

TECHNICAL BULLETIN

NO. 407-97-6

Bell Helicopter **TEXTRON**

A Division of Textron Canada Ltd.

DATE 06-09-97

DATE

REV.

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MODELS AFFECTED: 407

SUBJECT: FADEC/ECU AND LITTON INSTRUMENT,
(DOWNLOAD CABLES), MODIFICATION OF.

HELICOPTERS AFFECTED: None. Ground support equipment.

COMPLIANCE: At the operator's option.

DESCRIPTION: Bell Helicopter has found that some of the FADEC/ECU download cables, P/N: 407-275-001-101/-105, used to download FADEC/ECU data can have their wires incorrectly installed by the manufacturer.

- NOTE -

It is not necessary to inspect the FADEC/ECU download cables that were supplied with a CHANDLER EVANS, P/N: 113972-2, since the wires were correctly installed by the manufacturer.

Bell Helicopter has also found that some of the LITTON cables, P/N: 407-275-001-103, used to download LITTON instrument data can also have their wires incorrectly installed by the manufacturer.

Part I of this Technical Bulletin gives a description on how to inspect, correctly install the wires, and re-identify the FADEC/ECU download cable.

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Part II of this Technical Bulletin gives a description on how to inspect, correctly install the wires, and re-identify the LITTON instruments download cable.

APPROVAL:

The engineering design aspects of this Technical Bulletin are Transport Canada approved.

MANPOWER:

Approximately 2.0 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.

MATERIAL:

Required Material:

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

Part I

<u>PART NUMBER</u>	<u>NOMENCLATURE</u>	<u>QUANTITY</u>
M39029/58-360	PIN	4
D38999/26WA35PA	CONNECTOR (*)	1

Part II

<u>PART NUMBER</u>	<u>NOMENCLATURE</u>	<u>QUANTITY</u>
M39029/58-360	PIN	4
D38999/26WA35PN	CONNECTOR (*)	1

(*) The new connector is only required if the keyway of the existing connector is not correct.

Consumable Material:

None required.

SPECIAL TOOLS:

The special tools that follow are required to complete this Technical Bulletin.

PART I and PART II

<u>PART NUMBER</u>	<u>NOMENCLATURE</u>
M22520/2-01 or M22520/7-01	CRIMP TOOL
M22520/2-09	POSITIONER (NOTE 1)
M22520/7-07	POSITIONER (NOTE 2)
M81969/14-01	INSERTION/REMOVAL TOOL (NOTE 3)
M81969/1-02	INSERTION/REMOVAL TOOL (NOTE 4)

NOTES:

1. TO BE USED WITH CRIMP TOOL P/N M22520/2-01. USE SELECTOR SETTING 4.
2. TO BE USED WITH CRIMP TOOL P/N M22520/7-01. USE SELECTOR SETTING 3.
3. TO BE USED WITH THE CONNECTORS P/N D38999/26WA35PA AND D38999/26WA35PN.
4. TO BE USED WITH THE CONNECTORS P/N M24308/2-1F AND M24308/4-1F.

WEIGHT AND BALANCE:

Not affected.

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

BHT-407-MM-12, rev.4 - 16 December 1996:

Chapter 98, Wiring Diagrams,

BHT-ELEC-SPM, ORIGINAL - 15 NOVEMBER, 1996

Chapters 4 and 5.

PUBLICATIONS AFFECTED:

BHT-407-MM-12, rev.4 - 16 December 1996,

Chapter 98, Wiring Diagrams.

ACCOMPLISHMENT INSTRUCTIONS:

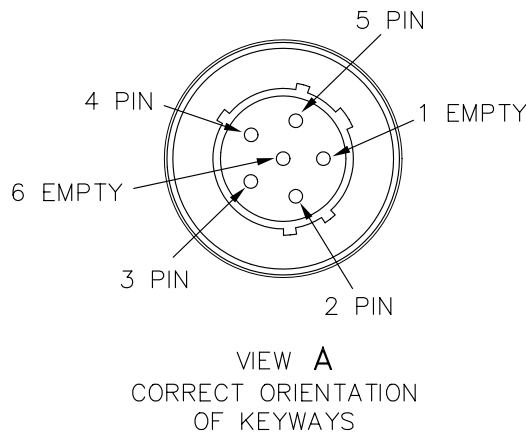
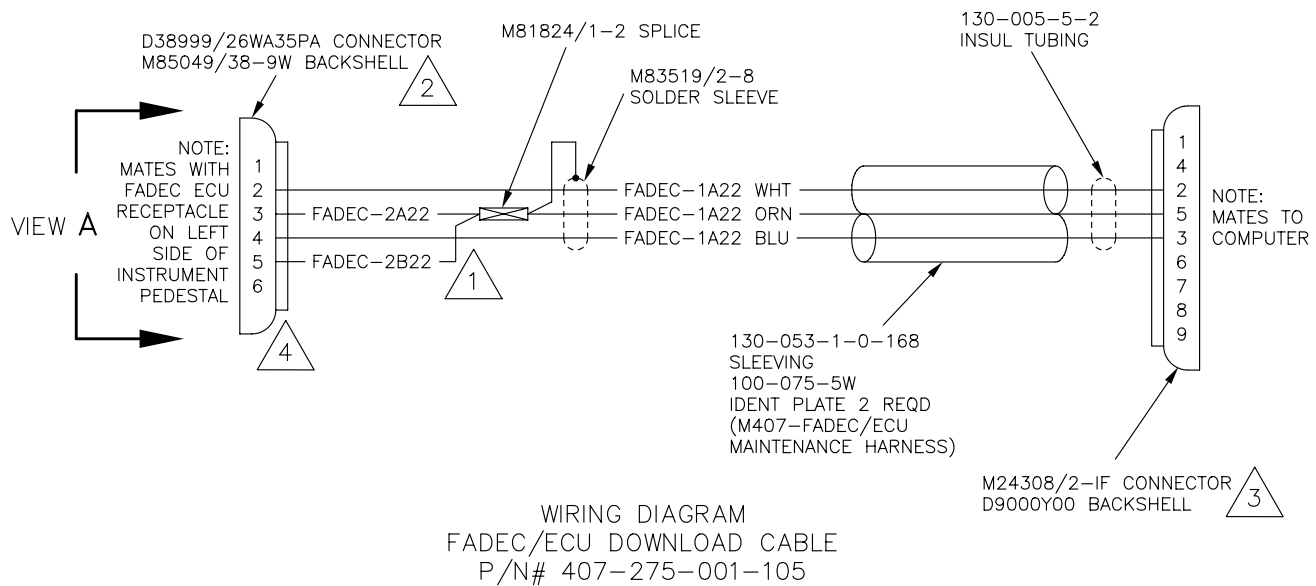
PART I - Inspection, correction of the wire installation, and re-identification of the FADEC/ECU download cable, Part Number 407-275-001-101/-105.

1. With the use of an Ohmmeter, make sure that the wires are installed as shown on wiring diagram in Figure 1. If the wires are not installed as shown on Figure 1 then remove each of the wires and re-install correctly. If wire FADEC-2B22 is attached to the connector backshell with a terminal end, then the harness must be modified. Refer to Step 4.
2. Make sure that the keyways of the harness connector that attaches to the airframe FADEC/ECU receptacle are the same as shown on Figure 1, View A. If the keyways are not the same as the ones shown on Figure 1, View A, replace the connector. Refer to Step 4.
3. If the wires are installed as shown on Figure 1 (Step 1) and the keyways of the harness connector are the same as shown in Figure 1, View A (Step 2), no modification is required. Proceed to Step 5.
4. Rework the FADEC/ECU download cable, P/N 407-275-001-101, to the new configuration of the FADEC/ECU download cable, P/N 407-275-001-105, as follows:
 - a. On the connector that attaches to the airframe FADEC/ECU receptacle, remove the screw that attaches the terminal lug, P/N MS25036-102, to the backshell of the connector (wire FADEC-2B22).
 - b. Cut the terminal lug to remove it from the wire FADEC-2B22.

- c. Disassemble the connector. With the use of an insertion/removal tool, remove all of the pins from the connector.
 - d. Cut all of the wires to an equal length. Strip the wires in preparation for crimping. Refer to BHT-ELEC-SPM.
 - e. With the use of a crimping tool and positioner, install a pin at the end of each of the wires. Refer to BHT-ELEC-SPM, for the installation of pins.
 - f. Install the pins in the connector to their respective location as shown on the diagram on Figure 1.
 - g. Assemble the connector and install the backshell.
5. Re-identify the FADEC/ECU download cable to the new configuration Part Number, 407-275-001-105.

Part II - Inspection and correction of the wires installation of the LITTON Instruments download cable, Part Number 407-275-001-103.

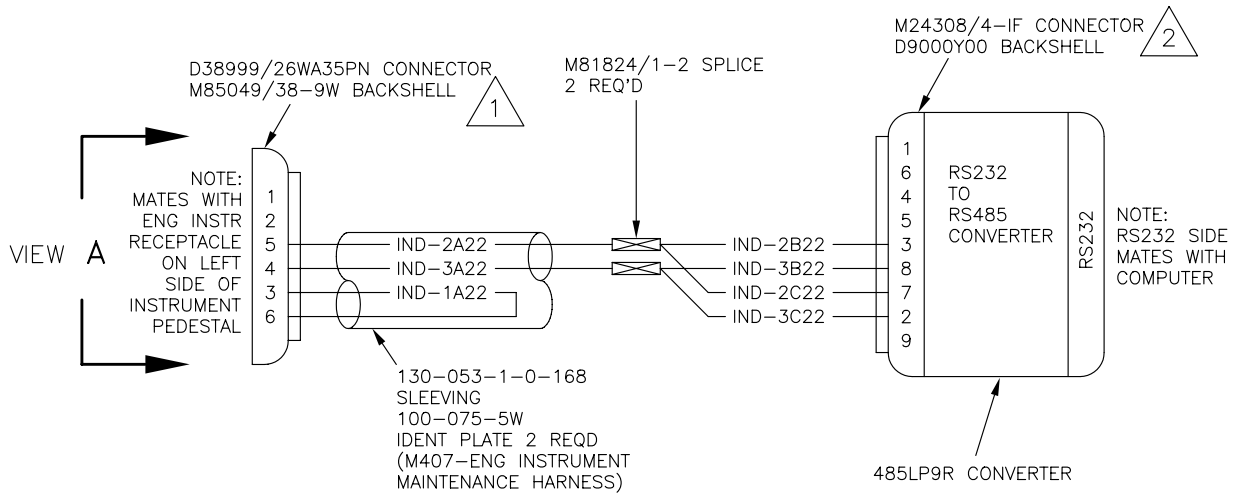
- 1. With the use of an Ohmmeter, make sure that the wires are installed as shown on wiring diagram in Figure 2. If the wires are not installed as shown in Figure 2, then remove each wire and re-install correctly.
- 2. Make sure that the keyways of the harness connector that attach to the airframe engine instruments receptacle are the same as the keyways shown on Figure 1, View A. If the keyways are not the same as the ones shown on Figure 2, View A, replace the connector. Refer to Part I, Steps 4.b. to 4.g.
- 3. Remove and install the pins of the LITTON instrument download cable as shown on the diagram on Figure 2.
- 4. If the wires are installed as shown on Figure 2 (Step 1) and the keyways of the harness connector are the same as shown in Figure 2 View A (Step 2), no modification is required.



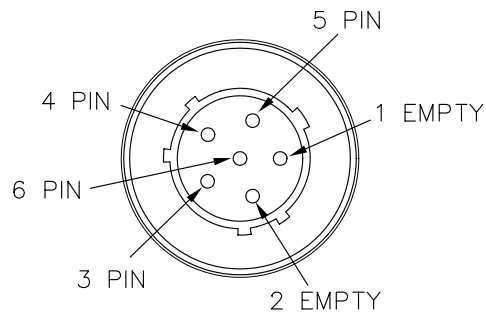
NOTES

- 1 If wire FADEC-2B2 is connected to the backshell with terminal lug MS25036-102 then the harness must be modified, refer to part 1 step 3.
 - 2 Use insertion/removal tool M81969/14-01
Connector is rear-release type, refer to BHT-ELEC-SPM.
 - 3 Use insertion/removal tool M81969/1-02
Connector is rear-release type, refer to BHT-ELEC-SPM.
 - 4 Use pins M30929/58-360.
5. Make sure that the harness conforms to wiring diagram.

Figure 1. FADEC/ECU download cable - Diagram



WIRING DIAGRAM
LITTON INSTRUMENT DOWNLOAD CABLE
P/N# 407-275-001-103



VIEW A
CORRECT ORIENTATION
OF KEYWAYS

NOTES

- 1 Use insertion/removal tool M81969/14-01
Connector is rear-release type, refer to BHT-ELEC-SPM.
- 2 Use insertion/removal tool M81969/1-02
Connector is rear-release type, refer to BHT-ELEC-SPM.
3. Make sure that the harness conforms to wiring diagram.

Figure 2. LITTON instrument download cable - Diagram