

# ALERT SERVICE BULLETIN



A Textron Company

NO. 206-10-126

DATE APR 19, 2010

PAGE 1 of 8

DATE
REV

**MODEL AFFECTED:** 206 A/B

**SUBJECT:** AIRCRAFT GROUND RECEPTACLE, ONE TIME VERIFICATION.

**HELICOPTERS AFFECTED:** 206A helicopters serial number 004 through 660 and 672 through 715.

206A helicopters converted to 206B as per Service Instruction BHT-206-SI-80.

206B helicopters serial number 661 through 671 and 716 through 4685 and 4687.

206B (TH-67) helicopters serial number 5101 through 5313.

206B helicopters serial number 4686 and 4688 through subsequent will have the intent of this bulletin accomplished prior to delivery.

206B (TH-67) helicopters serial number 5314 and subsequent will have the intent of this bulletin accomplished prior to delivery.

**COMPLIANCE:** PART I: At the next scheduled inspection.

PART II: As required by PART I, within 30 days of compliance with PART I.

## DESCRIPTION:

Bell Helicopter has been made aware of possible inadequate electrical bonding between the electrical ground receptacle (P/N MS90298-1, MS90298-2 or AN3117-1) and the aircraft structure.

PART I of this bulletin provides instructions for verification of the bond resistance of the ground receptacle.

PART II of this bulletin provides a re-bonding procedure if required following the accomplishment of PART I.

**APPROVAL:**

The engineering design aspects of this bulletin are Transport Canada Civil Aviation (TCCA) approved.

**MANPOWER:**

Approximately 0.5 man-hours are required to complete PART I of this bulletin.

Approximately 2.0 man-hours are required to complete PART II of 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:**

**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 Helicopter Textron Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Quantity</u>	<u>References</u>
Commercial	Abrasive pads (scotchbrite)	A/R	C-407
Commercial	Sandpaper (180 grit or finer)	A/R	Commercial
TT-I735 ISOPROPYL	Isopropyl Alcohol	A/R	C-385
TT-N-95,TYII 1GAL	Aliphatic Naphta	A/R	C-305
MIL-C-81706,CL3 PWDR	Chemical Conversion Coating	A/R	C-099
Commercial	Deionized or Distilled Water	A/R	Commercial
CCCC0046	Cheesecloth	A/R	C-486
MIL-PRF-81733 (2 OZ)	Sealant, Corrosion Inhibitor	A/R	C-251
MILC-PRF-23377TI,CLC	Primer	A/R	C-204

**SPECIAL TOOLS:**

Multi-meter  
Milliohmeter (if complying with PART II)

**WEIGHT AND BALANCE:**

Not affected

**ELECTRICAL LOAD DATA:**

Not affected

**REFERENCES:**

BHT-ELECT-SPM Chapter 8, Electrical Standard Practices Manual

**PUBLICATIONS AFFECTED:**

None affected

**ACCOMPLISHMENT INSTRUCTIONS:**

**PART I – VERIFICATION OF BOND RESISTANCE**

**-NOTE-**

When measuring resistance, be sure the contact between the test probes, the ground receptacle and the fuel cap retainer are good; dirt, oil, solder flux or other foreign matter seriously affect resistance values.

1. Refer to Figure 1. Using a multi-meter measure resistance from the aircraft ground receptacle to the fuel cap retainer.

2. The maximum resistance measured shall be 1 Ohm or less for an acceptable electrical bond.
3. If the obtained value is less than 1 Ohm, proceed to step 7.
4. If the obtained value is more than 1 Ohm, measure the resistance from the aircraft ground receptacle to another known ground point on the airframe.
5. If the obtained value is less than 1 Ohm, proceed to step 7.
6. If the obtained value is still more than 1 Ohm, proceed to PART II of this bulletin.
7. Annotate the aircraft records to reflect satisfactory compliance with PART I of this bulletin.

**PART II – BONDING PROCEDURE (if required by PART I)**

1. Refer to Figure 2. Gain access to the ground receptacle by removing the baggage compartment panel.
2. Refer to Figure 1 view A. Remove the ground receptacle.
3. Prepare surface as follows:
  - A. When possible, prepare a bond surface area one and one-half to two and one-half times larger than the area required for bond or ground connection.

**CAUTION**

USE EXTREME CARE DURING CLEANING TO PREVENT EXCESSIVE METAL REMOVAL OR DAMAGE TO THE BARE METAL BOND SURFACE.

**-NOTE-**

When preparing chemical-filmed aluminum washers for bonding, clean surface by solvent wiping (C-305 or C-385) prior to assembly.

- B. Remove all organic finishes and anodic or chemical film by inserting an abrasive brush into a power drill, or hand sand with either abrasive pad (C-407) or sandpaper. Stop the power drill or hand sanding as soon as the metallic surface is exposed.

### **WARNING**

**ISOPROPYL ALCOHOL (C-385) OR ALIPHATIC NAPHTHA (C-305) ARE FLAMMABLE AND TOXIC. BOTH CAN CAUSE BURNS AND IRRITATE SKIN. USE ONLY IN WELL-VENTILATED AREA, AWAY FROM HEAT AND OPEN FLAME. WEAR APPROPRIATE SAFETY EQUIPMENT SUCH AS RUBBER GLOVES, GOGGLES, APRON, AND RESPIRATOR. IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES/SKIN WITH WATER FOR AT LEAST 15 MINUTES. GET IMMEDIATE MEDICAL ATTENTION FOR EYES.**

- C. Wipe exposed bond surface with clean cheesecloth (C-486) wetted with isopropyl alcohol (C-385) or aliphatic naphtha (C-305).

### **CAUTION**

CHEMICAL CONVERSION COATING (C-099) IS HIGHLY CORROSIVE. DO NOT ALLOW CHEMICAL CONVERSION COATING OR RINSE WATER TO RUN INTO STRUCTURAL CRACKS, CREVICES, SEAMS OR JOINTS.

### **CAUTION**

DO NOT ALLOW FILM SOLUTION (C-099) TO REMAIN ON BOND SURFACE FOR MORE THAN FIVE (5) SECONDS MAXIMUM.

### **-NOTE-**

Liberal applied chemical conversion coating (C-099) which has iridescent gold to dark-brown color is not acceptable for electrical bonding and/or ground purposes.

- D. Apply a coating of chemical conversion coating (C-099) to bond surface using a non-metallic brush. Do not allow coating to remain on bond surface for more than 5 seconds. This produces a light iridescent yellow finish on bond surface.
- E. Remove excess chemical conversion coating (C-099) from bond surface by blotting with clean cheesecloth (C-486) wetted with deionized or distilled water. Allow bond surface to air-dry or gently wipe bond surface with cheesecloth (C-486).

**-NOTE-**

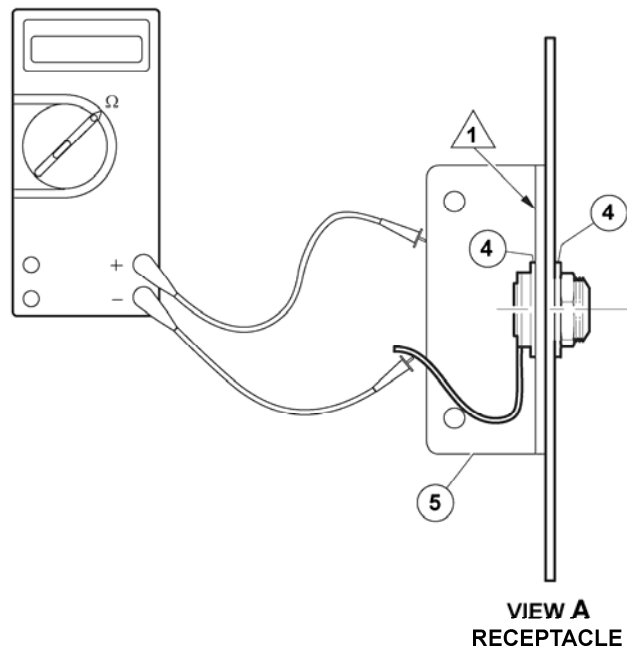
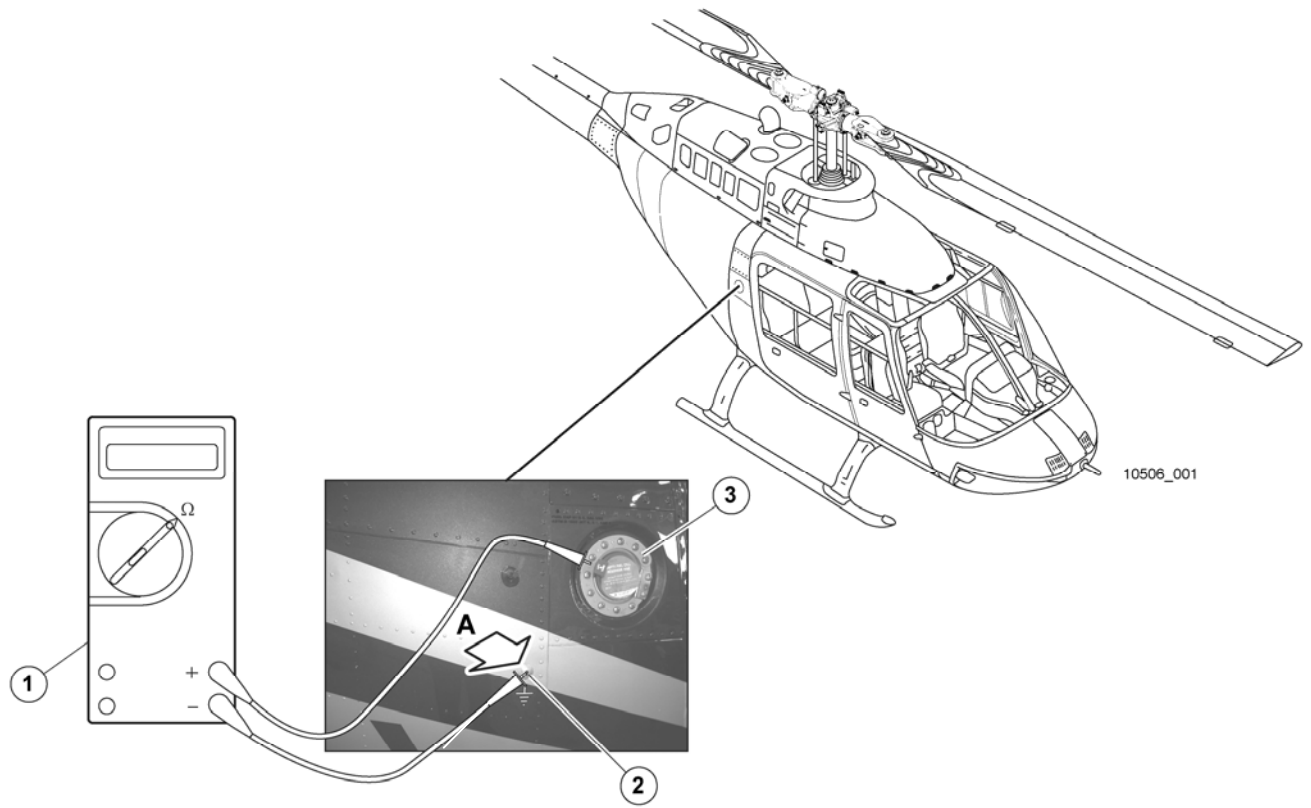
Perform electrical bond/ground within 2 hours after applying the chemical conversion coating (C-486).

- 4. Re-install the receptacle. Mate cleaned bond surfaces; check assembly visually for completeness, proper fit, and alignment of mating parts.

**CAUTION**

DO NOT USE THE SHALLCROSS MODEL 670-D MILLIOHMETER WHERE EXPLOSIVE HAZARDS (PROPELLANTS OR VOLATILE COMPOUNDS) ARE PRESENT. DO NOT PERFORM ELECTRICAL RESISTANCE MEASUREMENTS ON SURFACES OF ELECTRO-EXPLOSIVE DEVICES.

- 5. Refer to Figure 1, View A. Using a milliohmeter measure resistance from receptacle to the supporting bracket.
- 6. The maximum resistance measured shall be less than 10 milliohms (class R-II) for an acceptable electrical bond.
- 7. Apply sealant (C-251) on exterior surface of receptacle (nut and exposed threads) and around bracket (if missing).
- 8. Refinish structure by applying primer (C-204).
- 9. Re-install baggage compartment panel.
- 10. Annotate the aircraft records to reflect compliance with PART II of this bulletin.



- 1. Multimeter
- 2. Receptacle
- 3. Fuel cap retainer
- 4. Washer
- 5. Bracket

**NOTE**


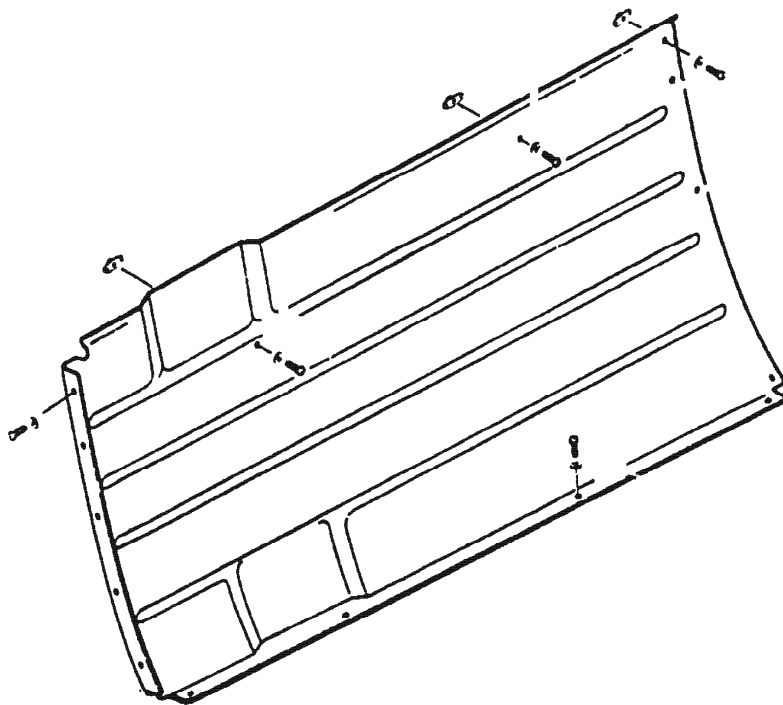
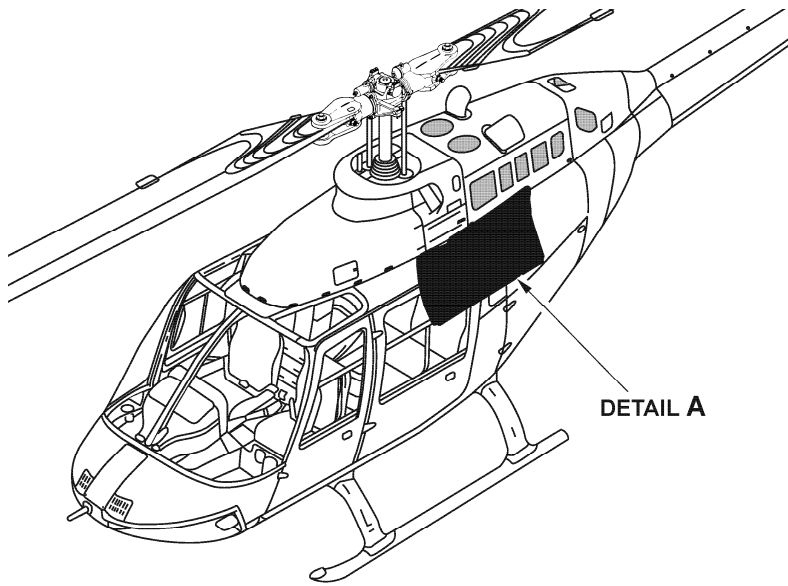
 Remove paint or other protective coating from inner surface of bracket and from the mating surface area of skin. Refinish after installation.

Figure 1. Verification of bond resistance



DETAIL A

Figure 2. Baggage compartment panel