

**MODELS AFFECTED:** 407

**SUBJECT:** WARNING HORNS: FADEC FAIL, ENGINE OUT, AND LOW ROTOR RPM - REPLACEMENT OF.

**HELICOPTERS AFFECTED:** 407, Serial Numbers 53000 through 53194.  
[Serial Number 53195 and subsequent will have the intent of this bulletin completed before delivery.]

**COMPLIANCE:** Recommend at the next scheduled inspection, but no later than 31 January, 1998.

**DESCRIPTION:** Bell Helicopter has found that there is a need to make the sound of the FADEC FAIL horn different and the sound of the ENGINE OUT AND LOW ROTOR RPM horns louder.  
  
This Alert Service Bulletin introduces new FADEC FAIL, ENGINE OUT and LOW ROTOR RPM warning horns with louder or different sounds.

**APPROVAL:** The engineering design aspects of this Service Bulletin are Transport Canada approved.

**MANPOWER:** Approximately 2.5 man-hours are necessary to complete this Bulletin. The man-hours are based on hands-on time and can change due to the personnel and facilities available.

**WARRANTY:**

Owners/operators of 407 helicopters which have the FADEC FAIL horn P/N SC648S, ENGINE OUT warning horn P/N SC628P and LOW ROTOR RPM horn P/N SC628, installed on their ship(s) are eligible for a special 100% warranty credit when they purchase the replacement horns P/Ns VSB628CP, SC628NP, SC628N and terminal junction M81714/65-22-1.

To receive this credit:

- 1.The owner/operator must get the replacement parts from an approved BHTI spares supply source.
- 2.The work must be done in compliance with the instructions outlined in this bulletin no later than 31 January, 1998.
- 3.The owner/operator must send a completed Malfunction Report (MR) to BHT Warranty Administration. A copy of the BHTI invoice referencing the parts used to accomplish this bulletin must be attached to the Malfunction Report (MR).

**- NOTE -**

Customers who comply with the instructions in this bulletin after 31 January, 1998 are not eligible for the special warranty credit provisions listed above.

**MATERIAL:**

**Required Material:**

The material that follows is necessary to complete this Bulletin and can be procured through your Bell Helicopter Textron Supply Center.

<u>PART NUMBER</u>	<u>NOMENCLATURE</u>	<u>QUANTITY</u>
VSB628CP	HORN, FADEC FAIL	1
SC628N	HORN, LOW ROTOR RPM	1
SC628NP	HORN, ENGINE OUT	1
M81714/65-22-1	TERMINAL JUNCTION (*)	2

(\*)Each Terminal Junction comes with a minimum of 2 contacts P/N M39029/22-191.

**Consumable Material:**

Not required.

**SPECIAL TOOLS:**

<u>PART NUMBER</u>	<u>NOMENCLATURE</u>	<u>QUANTITY</u>
M22520/7-01 (or equivalent)	CRIMP TOOL	1
M22520/7-11 (or equivalent)	POSITIONER (NOTE 1)	1
M81969/16-04 (or equivalent)	INSERTION/REMOVAL TOOL(NOTES 2,3)	1

**NOTES:**

- 1.Use with the crimp tool P/N M22520/7-01. Use the selector setting 4.
- 2.Insertion/removal tool can be procured from your Bell Helicopter Textron Supply Center.
- 3.Use with contact M39029/22-191.

**WEIGHT AND BALANCE:**

Not affected.

**ELECTRICAL LOAD DATA:**

Not affected.

**REFERENCES:**

- BHT-407-MM-1, Maintenance Manual  
BHT-ELEC-SPM, Electrical Standard Practices Manual  
BHT-407-FM-1, Flight Manual

**PUBLICATIONS AFFECTED:**

- BHT-407-IPB, Illustrated Parts Breakdown Manual

**ACCOMPLISHMENT INSTRUCTIONS:**

1. Disconnect battery and other sources of external electrical power.

**- NOTE -**

Refer to the Electrical Standard Practices Manual (BHT-ELEC-SPM) for information on electrical installation procedures.

2. Get access to the warning horns aft of the overhead circuit breaker panel.

3. Replace the FADEC FAIL horn as follows:

- a. Hold the rear part of the FADEC Fail horn while you turn the front part to remove it. Do not damage the wires.

- b. Remove the wires from the horn (Figure 2, View A). Remove the horn.

- c. Remove the terminal ends from the wires E85B22 and E94R22.

- d. Prepare the wires E85B22, E94R22 and the blue and red wires of the new FADEC Fail horn for crimping. Crimp one contact p/n M39029/22-191 to each wire. Refer to the notes in the Special Tools list for crimping information.

- e. Use finger pressure or the Insertion/Removal tool to install the contact of the FADEC FAIL horn blue wire and the contact of wire E85B22 into the terminal junction (Figure 2, View B).

- f. Install the contact of the FADEC FAIL horn red wire and the contact of the wire E94R22 into the other terminal junction (Figure 2, View B).

- g. Install the new FADEC FAIL horn. Make sure that the wires are attached correctly and are connected the same as shown in Figure 2, View B.

4. Replace the ENGINE OUT horn as follows:

- a. Remove the wires from the horn (Figure 2, View A). Remove the horn.
  - b. Install the wires E94R22, E94D22 and E92A22 on the new ENGINE OUT horn (Figure 2, View B).
  - c. Install the new ENGINE OUT horn. Make sure that the wires are attached correctly and are connected the same as shown in Figure 2, View B.
5. Replace the LOW ROTOR RPM horn as follows:
- a. Remove the wires from the horn (Figure 2, View A). Remove the horn.
  - b. Install the wires E91A22 and E94E22 on the new LOW ROTOR RPM horn (Figure 2, View B).
  - c. Install the new LOW ROTOR RPM horn. Make sure that the wires are attached correctly and are connected the same as shown in Figure 2, View B.
6. Install all the parts removed in step 2 to return the aircraft to flight status. Connect the battery.
7. Refer to BHT-407-FM-1, page 2-8. Do an Interior and Prestart Check, steps 11 through 18, to make sure that you get a continuous sound for the LOW ROTOR RPM horn and a pulsating sound for the ENGINE OUT horn. After you complete step 18, press the FADEC HORN TEST button to make sure that the FADEC FAIL horn operates.
8. Make an entry in the helicopter historical records to show that this Alert Service Bulletin is completed.
9. Make an entry in the Record of Alert Service Bulletins in the Maintenance Manual.

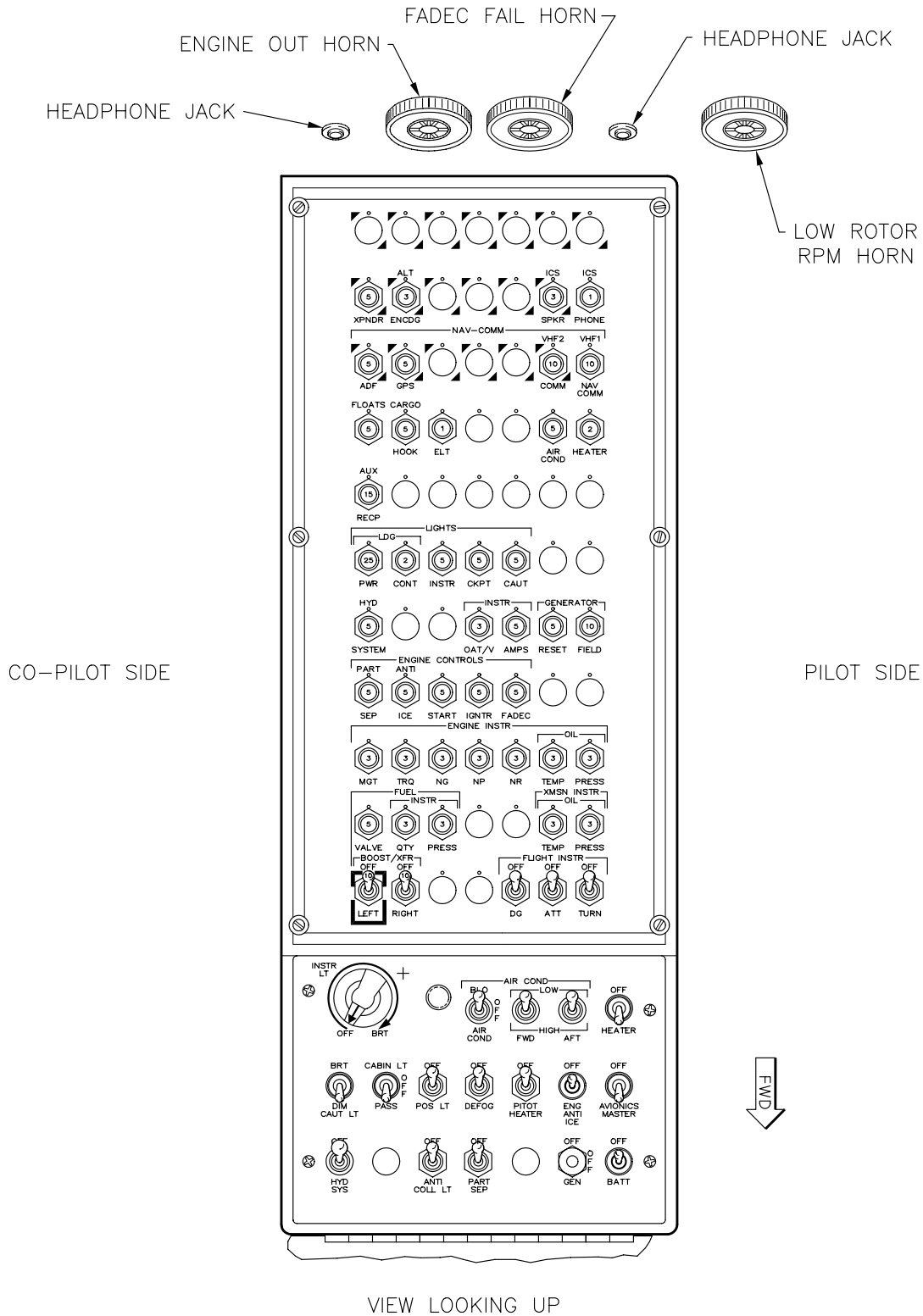
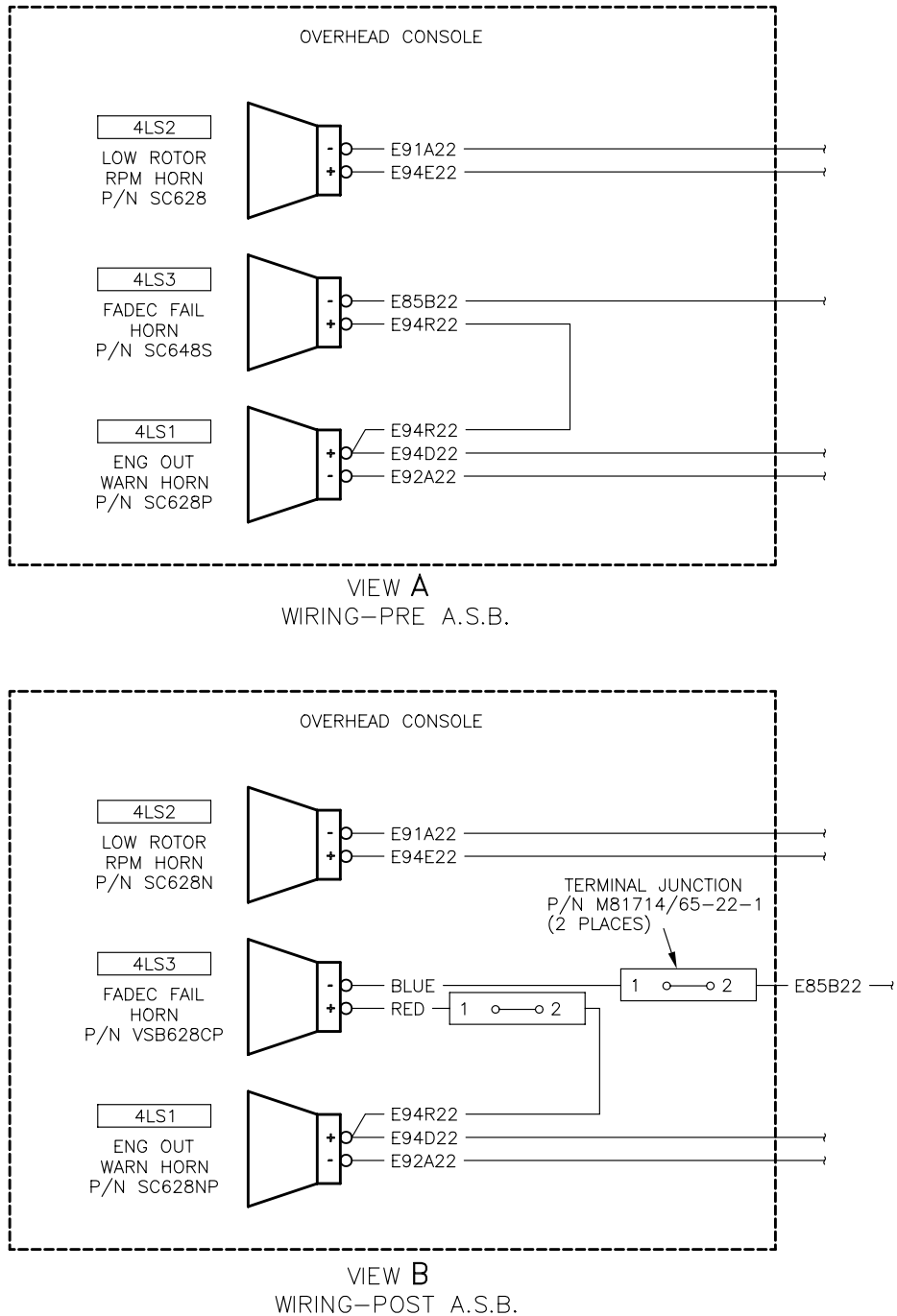


Figure 1. Warning horns location



**Figure 2. Warning horns wiring diagrams**