TECHNICAL BULLETIN

Bell Helicopter TEXTRON

A Subsidiary of Textron Inc.

DATE
REV

No. 212-04-199

Date Sep 13, 2004

MODEL AFFECTED: **212**

SUBJECT: **NEW CHIP DETECTOR INTERFACE PROBLEM WITH THE MASTER CAUTION PANEL**

HELICOPTERS AFFECTED: **Model 212 helicopters S/N 30501 through 31311, S/N 35001 through 35103.**

COMPLIANCE: At Customer's Option

DESCRIPTION:

Operators have reported improper operation of the master caution panel after installing new engine chip detectors in accordance with Pratt & Whitney service bulletins 5411 and 5354. With the new chip detectors installed and the caution panel dimmed, the pilot and copilot Master Caution light may illuminate, although the ENG CHIP caution light does not illuminate.

This bulletin eliminates the problem by introducing 2 pull up resistors that ensure proper chip detector input to the Master Caution panel.

APPROVAL:

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

MANPOWER:

Approximately 3.0 man-hours are required to complete this bulletin. Man-hours are based on hands-on time, and may vary with personnel and facilities available.

MATERIALS:

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

Part Number	Nomenclature	Quantity
140-039-22	Wire	6 feet
M81824/1-2	Splice	1
M83519/1-2	Solder Splice	4
MS25036-102	Terminal	2
RLR20C4701GR	Resistor	2
M23053/5-103-0	Black tubing	1 foot
M23053/8-005-C	Clear tubing	1 foot

SPECIAL TOOLS:

M22520/5-01 Crimping tool (or equivalent)
M22520/5-100 Dies (or equivalent)

WEIGHT AND BALANCE:

No change.

ELECTRICAL LOAD DATA:

Not affected

REFERENCES:

BHT-212-MM
BHT-SPM-ELEC

PUBLICATIONS AFFECTED:

None affected

ACCOMPLISHMENT INSTRUCTIONS:

Refer to figure 1 and figure 2.

1. Prepare the helicopter for maintenance.
2. Ensure all electrical power is removed from the helicopter.
3. Disconnect the aircraft battery. Remove master caution panel.
4. Gain access to terminal block, TB 15, located in front of the pedestal.
5. Crimp a terminal, P/N MS25036-102; to new wire L990A22 using crimping tool P/N M22520/5-01 and die assembly M22520/5-100. Connect the wire onto terminal 5 of terminal block TB 15.
6. Crimp a terminal, P/N MS25036-102; to new wire L989A22 using crimping tool P/N M22520/5-01 and die assembly M22520/5-100. Connect the wire onto terminal 4 of terminal block TB 15.
7. Using a heat gun, cover the leads of both resistors (R901 and R902) P/N RLR20C4701GR with black tubing P/N M23053/5-103-0, trim the shrink back off of the resistor leads in order to attach a splice.
8. Using a heat gun, cover the core of both resistors P/N RLR20C4701GR with clear tubing P/N M23053/8-005-C.
9. Using a solder splice, P/N M83519/1-2, connect wire L990A22 to resistor R901.
10. Using a solder splice, P/N M83519/1-2, connect wire L989A22 to resistor R902.
11. Using a solder splice, P/N M83519/1-2, connect new wire L988B22 to resistor R902.
12. Using a solder splice, P/N M83519/1-2, connect wire L988B22 to resistor R901 and to new wire L988A22.
13. Locate existing wire L88A22, cut wire L88A22 near connector (P42) of the master caution panel.
14. Using a splice, P/N M81824/1-2, connect wire L988A22 to both segments of wire L88A22.
15. Using a multimeter, perform the following continuity check.
16. Verify between P42 pin Z and P42 pin H, a resistance of approximately 4.7 K ohms.
17. Verify between P42 pin Z and P43 pin H, a resistance of approximately 4.7 K ohms.
18. Re-connect the aircraft battery.
19. Connect a source of external power; Verify that approximately 28 volt DC is present at Pin Z of P42.
20. Ensure all electrical power is removed from the helicopter, and disconnect battery.
21. Reinstall master caution panel.
22. Re-connect the aircraft battery.
23. Connect a source of external power,
24. Perform the operational check for engines chip detectors caution light in BHT-212-MM sections 96-138.
25. With the ENG CHIP caution light and the Master Caution lights extinguished, turn on the pilot’s Instrument lights. Verify that the ENG CHIP caution light, and the pilot and the copilot Master Caution lights remain extinguished when the caution panel BRT/DIM switch is set to the DIM position.

26. Remove the power source from the helicopter and turn off the battery switch.
27. Annotate the helicopter records to reflect compliance with this bulletin.
28. Return the helicopter to flight status.

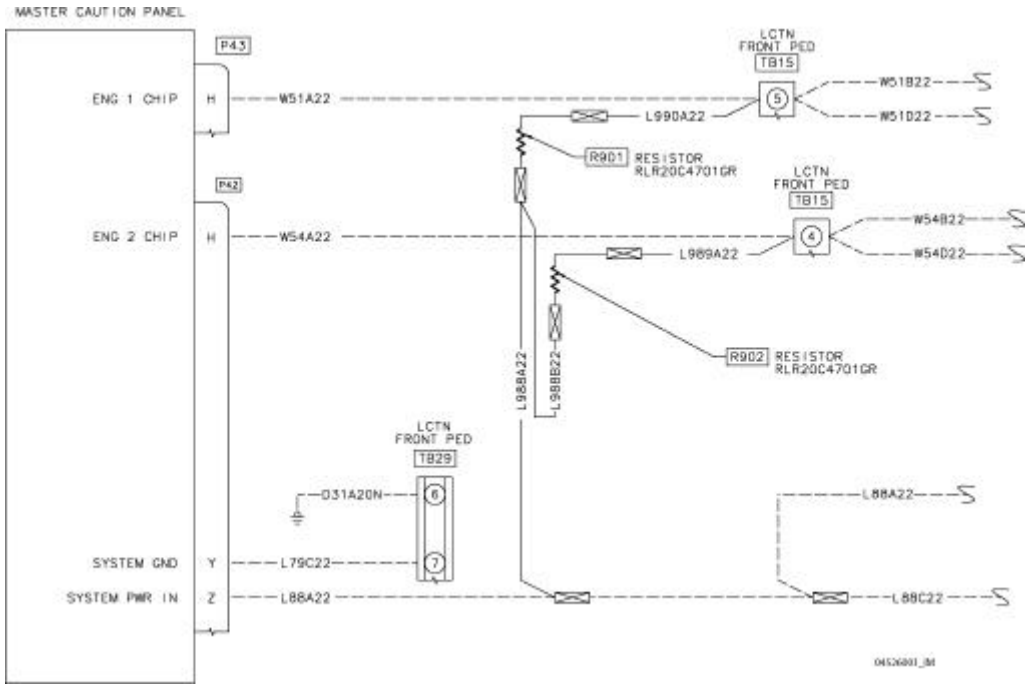

Figure 1

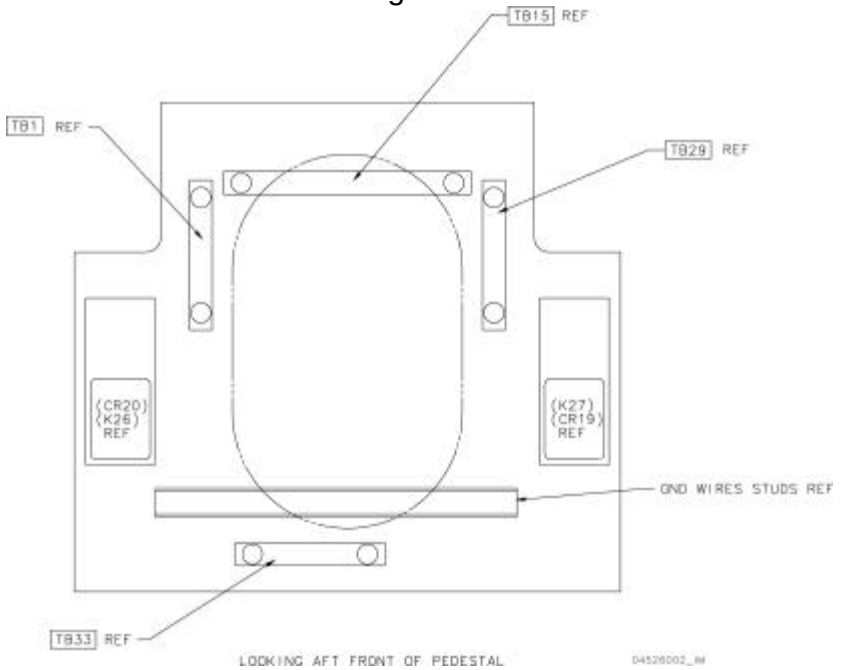

Figure 2