URGENT

TB 1-1520-248-20-67

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

REPAIR/RE-ROUTING OF COMPRESSOR INLET TEMPERATURE (CIT) SENSOR HARNESS 406-075-625-139 FOR OH-58D AIRCRAFT NSN: 1520-01-125-5476

Headquarters, Department of the Army, Washington, D. C.

22 February 2005

NOTE

This publication is effective unless rescinded or superseded.

1. **Purpose.** The Compressor Inlet Temperature (CIT) sensor wiring harness P/N 406-075-625-139 is routed beneath the transmission right hand pylon beam assembly and restraint spring assembly, causing chaffing of the pylon beam and restraint spring.

   Presently the CIT sensor wiring harness is clamped to the transmission vent tube and prevents fouling with the main drive shaft. The transmission vent tube pulls the wiring harness as the transmission moves, leading to contact and chaffing of the pylon beam and restraint spring that are securely mounted to the deck. The CIT sensor is mounted in the induction fairing. The connector plug is positioned with the 90-degree elbow and wiring harness pointing up, creating additional tension on the wiring harness before it can descend to the deck. The CIT sensor is off center preventing the unit from being turned 180 degrees and allowing the wiring harness to point down to allow greater slack.

   The purpose of this bulletin is to clarify a standard installation procedure for the routing of this wiring harness to avoid additional damage and expense, and to provide information for the rework of any damaged harness assemblies.

2. **Priority Classification.** URGENT

3. **End Items Affected.** All Model OH-58D (R) helicopters.

4. Material:

The following material is required for the accomplishment of the bulletin.

Part Number	NSN	Nomenclature	Quantity
MS21919DG5	5340-00-200-8560	Clamp, Loop	1
MS27039-1-07	5305-00-944-5929	Screw, Machine	2
AN960JD10L	5310-01-352-7382	Washer, Flat	1
AN515-6R26	5310-00-807-1474	Nut, Self Locking	1
MS9592-142	5340-00-158-4188	Bracket, Angle	1
Harness Components as required			
**D38999/26WB98SN	5935-01-201-4428	Connector	2
M39029/56-351	5999-00-152-9574	Connector Pins	6
**M85049/93-04	5935-01-472-4350	Shield Support Ring	2
120-150-11	5940-01-198-9929	Solder Sleeve	4
**ETC-B6A-1106X	5935-01-468-1635	EMI Adaptor	2
130-045-5-0-3	5330-01-486-5725	Insulation Sleeve	4
130-053-2-0-16	5790-01-349-8556	Sleeve	2
130-061-16W3	N/A	Identification Tag	Reuse existing
20-094-06	6145-01-469-3554	Braiding	2
20-108-1	1680-01-504-6803	Band	4
30-231-22D3	6145-01-323-4752	Wire	8 feet
**Indicates parts only needed if spare harness is being manufactured and not repaired.			

5. Special Tools:

Band – It Tool NSN 5120-01-357-6878

6. Weight and Balance:

Not affected.

7. Electrical Load Data:

Not affected.

8. References:

IETM 1-1520-248-23&P, dated 17 February 2004
TM 1-1520-248-23, dated 17 February 2004
TM 1-1520-248-23P, dated 17 February 2004
TM 1-1500-204-23-4, dated 31 July 1992

9. Publications Affected:

IETM 1-1520-248-23&P, dated 17 February 2004
TM 1-1520-248-23, dated 17 February 2004
TM 1-1520-248-23P, dated 17 February 2004

10. Procedures.

a. Inspection

1) Gain access to work area per IETM TM 1-1520-248-23, task 2-2-47, and inspect the CIT harness.

2) If NO damage is noted, proceed to 10 b, Re-Routing of CIT Harness.

3) If damage to harness is noted, proceed to 10 c, CIT Harness Repair and then complete 10b. If damage to the beam is noted, repair or replace per ITEM 1-1520-248-23.

b. Re-Routing of CIT Harness

1) Gain access to work area and perform re-routing of CIT harness.

a) Remove forward fairing per IETM TM 1-1520-248-23, task 2-2-47.

b) Disconnect the CIT sensor connector plug to allow the CIT and NR sensor wiring harness to be re-routed together.

c) Disconnect the transmission NR sensor connector plug to allow the CIT and NR sensor wiring harness to be re-routed together.

d) Remove clamps securing CIT sensor harness to the transmission vent tube. These clamps will not be re-installed. Refer to figure 1.

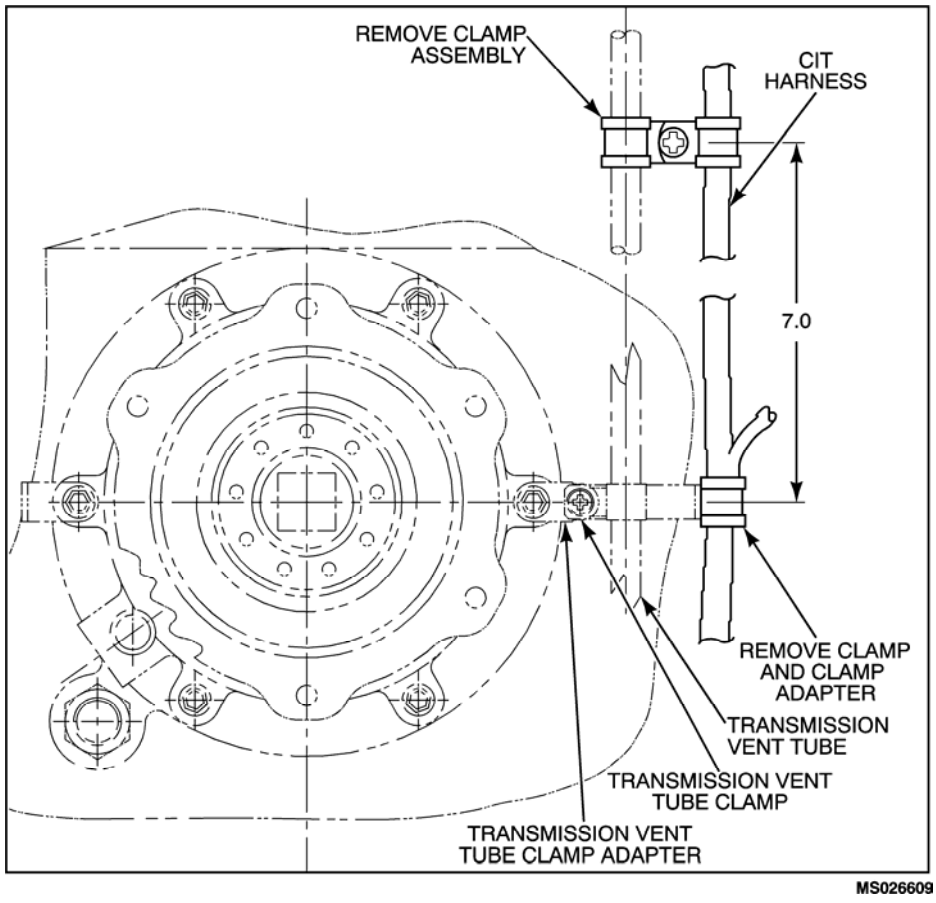

Figure 1. Transmission Vent Tube View Looking Down

NOTE

Do not remove the nut securing the transmission vent tube clamp adapter to the transmission input quill housing.

e) Remove the CIT sensor harness clamp adapter from the transmission vent tube clamp adapter attached to the transmission input quill housing. Refer to figure 1.

f) Re-install the transmission vent tube clamp to the clamp adapter attached to the transmission input quill housing. Refer to figure 1.

g) Remove pan head screw from the bottom side of the induction fairing, just above the aft end of transmission right hand pylon beam assembly.

h) Attach the long angled bracket NSN 5340-00-158-4188 to this location. The long leg of the bracket is installed at 9 o'clock angle in relation to the aircraft, with the short leg of the bracket inboard and down. Secure the bracket to the bottom side of the induction fairing using machine screw NSN 5305-00-944-5929. Refer to figure 3.

i) Remove right side Engine Barrier Filter (EBF) IAW IETM TM 1-1520-248-23, Task 4-2-18. Ensure there are 1 – 3 threads protruding past the locking device of the nut-plate assembly.

j) Re-install right side EBF IAW IETM TM 1-1520-248-23, Task 4-2-18.

k) Re-route CIT and NR sensor wiring harnesses above the aft end of the transmission right hand pylon beam assembly and restraint spring assembly. Refer to figures 2 and 3.

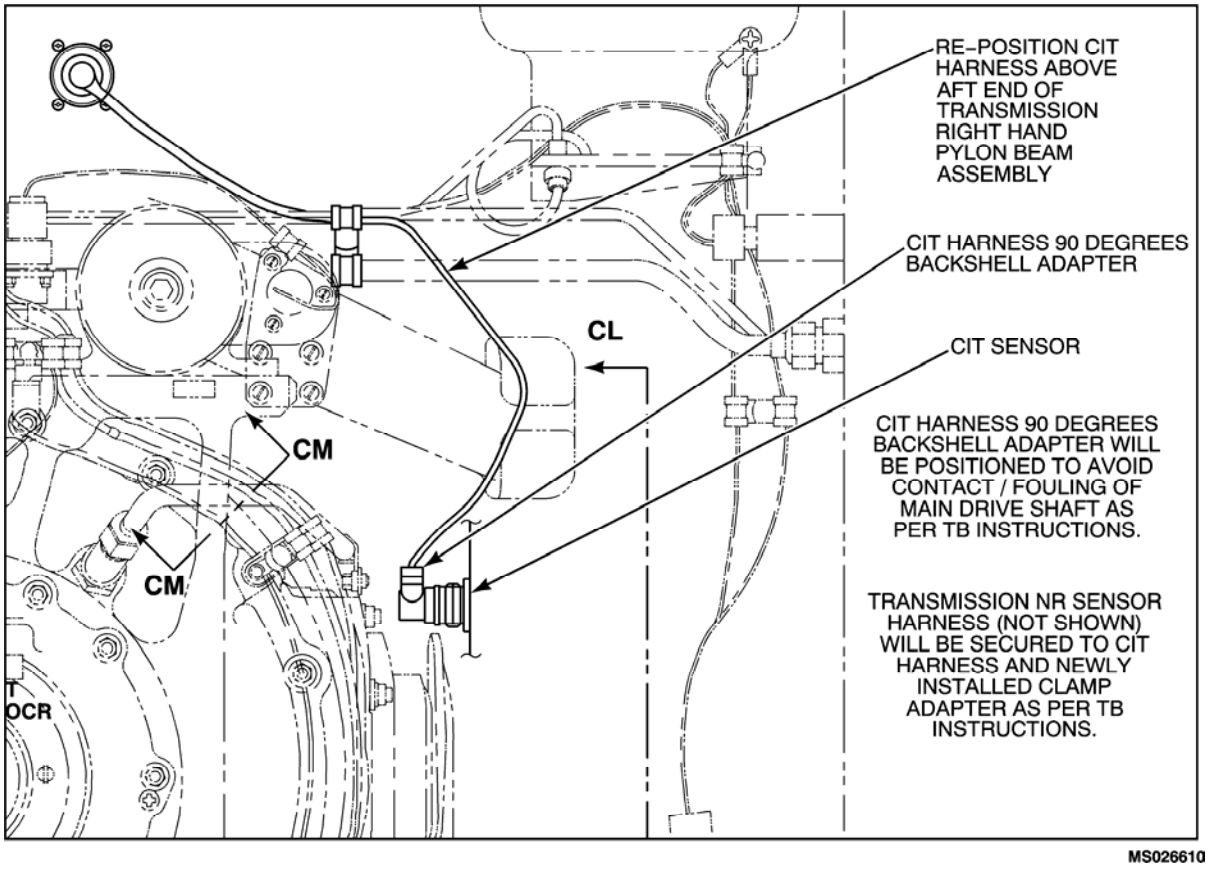

Figure 2. Harness Routing View Looking Down

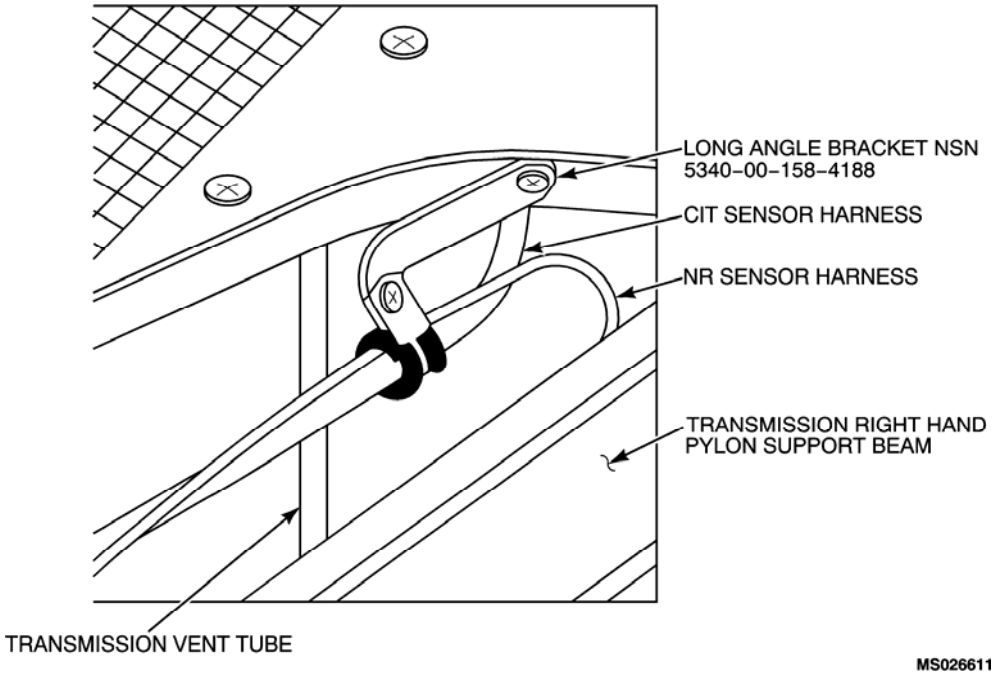

Figure 3. Harness Routing

l) Secure both the CIT and NR sensor wiring harnesses together using clamp NSN 5340-00-200-8560 and attaching to short leg of long angled bracket. Refer to figure 3. Hardware to secure clamp is one each of the following:

Screw, machine	NSN 5305-00-944-5929
Washer, flat	NSN 5310-01-352-7382
Nut, self locking	NSN 5310-00-807-1474

NOTE

For ease of installation head of screw securing clamp should face outboard.

m) Connect the transmission NR sensor connector plug to the pick-up on the aft right side of the transmission.

NOTE

Ensure there is sufficient slack to allow the harness to travel with the movement of the transmission.

n) Connect the CIT sensor connector to the sensor on the induction fairing.

NOTE

Ensure wiring harness is routed so that no fouling will occur with main drive shaft and surrounding area.

o) Perform MOC.

p) Re-install forward fairing IAW IETM TM 1-1520-248-23, task 2-2-47 and return to service.

c. Harness Repair/Manufacture.

1) If harness damage is noted, repair or replace harness assembly per guidelines set forth in TM 1-1500-204-23-4, Electrical and Avionics Maintenance Practices Manual. Refer to figure 4, Electrical Schematic for details on harness repair.

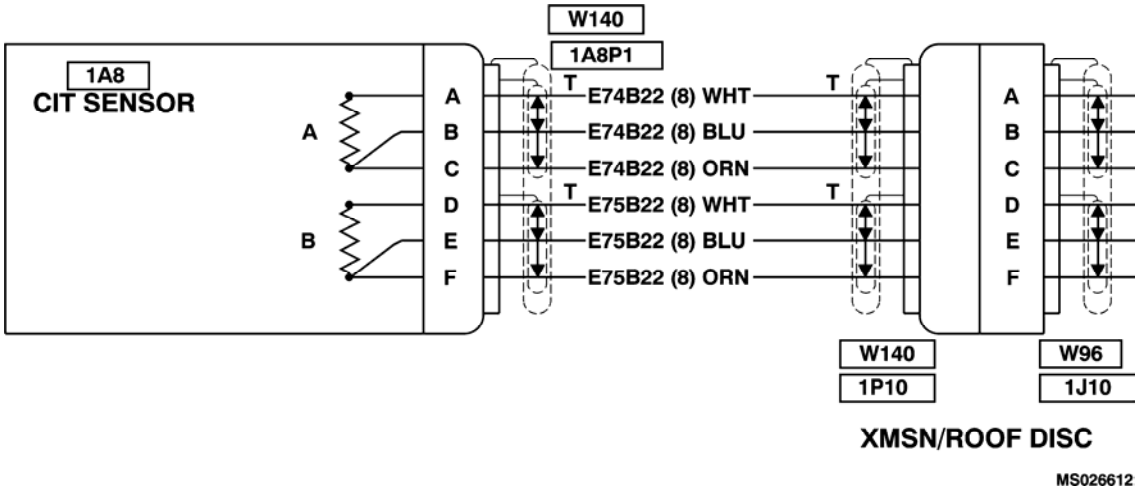

Figure 4. CIT Harness Schematic

2) If harness is to be made as a spare or new complete replacement, components listed with a double asterisk in the Materials paragraph will need to be ordered along with all remaining components listed in that section.

3) After repair or replacement per this section, go to paragraph 10 b. Re-Routing of CIT Harness for installation of harness.

11. Recording and Reporting Requirements. Per DA Pamphlet 738-751.

a. DA Form 2408-13 series, Aircraft Status Information Record.

b. DA Form 2408-15, Historical Record for Aircraft.

12. Points of Contact.

a. Point of Contact for this action is Mr. Kevin Cahill, AMSAM-RD-AE-I-D-O, DSN 897-2350, ext 9821 or (256) 705-9821. Fax is DSN 897-2350, ext 9928 or (256) 705-9928. E-mail is kevin.cahill@rdec.redstone.army.mil.

b. Point of Contact for Records and Forms is Ms. Ann Waldeck, AMSAM-MMC-MA-NM, DSN 746-5564 or (256) 876-5564, datafax DSN 746-4904 or (256) 876-4904. E-mail address is ann.waldeck@redstone.army.mil.

c. Point of Contact for Parts Identification is Mr. James P. Lee III, AMSAM-MMC-AV-SO, DSN 897-1638 or commercial (256) 313-1638, datafax DSN 788-6758 or commercial (256) 876-6758. E-mail address is james.lee@redstone.army.mil.

d. Point of Contact for Logistics is Mr. Randy Lyle, LESCO Inc., DSN 645-7971 or commercial (256) 955-7971. E-mail address is randy.lyle@peoavn.redstone.army.mil or Mr. Ricky Brock, SFAE-AV-AS-ASH-L, DSN 645-7077 or commercial (256) 955-7077. E-mail address is ricky.brock@peoavn.redstone.army.mil.

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17. ***Problem:*** **1**
18. *Page:* 2
19. *Paragraph:* 3
20. *Line:* 4
21. *NSN:* 5
22. *Reference:* 6
23. *Figure:* 7
24. *Table:* 8
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