



TECHNICAL BULLETIN

212-11-212  
6 April 2011

**MODEL AFFECTED:** 212

**SUBJECT:** GENERATOR GROUNDING, IMPROVEMENT OF.

**HELICOPTERS AFFECTED:** Model 212 helicopters serial number 30501 through 30999, 31101 through 31311, 32101 through 32142 and 35001 through 35103.

Model 212 helicopters serial number 35104 and subsequent will have the intent of this bulletin accomplished prior to delivery

**COMPLIANCE:** At customer's option

**DESCRIPTION:**

Erratic operation of the electrical system such as unstable generator paralleling, radio noise interference or other anomalies of the electrical or avionic system(s) may be attributed to improper grounds. This bulletin details a procedure to inspect and improve the generator grounds to reduce the power losses through the airframe. Accomplishment on the #1 and #2 generator ground tabs is recommended.

**APPROVAL:**

The engineering design aspects of this bulletin are FAA/ODA approved.

**CONTACT INFO:**

For any questions regarding this bulletin, please contact:

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Tel: 450-437-6201 / 1-800-363-8028 / psemedium@bellhelicopter.textron.com

**MANPOWER:**

Approximately 4 to 12 man-hours are required to complete this bulletin. Man-hours are based on hands-on time, and may vary with personnel and facilities available.

**WARRANTY:**

There is no warranty credit applicable for parts or labor associated with this bulletin.

**MATERIAL:****Required Material:**

The following material is required for the accomplishment of this bulletin and may be obtained through your Bell Helicopter Textron Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty</u>
100-048-5-6	Pin	A/R <sup>1</sup>
30-015-5	Collar	A/R <sup>1</sup>

**Consumable Material:**

The following material is required to accomplish this bulletin; however this material is considered consumable (bench stock) material and may not require ordering depending on the operator's consumable material stock levels. This material may be obtained through your Bell Helicopter Textron Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty</u>	<u>Reference *</u>
TT-N-95,TYII 1GAL	Aliphatic Naphtha	A/R	EC-028
MIL-C-81706,CL3 PWDR <sup>2</sup>	Chemical Film	A/R	EC-014
MILC81706 CL1AFORM11	Chemical Film	A/R	C-100
MIL-PRF-23377TI,CLC	Primer Kit	A/R	C-204
TURCO 5351(T-5469)	Remover	A/R	C-436
MIL-PRF-81733 2.5 OZ	Sealant	A/R	C-392

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

**SPECIAL TOOLS:**

Milliohm meter (see BHT-ELEC-SPM)

<sup>1</sup> Pins and Collars may need to be removed and replaced during the accomplishment of the bulletin so actual quantities may vary. See text.

<sup>2</sup> As an alternate, Chemical Film (C-100) may be diluted. See Electrical Standard Practices Manual, Chapter 8.

**WEIGHT AND BALANCE:**

Not affected

**ELECTRICAL LOAD DATA:**

Not affected

**REFERENCES:**

BHT-212-MM Maintenance Manual  
BHT-212-IPB Illustrated Parts Breakdown  
BHT-MED-SRM-1 Structural Repair Manual  
BHT-ALL-SRM Structural Repair Manual  
BHT-ELEC-SPM Electrical Standard Practices Manual

**PUBLICATIONS AFFECTED:**

None affected

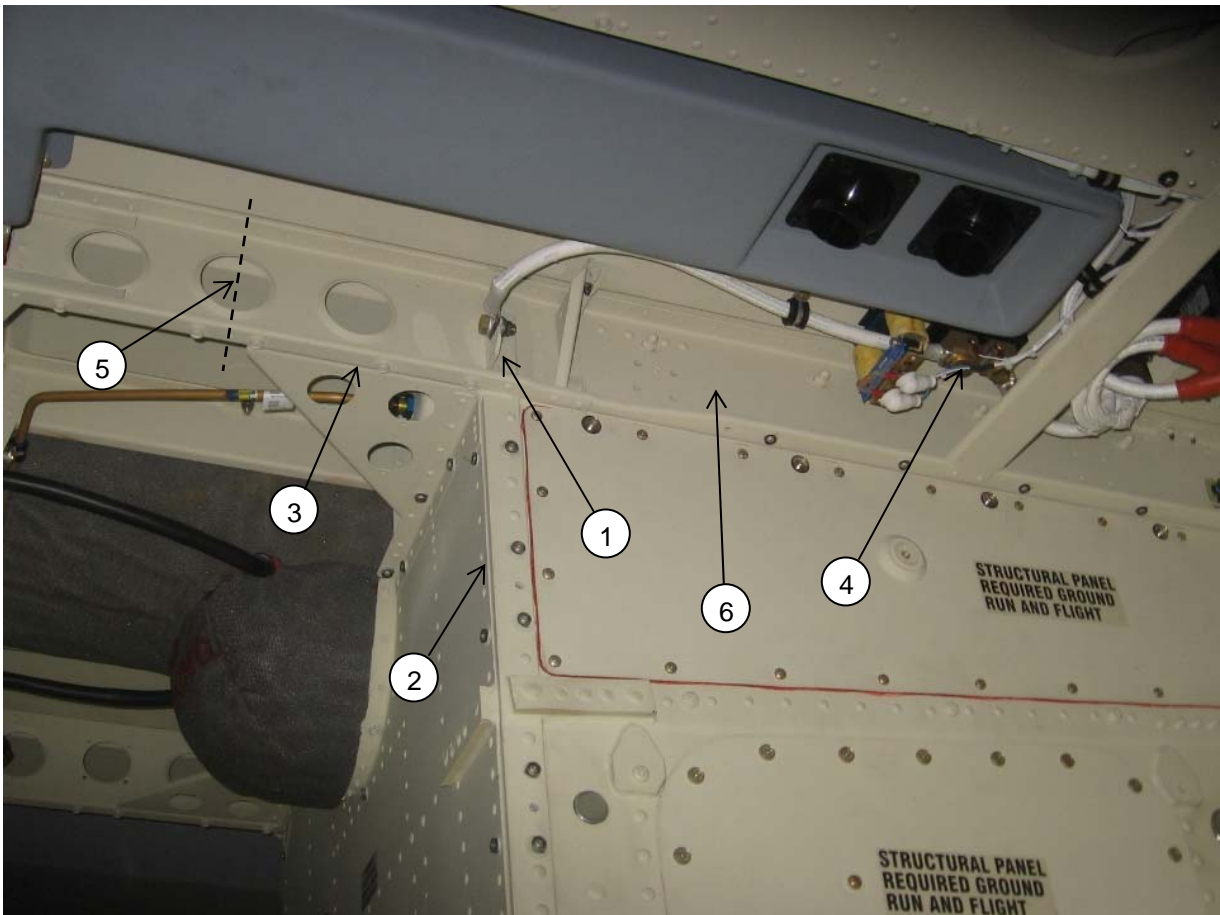
**ACCOMPLISHMENT INSTRUCTIONS:**

1. Prepare the helicopter for maintenance. Disconnect the aircraft battery.
2. Remove interior as required to gain access to the roof section and the corner angles at fuselage station (FS) 129 on each side of the pylon area.
3. Locate the two generator ground tabs P/N 212-030-042-003 located on roof section at FS 129 (1, Figure 1).
4. Disconnect ground cable from both ground tabs. Retain attaching hardware.
5. Using paint remover (C-436), remove finish from a suitable area on both ground tabs and corner angles.
6. Using a suitable milliohm meter measure the resistance across each generator ground tab (1) and the corresponding Angle (2) as described in the Electrical Standard Practices Manual (BHT-ELEC-SPM).
7. If resistance is greater than 0.25 milliohms, perform the following modification. If resistance is less than 0.25 milliohms, go to step 9.
  - a. Remove ground tab (1) by drilling out attaching rivets.
  - b. Using paint remover (C-436), remove any paint on contact area of grounding tab (1) and Frame (3). Inspect contact area for corrosion. Remove corrosion as required, as per BHT-ALL-SRM Chapter 3.
  - c. Prepare bonding surface as described in ESPM, Chapter 8.

-NOTE-

The use of Cleco fasteners is not sufficient to hold the grounding tab for an accurate resistance measurement.

- d. Re-install grounding tab using 100-048-5-6 Pins (heads outboard) and 30-015-5 Collars. Refer to BHT-ALL-SRM, Chapter 3 for the procedure.
  - e. Verify if resistance is less than 0.25 milliohms. If so, go to step 9.
8. If resistance is still greater than 0.25 milliohms, perform the following modification.
- a. Remove ground tab (1).
  - b. Cut Frame (3) at approx. FS 119.31, as shown in Structural Repair Manual, paragraph 4-6-11. Limit the width of the cut to a minimum to allow acceptable edge distance on existing rivets as the same aft section of frame will be reused (unless damaged). Take note of type and location of rivets.
  - c. Remove remaining rivets to allow removal of the aft section of frame (3).
  - d. Using paint remover (C-436), remove any paint on contact area of Angle (2), Web (6) and back side of Frame (3). Inspect contact area for corrosion. Remove corrosion as required, as per SRM Chapter 3.
  - e. Prepare bonding surface as described in ESPM, Chapter 8.
  - f. Re-install aft section of frame using paragraph. 4-6-11 of the BHT-MED-SRM.
  - g. Re-install grounding tab using new pins and collars.
  - h. Confirm resistance is less than 0.25 milliohms.
9. Connect ground cables using retained hardware.
10. Verify for continuity between the generator shunt (4) and local ground.
11. Apply sealant (C-392) to seal edges of ground cable lug, grounding tab (1), angle (2) and frame (3) to prevent moisture ingress.
12. Refinish all bare metal surfaces using Chemical Film (C-100) and primer (C-204).
13. Re-install interior finishing.
14. Re-connect battery. Make helicopter ready for flight.
15. Perform generator functional test as per Maintenance Manual, Chapter 96.
16. Make an entry in the helicopter historical records indicating compliance with this Technical Bulletin.



**Legend:**

1. Ground Tab
2. Angle
3. Frame
4. Generator Shunt
5. Cut line at FS 119.31
6. Web

**Figure 1**  
LH Ground Tab Installation  
(RH side typical)