



A Textron Company

TECHNICAL BULLETIN

412-23-249

16 January 2025

MODEL AFFECTED: 412EP

SUBJECT: LIGHT DIMMING RESISTORS, REWIRING AND RETROFIT OF

HELICOPTERS AFFECTED: Serial numbers 37002 through 37054, 39101 through 39123.

Serial number 39124 and subsequent will have the intent of this bulletin accomplished prior to delivery.

COMPLIANCE: At customer's option.

DESCRIPTION:

Lighting variable resistor 110-046-3 reference designators 8R4,8R5,8R20 and 8R21 are no longer procurable and are replaced by RV4NBYS102A. The replacement variable resistor does not have the same terminal arrangement for the wires. This Technical Bulletin provides the instructions to relocate the wires when replacing these variable resistors.

APPROVAL:

The engineering design aspects of this bulletin are FAA approved.

CONTACT INFO:

For any questions regarding this bulletin, please contact:

Bell Product Support Engineering
Tel: 1-450-437-2862 / 1-800-363-8023 / productsupport@bellflight.com

MANPOWER:

Approximately 2.0 man-hours are required to complete this bulletin. This estimate is 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:

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

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty (Note)</u>
RV4NBYS102A	Resistor, Variable	A/R (1)

NOTE 1: Quantity depended on number of variable resistors being replaced.

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 Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty (Note)</u>	<u>Reference *</u>
2530-00356-00	M23053/5-105-0 Heat Shrink Tubing	A/R (1)	C-589
Sn60WRMAP3	Solder	A/R (1)	C-538

* C-XXX numbers refer to the consumables list in the BHT-ALL-SPM, Standard Practices Manual

NOTE 1: Or equivalent.

SPECIAL TOOLS:

None required.

WEIGHT AND BALANCE:

Not affected.

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

BHT-412-IPBS-EPI Illustrated Parts Breakdown Supplement
BHT-412-MMS-EPI Maintenance Manual Supplement
BHT-412-IPBS-EPX Illustrated Parts Breakdown Supplement
BHT-412-MMS-EPX Maintenance Manual Supplement
BHT-412-MM, Maintenance Manual
BHT-ELEC-SPM

PUBLICATIONS AFFECTED:

BHT-412-IPBS-EPI Illustrated Parts Breakdown Supplement
BHT-412-MMS-EPI Maintenance Manual Supplement
BHT-412-IPBS-EPX Illustrated Parts Breakdown Supplement
BHT-412-MMS-EPX Maintenance Manual Supplement

ACCOMPLISHMENT INSTRUCTIONS:

Part I: Replacement of 8R4.

1. Prepare the helicopter for maintenance.
2. Access the secondary instrument light variable resistor, reference designator (Ref. Des.) 8R4 located in the overhead panel, refer to figures 1 and 2.
3. Remove variable resistor 110-046-3.
4. Install variable resistor RV4NBYS102A.

-NOTE-

Prior to installing wires on variable resistor terminals slide a piece of heat shrink tubing (C-589) onto the wires. Install the wires on the terminals with solder (C-538).

5. Remove wire L61A22 from 8R4-4 and relocate to 8R4-2.
6. Remove wire L57D22 from 8R4-5 and relocate to 8R4-1.
7. Remove resistor 8R10 from 8R4-1 and 8R4-3 and relocate to 8R4-CTR and 8R4-3.
8. Remove wire L60B22 from 8R4-1 and relocate to 8R4-CTR.

9. Remove wire L59A22 from 8R4-2 and relocate to 8R4-LWR.
10. Position the heat shrink tubing (C-589) over the variable resistor terminals and shrink with a heat gun.
11. Perform an operational check in accordance with BHT-412-MMS-EPI Maintenance Manual Supplement (DMC-412-A-96-63-03-04A-320A-A) or BHT-412-MMS-EPX Maintenance Manual Supplement (DMC-412-A-96-67-04-04A-320A-A)
12. Make an entry in the helicopter logbook indicating compliance with Part I of this Technical Bulletin.

Part II: Replacement of 8R5.

1. Prepare the helicopter for maintenance.
2. Access the overhead console lights variable resistor, Ref. Des. 8R5 located in the overhead panel, refer to figure 1 and 2.
3. Remove variable resistor 110-046-3.
4. Install variable resistor RV4NBYS102A.

-NOTE-

Prior to installing wires on variable resistor terminals slide a piece of heat shrink tubing (C-589) onto the wires. Install the wires on the terminals with solder (C-538).

5. Remove wire L34A22 from 8R5-4 relocate to 8R5-2.
6. Remove wire L35A22 from 8R5-5 relocate to 8R5-1.
7. Remove resistor 8R12 from 8R5-1 and from 8R5-3 and relocate to 8R5-CTR and 8R5-3.
8. Remove wire L33B22 from 8R5-1 relocate to 8R5-CTR.
9. Remove wire L32A22 from 8R5-2 relocate to 8R5-LWR.
10. Position the heat shrink tubing (C-589) over the variable resistor terminals and shrink with a heat gun.
11. Perform an operational check in accordance with BHT-412-MMS-EPI Maintenance Manual Supplement (DMC-412-A-96-63-03-05A-320A-A) or BHT-412-MMS-EPX Maintenance Manual Supplement (DMC-412-A-96-67-04-05A-320A-A).

12. Make an entry in the helicopter logbook indicating compliance with Part II of this Technical Bulletin.

Part III: Replacement of 8R20.

1. Prepare the helicopter for maintenance.
2. Access the pilot approach plate and map light variable resistor, Ref. Des. 8R20 located on the instrument panel, refer to figure 1 and 2.
3. Remove variable resistor 110-046-3.
4. Install variable resistor RV4NBYS102A.

-NOTE-

Prior to installing wires on variable resistor terminals slide a piece of heat shrink tubing (C-589) onto the wires. Install the wires on the terminals with solder (C-538).

5. Remove wire L806A22 from 8R20-4 relocate to 8R20-2.
6. Remove wire L30D22 from 8R20-3 reinstall to 8R20-3.
7. Remove wire L806A22 from 8R20-7 relocate to 8R20-CTR.
8. Remove wire L808A22 from 8R20-6 relocate to 8R20-LWR.
9. Position the heat shrink tubing (C-589) over the variable resistor terminals and shrink with a heat gun.
10. Perform an operational check in accordance with BHT-412-MMS-EPI Maintenance Manual Supplement (DMC-412-A-96-63-03-00A-320A-A) or BHT-412-MMS-EPX Maintenance Manual Supplement (DMC-412-A-96-67-04-00A-320A-A).
11. Make an entry in the helicopter logbook indicating compliance with Part III of this Technical Bulletin.

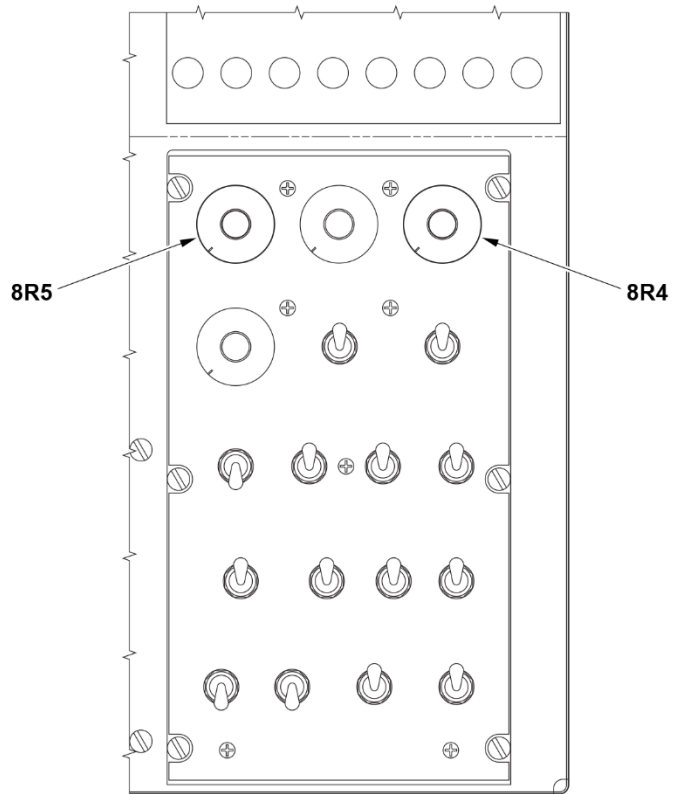
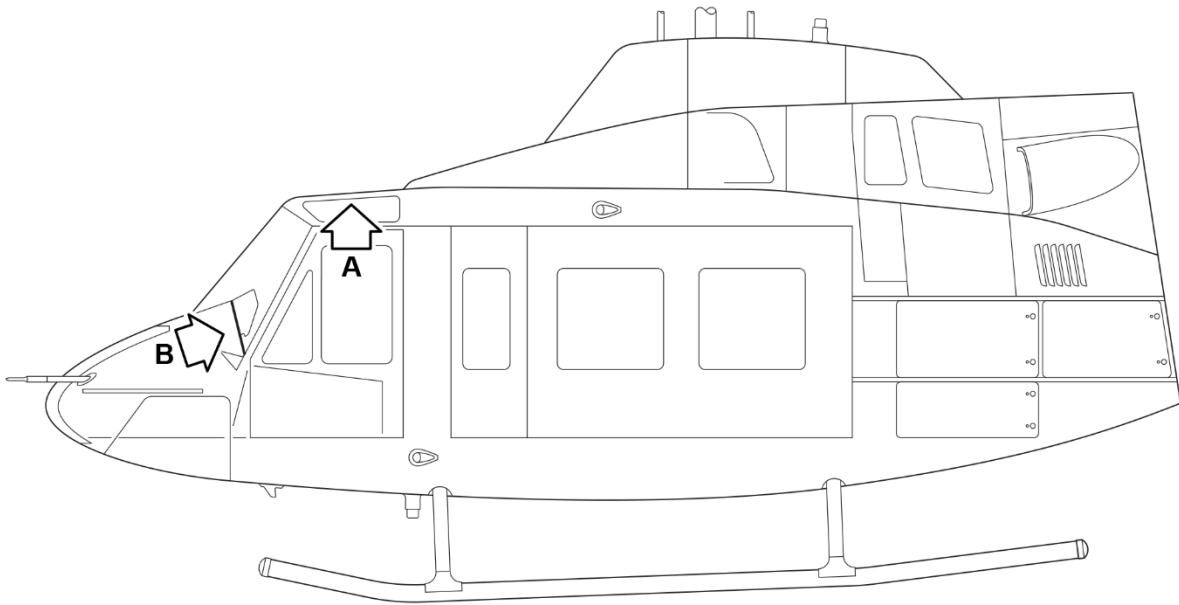
Part IV Replacement of 8R21.

1. Prepare the helicopter for maintenance.
2. Access the copilot approach plate and map light variable resistor, Ref. Des. 8R21 located on the instrument panel, refer to figure 1 and 2.
3. Remove variable resistor 110-046-3.

-NOTE-

Prior to installing wires on variable resistor terminals slide a piece of heat shrink tubing (C-589) onto the wires. Install the wires on the terminals with solder (C-538).

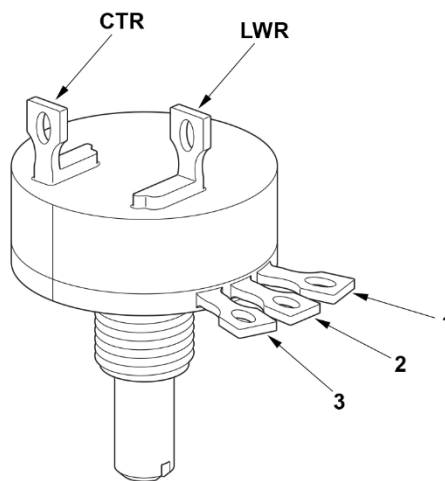
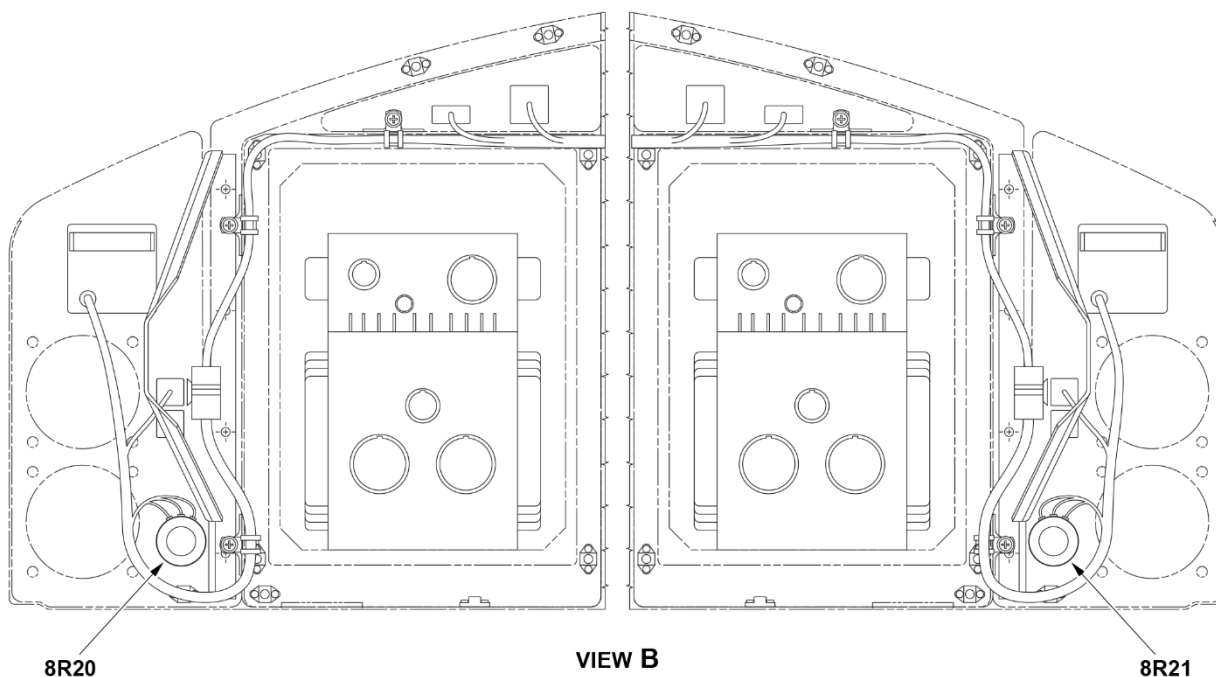
4. Install variable resistor RV4NBYS102A.
5. Remove wire L807AA22 from 8R21-4 relocate to 8R21-2.
6. Remove wire L31E22 from 8R21-3 reinstall to 8R21-3.
7. Remove wire L807AA22 from 8R21-7 relocate to 8R21-CTR.
8. Remove wire L809A22 from 8R21-6 relocate to 8R21-LWR.
9. Position the heat shrink tubing (C-589) over the variable resistor terminals and shrink with a heat gun.
10. Perform an operational check in accordance with BHT-412-MMS-EPI Maintenance Manual Supplement (DMC-412-A-96-63-03-00A-320A-A) or BHT-412-MMS-EPX Maintenance Manual Supplement (DMC-412-A-96-67-04-00A-320A-A).
11. Make an entry in the helicopter logbook indicating compliance with Part III of this Technical Bulletin.



VIEW A

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**Figure 1 (sheet 1 of 2)
Variable Resistor Replacement**

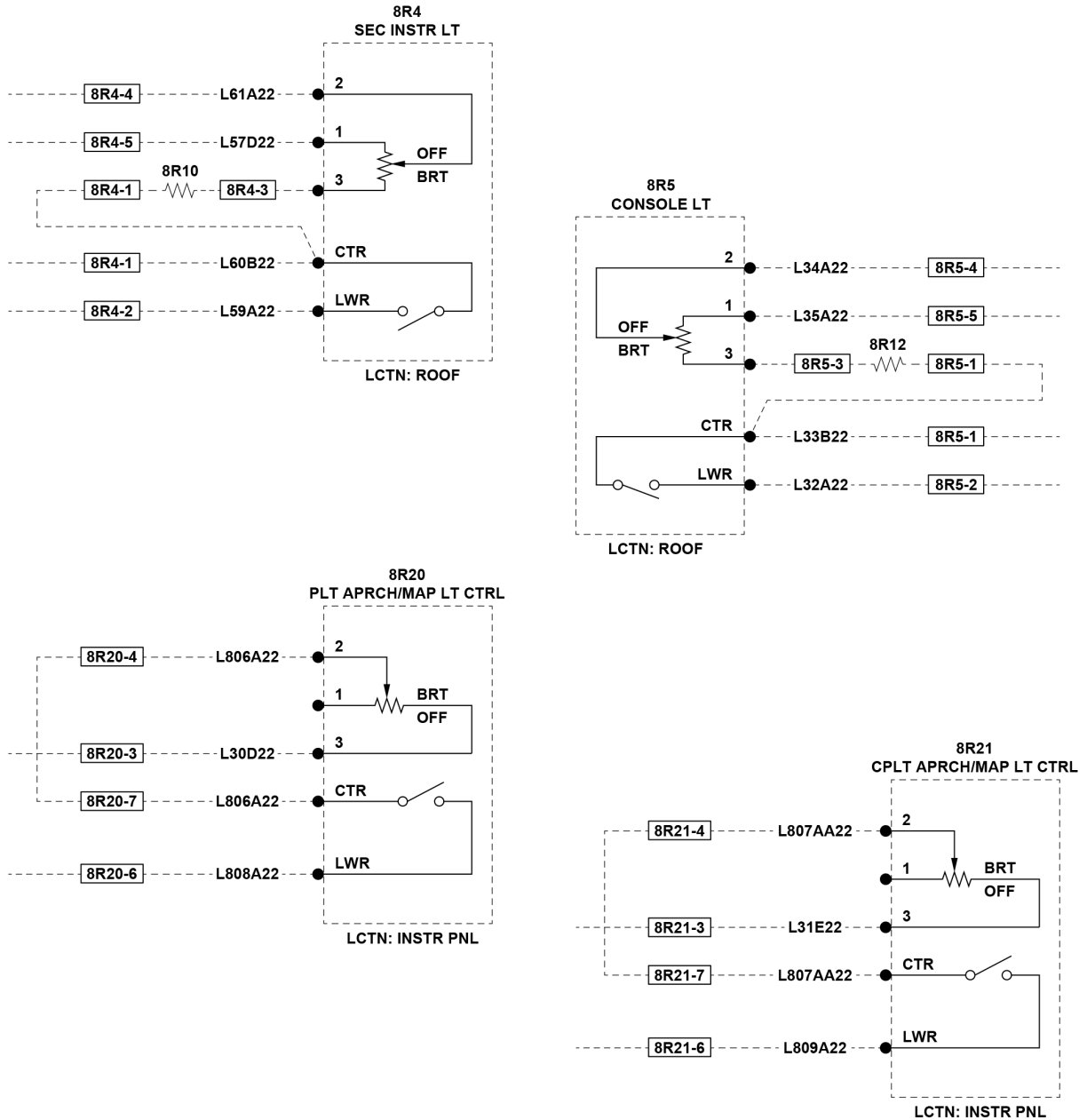


8R4, 8R5, 8R20, 8R21

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Figure 1 (Sheet 2 of 2)
Variable Resistor Replacement

Figure 2
Wiring Diagrams



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