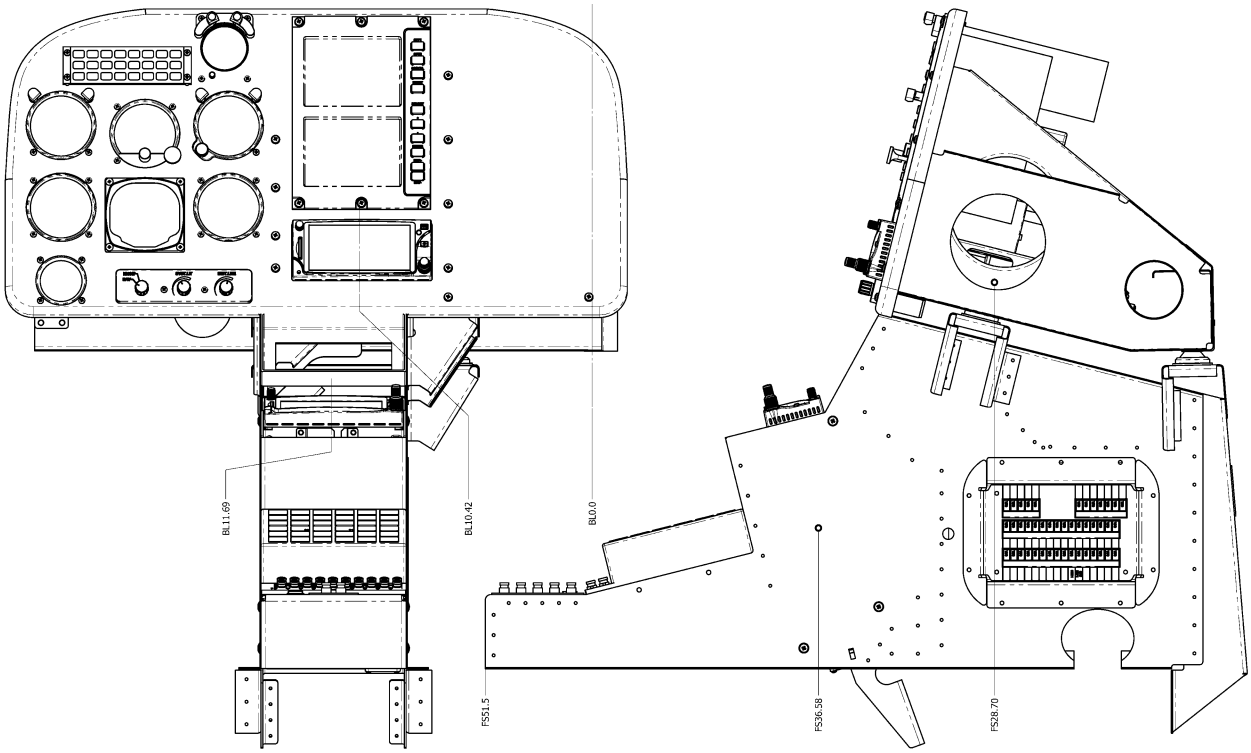

Figure 13. GTN and GMA 35 FS and BL Location in EC130B4

Table 8. Typical Weight and Balance of GTN and GMA 35 Installed in EC130B4

ITEM	DESCRIPTION	PART NUMBER	WEIGHT [LB]	LONGITUDINAL		LATERAL	
				ARM [IN]	MOMENT	ARM [IN]	MOMENT
				INSTRUMENT PANEL LOCATION			
1	GTN 625 NAVIGATOR	011-02254-00	6.00	28.70	172.20	-10.42	-62.52
2	GTN 635 NAVIGATOR	011-02255-00	6.80	28.70	195.16	-10.42	-70.86
3	GTN 650 NAVIGATOR	011-02256-00	7.60	28.70	218.12	-10.42	-79.19
				CONSOLE LOCATION			
1	GTN 625 NAVIGATOR	011-02254-00	6.00	36.58	219.48	-11.69	-70.14
2	GTN 635 NAVIGATOR	011-02255-00	6.80	36.58	248.74	-11.69	-79.49
3	GTN 650 NAVIGATOR	011-02256-00	7.60	36.58	278.01	-11.69	-91.18

2.10 Diagrams

Aircraft specific LRU locations and wire routing diagram forms are contained in Appendix A of this document. Completed forms are to be retained with the aircraft permanent records.

Point-to-point wiring diagrams for the GTN, GMA 35, and interfaced equipment included with the aircraft permanent records.

GTN and GMA 35 locations are described in Section 2.8 of this document.

2.11 Special Inspection Requirements

If an antenna is replaced under this STC, an antenna visual inspection must be performed if there is a suspected lighting strike on the aircraft. In the event of a suspected or actual lightning strike to the aircraft, the GPS antenna(s) and its associated installation shall be inspected.

If the antenna was struck by lightning then the antenna and the surrounding installation shall be inspected to ensure that there is no structural damage around the areas where lightning may have struck. See Table 2 for inspection criteria.

Execute the system checkout procedure for the GPS/WAAS and/or XM system using the antenna, to ensure the system(s) are operating correctly.

No action is required for hard landing inspections.

2.12 Application of Protective Treatments

None. N/A.

2.13 Data Relative to Structural Fasteners

Refer to Garmin P/N 190-01007-B1, *GTN 6XX/7XX PART 27 AML STC SYSTEM MAINTENANCE MANUAL* Section 5 for fastener information.

2.14 Special Tools

A milliohm meter with an accuracy of +/- 0.1 milliohms ohms (or better) is required to measure the electrical bonding between the GTN/GMA system components and aircraft ground.

2.15 Additional Instructions

None. N/A

2.16 Overhaul Period

The system does not require overhaul at a specific time period. Power on self-test and continuous BIT will monitor the health of the GTN system. If any LRU indicates an internal failure, the unit may be removed and replaced (Refer to Section 5 of the GTN 6XX/7XX PART 27 AML STC SYSTEM MAINTENANCE MANUAL for Removal and Reinstallation instructions). See GTN 6XX/7XX PART 27 AML STC SYSTEM MAINTENANCE MANUAL, Section 4 for Troubleshooting information.

2.17 ICA Revision and Distribution

To revise this ICA, Garmin will follow the Garmin *ODA Procedures Manual* SOP-0055/ACP-0016 for Instructions for Continued Airworthiness. The latest revision of this ICA document is available on the Garmin website (www.flyGarmin.com). To Access Aviation Manuals, select the 'Support' tab and then select 'Manuals'. You may also contact Garmin General Aviation Product Support at 866-739-5687 (US toll free) 913-397-8200 or avionics@garmin.com. A Garmin Service Bulletin describing ICA revision will be sent to Garmin dealers if a revision is determined to be significant.

2.18 Assistance

Flight Standards Inspectors or the certificate holder's PMI have the required resources to respond to questions regarding this ICA. In addition, the customer may contact Garmin with questions regarding this equipment and its installation. Garmin Customer Support may be contacted during normal business hours via telephone 913-397-8200 or from the Garmin web site at www.flyGarmin.com.

2.19 Implementation and Record Keeping

Modification of an aircraft by this Supplemental Type Certificate obligates the aircraft operator to include the maintenance information provided by this document in the operator's aircraft maintenance manual and/or the operator's rotorcraft scheduled maintenance program.

3. AIRWORTHINESS LIMITATIONS SECTION

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

There are no additional Airworthiness Limitations as defined in 14 CFR § 27, Appendix A, A27.4 that result from this modification.

4-APR-2016

FAA APPROVED

Michael Warren
ODA STC Unit Administrator
ODA-240087-CE

Date

4. APPENDIX A - EQUIPMENT LOCATIONS AND WIRE ROUTING

The following diagram must be completed to depict the location of all LRUs and antenna(s) along with the wire routing for the GTN 6XX/7XX and GMA 35 throughout the aircraft structure for the Eurocopter EC 130 rotorcraft. All harnesses fabricated as part of this STC should be included in this diagram.