A Textron Company

**ALERT SERVICE BULLETIN** **412-22-189**

**PSL # 1111**

28 September 2022

**MODEL AFFECTED:** **412EP**

**SUBJECT:** **GARMIN GTN 750 WIRING HARNESS, INSPECTION OF**

**HELICOPTERS AFFECTED:** **Serial numbers 36550, 36562, 36612, 36614, 36648, 36649, 36658 and 36659 (412EP converted to 412EPI configuration per STC no. SR09600RC), 37002 through 37018 and 37021 through 37049.**

[Serial number 37019, 37020 and 37050 through 37999 will have the intent of this bulletin accomplished prior to delivery.]

**COMPLIANCE:** **PART I:** Within the next 25 flight hours or 30 days whichever comes first after the release date of this bulletin.
**PART II:** Within the next 300 flight hours or 90 days whichever comes first after accomplishment of PART I or as instructed in the Accomplishment Instructions.

**DESCRIPTION:**

The affected helicopters may have been delivered with a low clearance or a fouling condition between the Garmin GTN 750 wiring harness and the panel assembly 412-030-826-103 or 412-030-109-113 as applicable. Wire harness chafing damage could result in a malfunction of the avionic systems linked with the GTN 750 functions.

The affected helicopter serial numbers converted to the 412EPI configuration by the STC SR09600RC have panel assembly 412-030-109-113 installed while the 412EPI S/N 37002 through 37999 have panel assembly 412-030-826-103 installed. The spares replacement for the panel assembly 412-030-826-103 used on the 412EPI S/N 37002 through 37999 is the panel assembly 412-030-826-111. Panel assembly 412-030-826-

111 is also the spares replacement for panel assembly 412-030-109-113 when installed on the 412EP converted to the EPI configuration by STC SR09600RC. Panel assembly 412-030-826-111 incorporates a cut out to eliminate the low clearance condition. Panel assembly 412-030-826-111 is not useable on an unmodified 412EP S/N 36087 through 36999.

**PART I** of this bulletin mandates a one-time inspection for wire harness fouling or a low clearance condition and PART II provides the instructions to rework the affected panel assemblies. Some of the helicopters listed as being affected may have had panel assembly 412-030-826-103 reworked during customizing at the factory. If the panel has been reworked as described in PART II, the intent of this bulletin is met.

Applicability of this bulletin to any spare part shall be determined prior to its installation on an affected helicopter.

**APPROVAL:**

The engineering design aspects of this bulletin are FAA approved.

**CONTACT INFO:**

For any questions regarding this bulletin, please contact:

Bell Product Support Engineering
Tel: 1-450-437-2862 / 1-800-363-8023 / productsupport@bellflight.com

**MANPOWER:**

Approximately 10 man-hours are required to complete this bulletin. This estimate is based on hands-on time and may vary with personnel and facilities available.

**WARRANTY:**

Owner Operators, and or Fleet Operators of Bell Aircraft who comply with the instructions in this Bulletin will be eligible to receive non prorated replacement part as required, listed in the bulletin. The www.mybell.com portal allocates specific warranty entitlement for an aircraft by serial number. The Product Service Letter (PSL) number which will be listed below the bulletin number on the introduction page is going to be a required field when submitting a claim for replacement parts, labor, and/or freight. If you receive an ASB or TB that does not have a PSL number, then there is no warranty entitlement for that bulletin.

Labor entitlement: Yes $950.00 USD

To receive labor, under warranty:

- Comply with the instructions contained in this Bulletin no later than the applicable date in the “compliance section”.
- If there is a PSL number identified in the bulletin you will be required to enter this PSL number which will validate warranty entitlement for the selected aircraft. Please ensure that you use the Bulletin tab on the warranty section in www.mybell.com portal to file your claim.

**MATERIAL:**

**Required Material:**

None required.

**Consumable Material:**

The following material is required to accomplish this bulletin, but may not require ordering, depending on the operator’s consumable material stock levels. This material may be obtained through your Bell Supply Center.

| Part Number | Nomenclature | Qty (Note) | Reference * |
|---|---|---|---|
| 2000-09182-01 | Adhesive 299-947-100 TY2 CL2 | 50 Grams (1) | C-317 |
| 2010-00082-00 | Sealant MIL-PRF-81733 | 6 OZ | C-251 |
| 2230-00559-00 | Polyamide Epoxy Primer | 8 OZ (2) | C-204 |
| 2230-00621-00 | Paint - 36596 Prairie Gray | 4 OZ (3) | C-245 |
| 2010-06640-00 | Edge Sealer | 8 OZ | C-349 |
| 2530-00279-00 | Shrinkable Tubing | 1 FT | C-589 |
| 2640-05901-01 | Aramid Lacing Tape | Roll | C-581 |

* C-XXX numbers refer to the consumables list in the BHT-ALL-SPM, Standard Practices Manual

**NOTES:**

1. Any adhesive that meets the specification 299-947-100 TY2 CL2 can be used.
2. Primer C-246 can be used as an alternate.
3. This part number is for an aerosol format. Any polyurethane paint MIL-PRF-85285 TY I color code 36596 per FED-STD-595 can be used. Other similar color can be used as an alternate.

**SPECIAL TOOLS:**

None required.

**WEIGHT AND BALANCE:**

Not affected.

**ELECTRICAL LOAD DATA:**

Not affected.

**REFERENCES:**

BHT-ELEC-SPM Electrical Standard Practices Manual.

**PUBLICATIONS AFFECTED:**

BHT-412-IPB Illustrated Parts Breakdown, Chapter 53.

**ACCOMPLISHMENT INSTRUCTIONS:**

**PART I: Inspection of the Garmin GTN 750 wiring.**

1. Prepare the helicopter for maintenance and gain access to the aft section of panel assembly 412-030-826-103 or 412-030-109-113 as applicable (Figure 1).

2. Inspect the GTN 750 wiring harness for low clearance or a fouling condition with the aft section of the panel assembly 412-030-826-103 or 412-030-109-113 and possible wire chafing damage (Figure 2).

3. If sufficient clearance exists between the GTN 750 wiring harness and the panel (0.375 inch (9,5 mm) or more), no further action is required. Make an entry in the helicopter logbook and historical service records indicating findings and compliance with this Alert Service Bulletin.

4. If a low clearance condition is found (less than 0.375 inch (9,5 mm)) but there is no fouling and no wiring damage, accomplish PART II within the stated compliance timeframe.

5. If a fouling condition exists, inspect the wiring for damage.

6. If damage to the wires insulation only is found (no exposed strands), apply and smooth Edge Sealer (C-349) to the damaged area and eliminate the fouling condition by securing the wiring using tie wraps (C-592) or equivalent. Accomplish PART II within the stated compliance timeframe.

7. If the wires have exposed strands but none are broken, repair the damaged wires as follows before next flight. Note that this repair is considered temporary. The affected wires will require replacement during accomplishment of PART II.

   a. Apply and smooth Edge Sealer (C-349) to the damaged area.

   b. Cut a piece of shrinkable tubing (C-589) approximately one inch long lengthwise and of sufficient width to wrap a minimum or two full turns around the wire.

   c. String tie both ends of the shrinkable tubing using Lacing Tape (C-581) and apply heat to fully shrink tubing.

   d. Eliminate the fouling condition by securing the wiring using tie wraps (C-592) or equivalent. Accomplish PART II within the stated compliance timeframe.

8. If the wires have broken strands, replace the damaged wires before next flight. Eliminate the fouling condition by securing the wiring using tie wraps (C-592) or equivalent. Accomplish PART II within the stated compliance timeframe.

9. Make an entry in the helicopter logbook and historical service records indicating findings and compliance with PART I of this Alert Service Bulletin.

**PART II. Rework of the 412-030-109-113 or 412-030-826-103 panels.**

1. Prepare the helicopter for maintenance and gain access to panel assembly 412-030-109-113 or 412-030-826-103 as applicable (Figure 1).

2. Remove all necessary components to allow for the removal of the panel assembly 412-030-109-113 or 412-030-826-103.

-NOTE-

On the 412EPI modified by STC, panel assembly 412-030-109-113 may have a support 412-030-109-117 installed at the location where the panel requires trimming. This support is no longer required and can be discarded. The two inserts used (Figure 2, View looking up) to secure the support will be removed with the section of the panel being removed.

3. Inspect the GTN 750 wiring harness for condition and repair or replace any damaged wires as required (BHT-ELEC-SPM). Wires that have been repaired per PART I step 7 will require replacement.

4. Remove the panel assembly and using suitable cutting equipment, cut the panel as shown in Figure 3.

5. Smooth out the edges of the skin and seal the exposed core material with adhesive (C-317).

6. Allow the adhesive to cure and apply a coat of sealant (C-251) over the adhesive.

7. Allow the sealant to cure and apply primer (C-204) and paint (C-245) as required.

-NOTE-

Panel assembly 412-030-826-111 panel is the spares replacement for panel assembly 412-030-826-103 installed on 412EPI S/N 37002 through 37099 and for panel assembly 412-030-109-113 used on the 412EP converted to the EPI configuration by STC SR09600RC. Panel assembly 412-030-826-111 panel is not useable on 412EP not converted to the EPI configuration. When installed on the 412EPI STC, panel assembly 412-030-826-111 is part of Bell Retrofit Kit drawing 412-704-145-101.

8. Once modified, panel assembly 412-030-109-113 can be re-identified as -113FM and panel assembly 412-030-826-103 can be re-identified as -111FM with a permanent marker. The spares replacement for the modified panel assemblies 412-030-826-111FM and 412-030-109-113FM is panel assembly 412-030-826-111.

9. Re-install the panel assembly and previously removed components. Accomplish any required functional check after avionics equipment removal and installation.

10. Make an entry in the helicopter logbook and historical service records indicating findings and compliance with this Alert Service Bulletin.

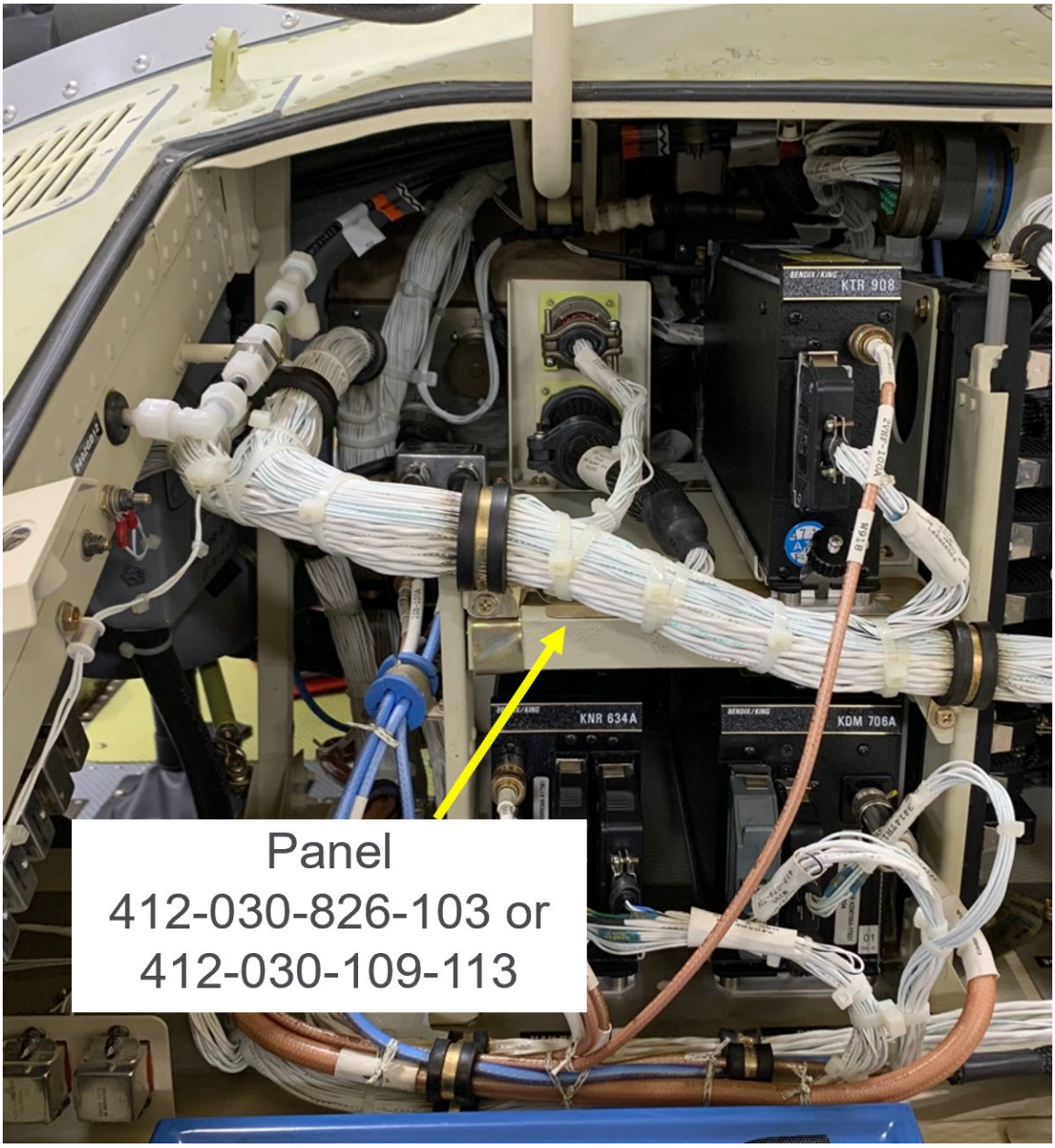
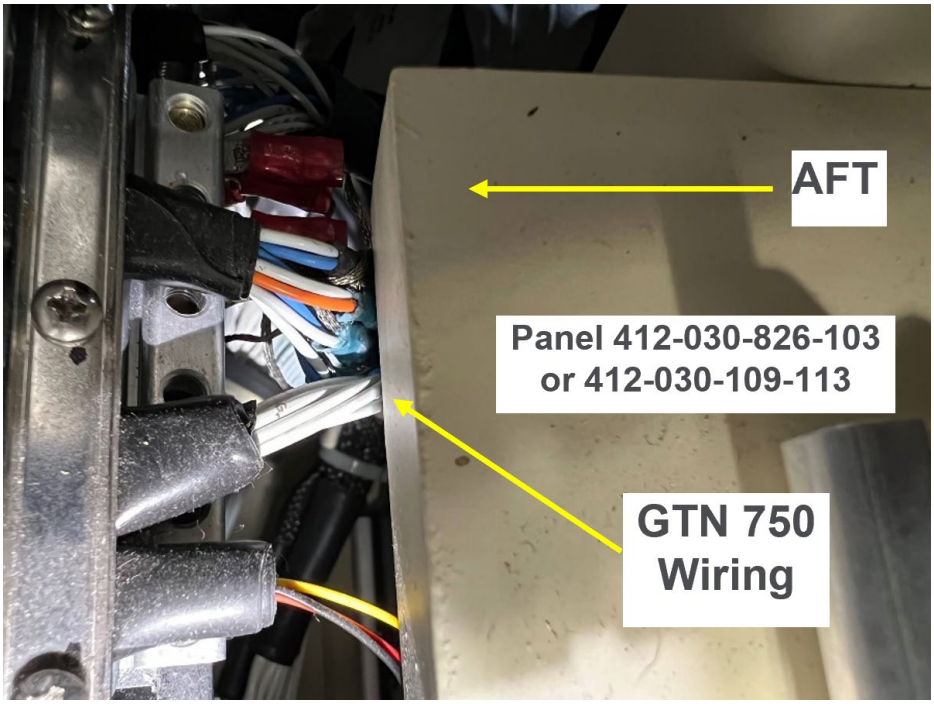
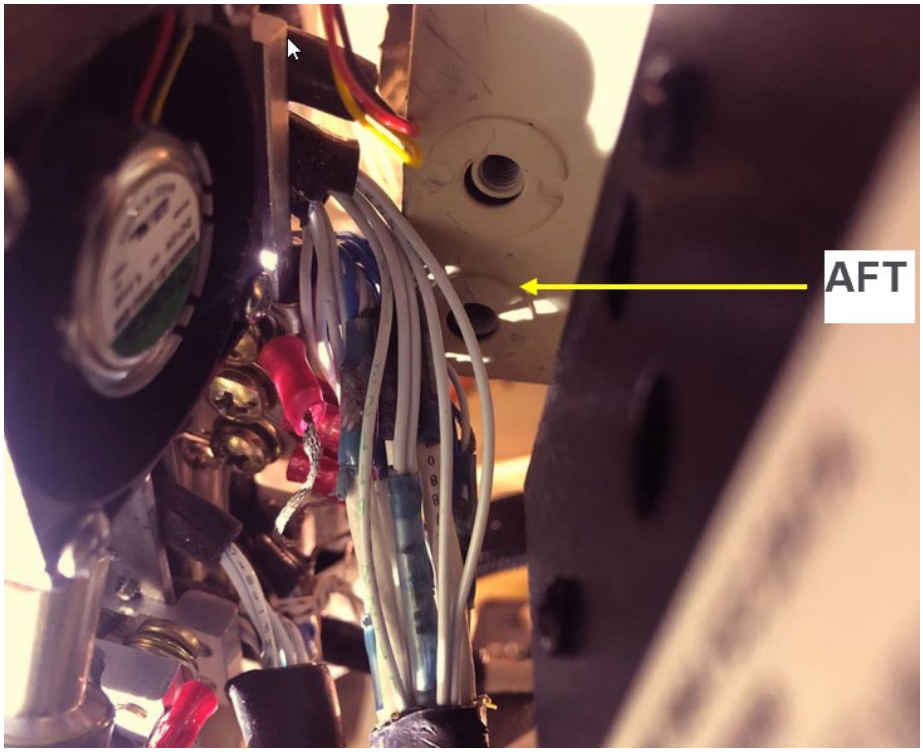



**Figure 1. Affected panel location.**

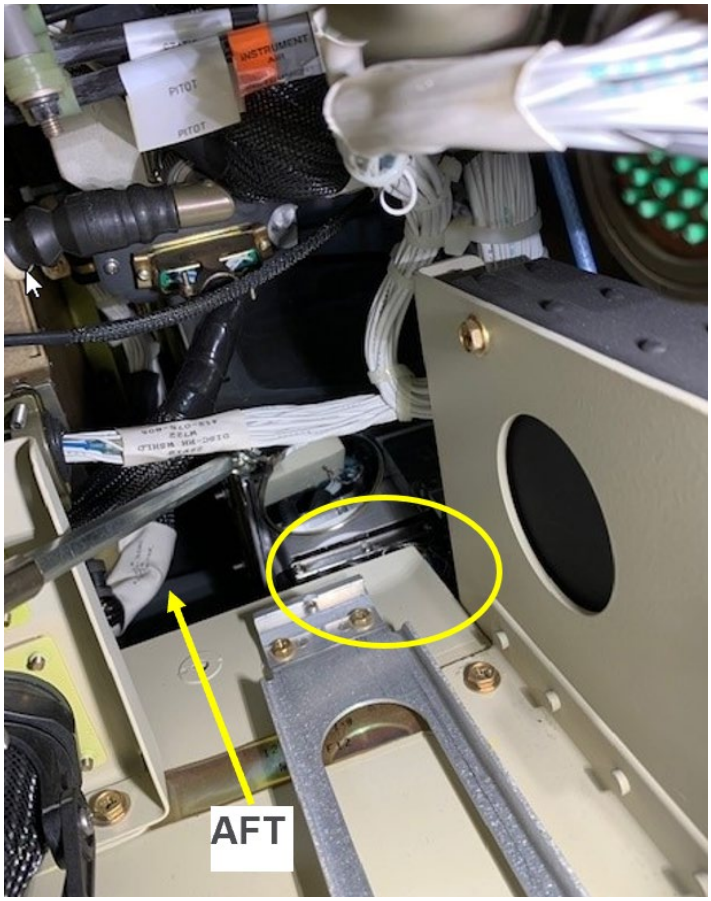



**View looking down**




**View looking up**

**Figure 2. Location of possible low clearance or fouling condition.**




**View looking aft**

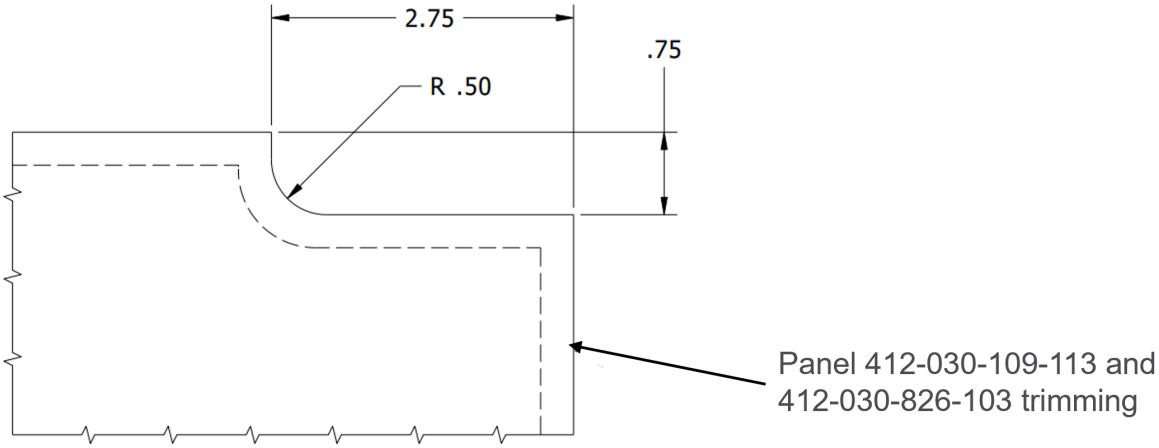



**Figure 3. Affected section of the panel and cut out details.**