

# TECHNICAL BULLETIN

## **Bell** Helicopter

A Textron Company

No. 206-07-191  
Date JUN 20, 2007  
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DATE
REV

**MODEL AFFECTED:** 206 A/B

**SUBJECT:** LANDING LIGHT RELAYS, REPLACEMENT OF

**HELICOPTERS AFFECTED:** 206A, S/N 104 through 660, and 672 through 715;  
206B, S/N 661 through 671, and 716 through 4394;  
TH-67, S/N 5101 through 5237

[Model 206B serial number 4395 and subsequent will have the intent of this bulletin accomplished prior to delivery.]

[Model TH-67 serial number 5238 and subsequent will have the intent of this bulletin accomplished prior to delivery.]

**COMPLIANCE:** At Customer's Option

**DESCRIPTION:**

The Landing Lights relay AN3320-1 is no longer procurable. This bulletin provides instructions to install the new M83536/33-003L relay with associated hardware.

**APPROVAL:**

The engineering design aspects of this bulletin are Transport Canada approved.

**MANPOWER:**

Approximately 4.0 man-hours are required to complete this bulletin. Man-hours are based on hands-on time, and may vary with personnel and facilities available.

**WARRANTY:**

There is no warranty credit applicable for parts or labor associated with this bulletin.

**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.

<b>Part Number</b>	<b>Nomenclature</b>	<b>Quantity</b>
M22759/41-20-9	Wire	A/R
M22759/41-12-9	Wire	A/R
407-030-202-193	Bracket	1
MS18029-2S-2	Cover Assembly	1
MS21042L04	Nut	2
MS21042L3	Nut	2
MS21043-3	Nut	2
MS25036-102	Terminal Lug	2
MS25036-103	Terminal Lug	2
MS25036-112	Terminal Lug	5
MS25036-156	Terminal Lug	4
MS25226-4-2	Bus Bar	1
MS27212-2-2	Terminal Board	1
MS3373-A2	Insulation Strip	2
MS35207-216	Screw	2
MS35207-263	Screw	2
M12883/48-04S	Relay Socket	2
M39029/5-116	Contact	4
M39029/5-118	Contact	4
M83536/33-003L	Relay	2
NAS1149C0332R	Washer	4
NAS1149DN416J	Washer	2
NAS1149D0332J	Washer	2
31-065-8K1	Decal	1
31-065-8K2	Decal	1
31-065-8TB4	Decal	1
31-065-1	Decal	1
31-065-2	Decal	1

**Consumable Material:**

The following material is required to accomplish this bulletin, however this material is considered consumable (bench stock) material and may not require ordering depending on the facility consumable material stock levels. This material may be obtained through your Bell Helicopter Textron Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Quantity</u>	<u>Reference</u>
TT-N-95,TYII 1GAL	Naphtha	A/R	C-305
3950 Scotchcal	Sealer	A/R	C-349

**SPECIAL TOOLS:**

None required

**WEIGHT AND BALANCE:**

Not affected

**ELECTRICAL LOAD DATA:**

Not affected

**REFERENCES:**

BHT-206A/B-SERIES-MM-10 Maintenance Manual  
BHT-206A/B-SERIES-MM-12 Maintenance Manual  
BHT-ELEC-SPM Electrical Standard Practice Manual  
BHT-206A/B-SERIES-IPB Illustrated Parts Breakdown

**PUBLICATIONS AFFECTED:**

BHT-206A/B-SERIES-IPB Illustrated Parts Breakdown  
BHT-206A/B-SERIES-MM-12 Maintenance Manual  
Chapter 98 – Wiring Diagrams

**ACCOMPLISHMENT INSTRUCTIONS:**

1. Prepare the helicopter for maintenance

2. Ensure all electrical power is removed from the helicopter.
3. Disconnect the aircraft battery.
4. Gain access to the landing light relays area (Refer to BHT-206A/B-SERIES-MM-10, Chapter 96).
5. Gain access to terminal board TB4 located between the pilot and copilot seats (Refer to BHT-206A/B-SERIES-IPB, Chapter 96).
6. Remove the landing lights access panel (Refer to BHT-206A/B-SERIES-MM-10, Chapter 96).
7. Using Table 1 below, determine which Figure is applicable to the helicopter serial number block. This Figure contains instructions for the electrical wiring modifications permitting incorporation of the relays.

	HELICOPTER SERIAL NUMBER				
	104 through 153	154 through 253	254 through 2305	2306 through 4310 5101 through 5237	4311 through 4394
Figure 2	X				
Figure 3		X			
Figure 4			X		
Figure 5				X	
Figure 6					X

Table 1

8. Refer to the applicable Figure.

**-NOTE-**

Actions specified in the "ACTION" column shown in the Wiring Modification Instructions Table for each applicable Figure are as follow:

- i. **DELETE** – Remove the wire completely from the aircraft.
- ii. **RETERMINATE** – Reposition one end of the wire FROM its previous location TO a new location.
- iii. **ADD** – A new wire is required.

9. Refer to the Wiring Modifications Instructions Table at the bottom of the applicable Figure to determine actions required.
10. Perform all the "DELETE" actions listed in the appropriate wiring modifications table (Refer to BHT-206A/B-SERIES-MM-12, Chapter 98).
11. Remove and discard diodes C30 and C31, if installed (Refer to BHT-206A/B-SERIES-MM-12, Chapter 98).
12. Remove and discard bus bar MS25266-2-2 between X2 terminal of relay K8 and X1 of relay K20 (Refer to BHT-206A/B-SERIES-MM-12, Chapter 98).
13. Remove and discard both landing light relays (K8 and K20) with associated hardware (Refer to BHT-206A/B-SERIES-MM-12, Chapter 98).
14. Using a plastic scraper, remove and discard decals, K8 and K20, if installed. Wipe surface clean with a clean damp cloth, dampened with Naptha (C-305).
15. Install qty (2) relay sockets (2, Figure 1), on bracket (7) using supplied hardware. Do not install relays (1) at this time.
16. Install terminal board (8, Figure 1, View B) on bracket (7) using screw (9), washer (10) and nut (11).
17. Thoroughly wipe the surface of the support (7) with naphtha (C-305) before applying decal. Install decal (17), (18), (19), (22) and (23). (Figure 1)
18. Seal all of the edges of the decals using edge sealer (C-349).
19. Install bracket (7) assembly at existing inboard mounting holes previously used by AN3320-1 relay using screw (24), washer (25) and nut (26) as shown in Figure 1, sheet 2.
20. Install qty (2) insulation strips (12, Figure 1) on terminal board (8).
21. Install bus link (13, Figure 1) on terminal board (8).

**-NOTE-**

Refer to BHT-ELEC-SPM for wire termination procedures. Fabricate added wires using the following wire specifications:

**Wire gage**

**Wire Specifications**

AWG 12

M22759/41-12-9

AWG 20

M22759/41-20-9

22. Perform all the "RETERMINATE" and "ADD" actions listed in the appropriate Wiring Modifications Table.
23. Install washer (14), nut (15) and the cover assembly (16) on the Terminal Board (8).
24. Perform functional check on Landing Light System as follow:
  - a. Connect the external DC power to the helicopter.
  - b. Close the LDG LT Circuit Breaker.
  - c. Set the landing light switch to FWD.
    - i. The forward landing light comes on.
    - ii. The down landing light stays off.
  - d. Set the landing light switch to BOTH
    - i. The forward landing light stays on.
    - ii. The down landing light comes on.
  - e. Disconnect the external power from the helicopter.
25. Make an entry in the helicopter historical records to show that you have completed this bulletin.

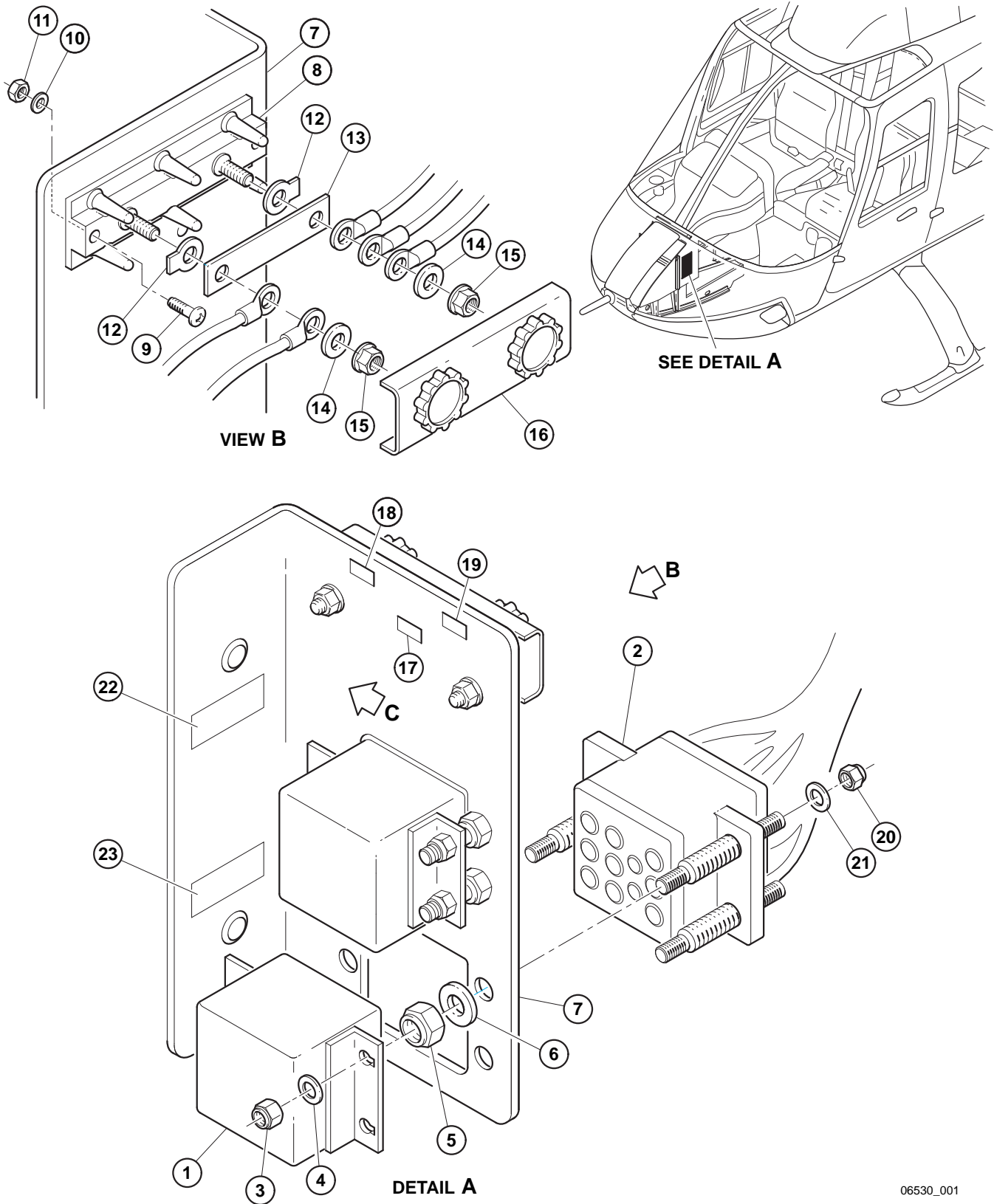
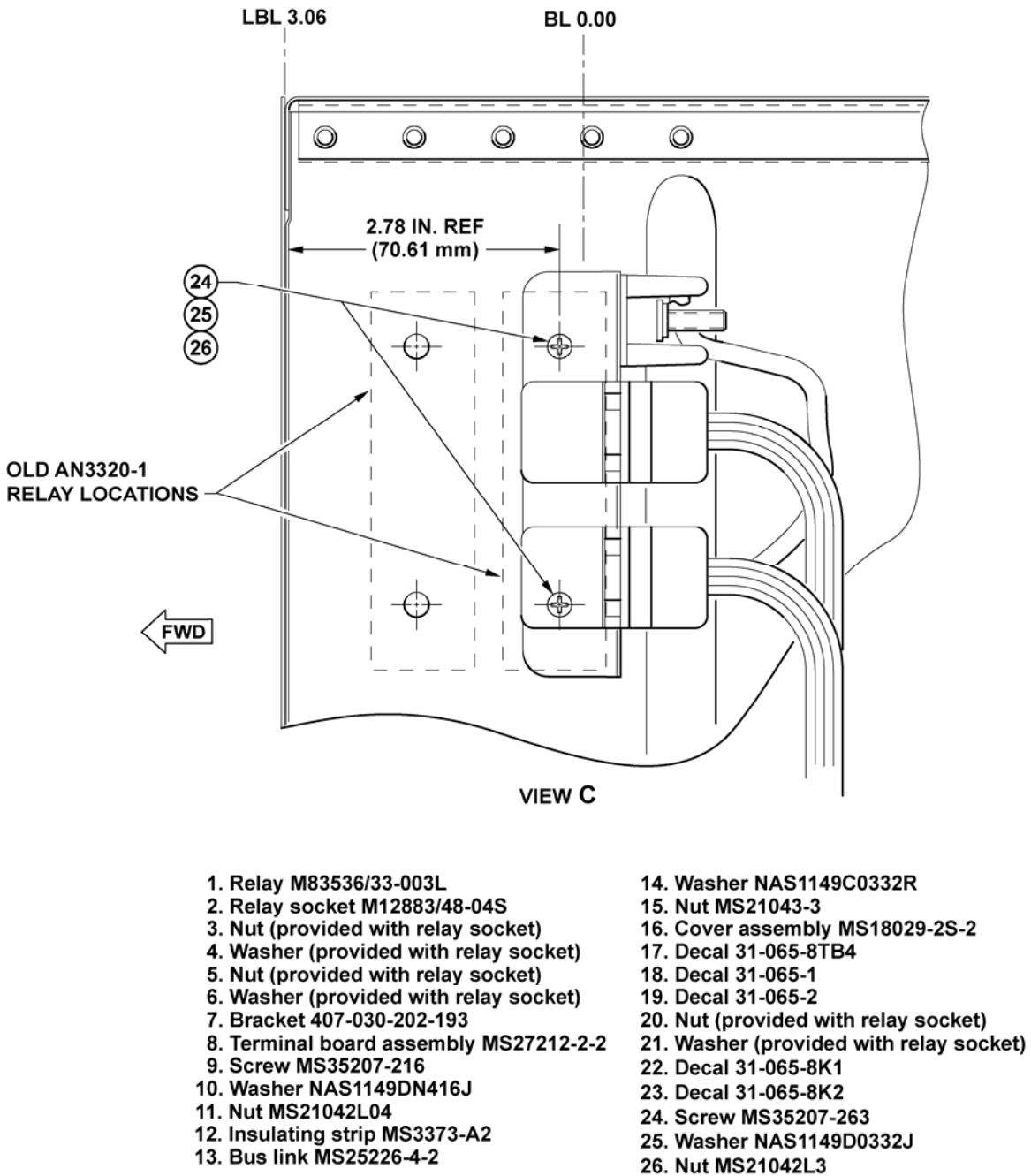
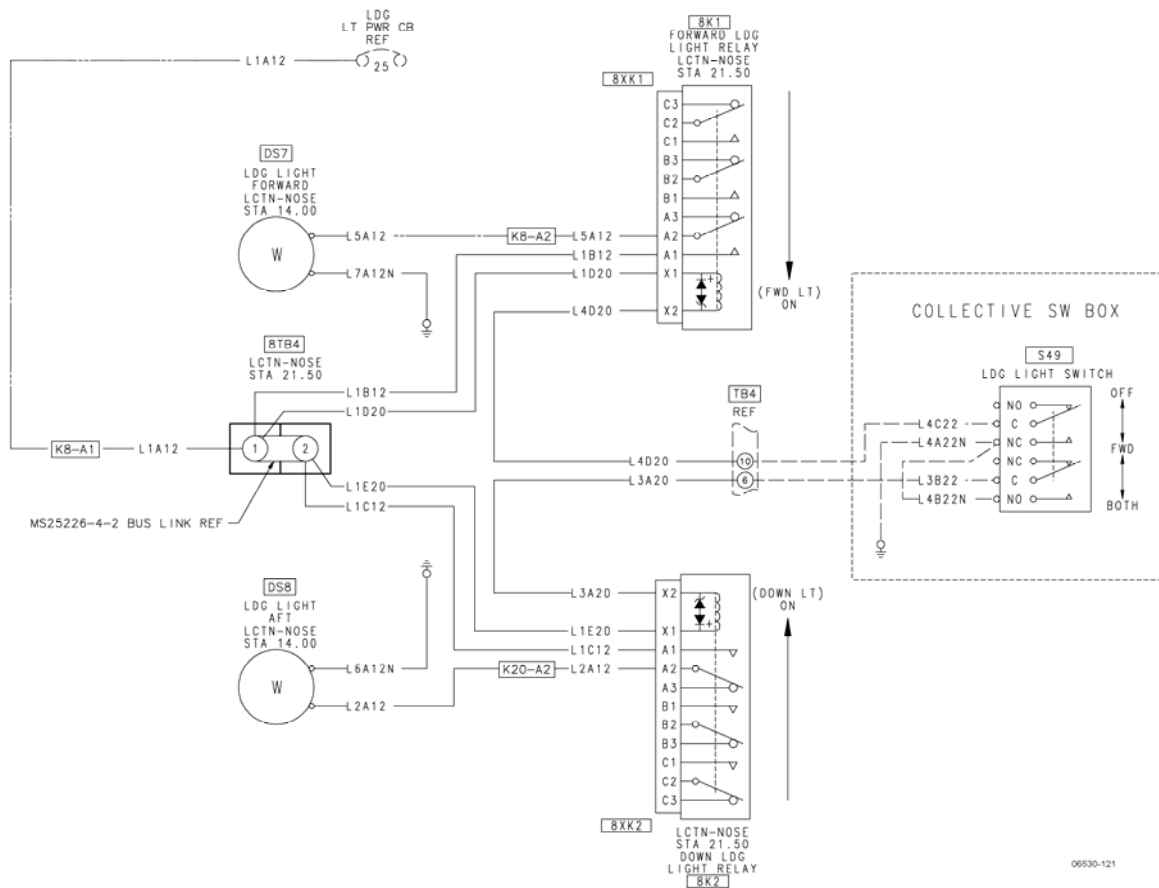


Figure 1. Landing Light Relay installation (sheet 1)



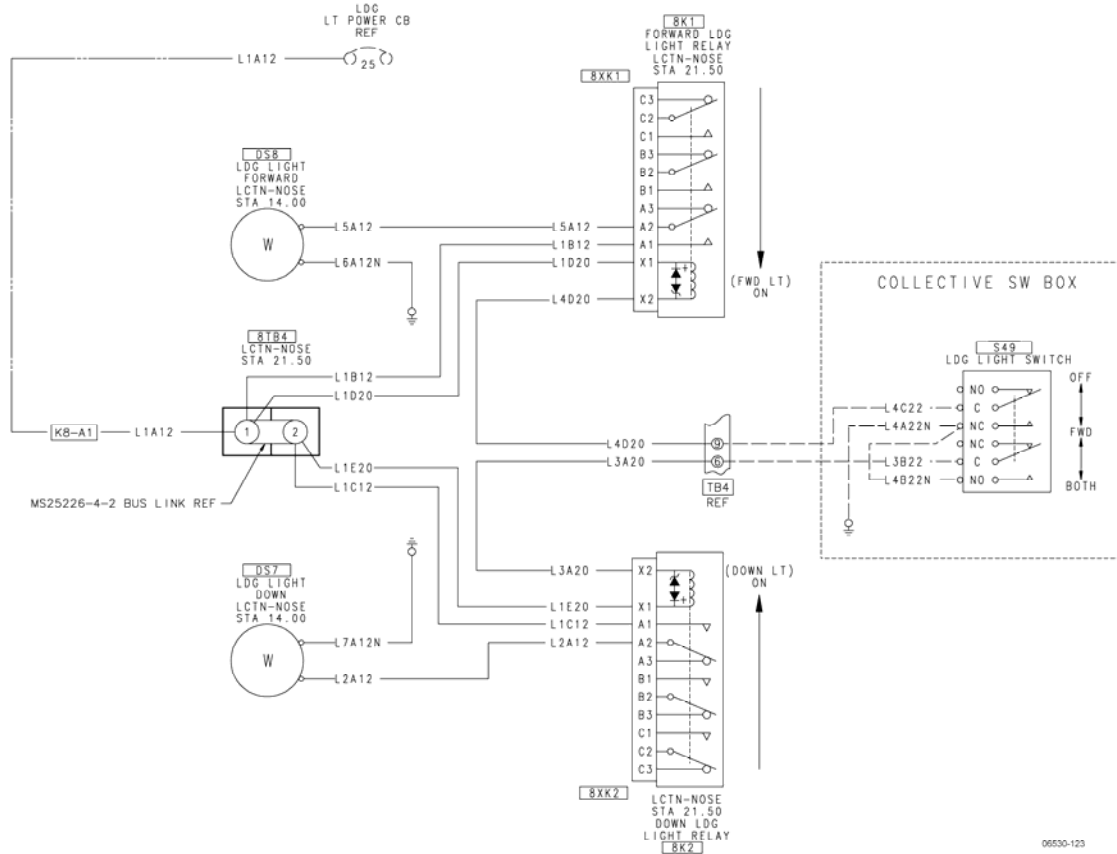
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Figure 1. Landing Light Relay installation (sheet 2)



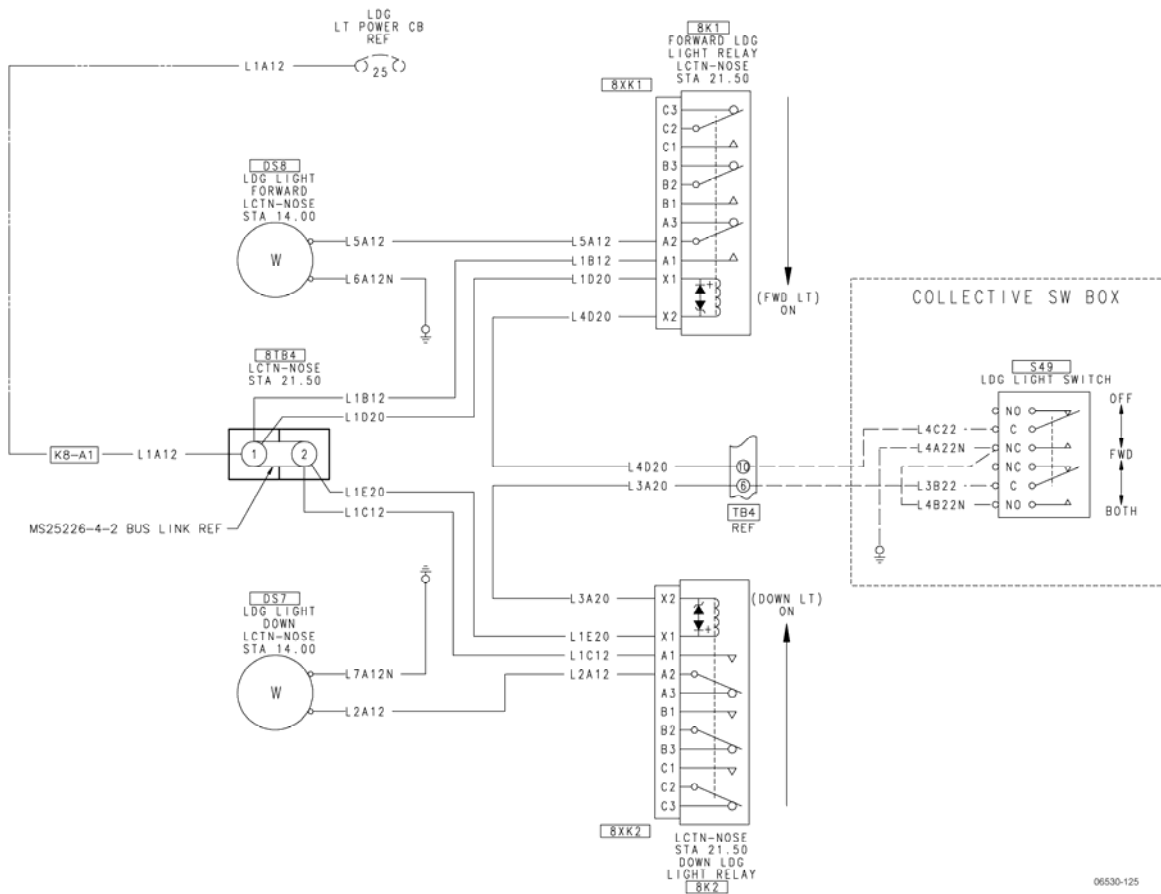
WIRING MODIFICATIONS INSTRUCTIONS TABLE						
ACTION	WIRE NUMBER	LENGTH (INCH)	FROM	HARDWARE	TO	HARDWARE
DELETE	L1C12	-	K8-A1	-	K20-A1	-
DELETE	L1D22	-	K20-X1	-	K20-A1	-
DELETE	L7A16N	-	DS7	-	LOCAL GRND	-
DELETE	L6A16N	-	DS8	-	LOCAL GRND	-
DELETE	L4D22	-	K8-X1	-	TB4-10	-
DELETE	L3A22	-	K20-X2	-	TB4-6	-
RETERMINATE	L1A12	-	K8-A1	-	8TB4-1	MS25036-112
RETERMINATE	L5A12	-	K8-A2	-	8XK1-A2	M39029/5-118
RETERMINATE	L2A12	-	K20-A2	-	8XK2-A2	M39029/5-118
ADD	L1B12	8.00	8XK1-A1	M39029/5-118	8TB4-1	MS25036-112
ADD	L1C12	8.00	8XK2-A1	M39029/5-118	8TB4-2	MS25036-112
ADD	L1D20	8.00	8XK1-X1	M39029/5-116	8TB4-1	MS25036-103
ADD	L1E20	8.00	8XK2-X1	M39029/5-116	8TB4-2	MS25036-103
ADD	L6A12N	36.00	DS8	MS25036-156	LOCAL GRND	MS25036-112
ADD	L7A12N	36.00	DS7	MS25036-156	LOCAL GRND	MS25036-112
ADD	L3A20	48.00	8XK2-X2	M39029/5-116	TB4-6	MS25036-102
ADD	L4D20	48.00	8XK1-X2	M39029/5-116	TB4-10	MS25036-102

Figure 2. Helicopters S/N 104 - 153



WIRING MODIFICATIONS INSTRUCTIONS TABLE						
ACTION	WIRE NUMBER	LENGTH (INCH)	FROM	HARDWARE	TO	HARDWARE
DELETE	L1C16	-	K8-A1	-	K20-A1	-
DELETE	L1D22	-	K20-A1	-	K20-X1	-
DELETE	L5A16	-	DS8	-	K8-A2	-
DELETE	L2A16	-	DS7	-	K20-A2	-
DELETE	L7A16N	-	DS7	-	LOCAL GRND	-
DELETE	L6A16N	-	DS8	-	LOCAL GRND	-
DELETE	L4D22	-	K8-X1	-	TB4-9	-
DELETE	L3A22	-	K20-X2	-	TB4-6	-
RETERMINATE	L1A12	-	K8-A1	-	8TB4-1	MS25036-112
ADD	L1B12	8.00	8XK1-A1	M39029/5-118	8TB4-1	MS25036-112
ADD	L1C12	8.00	8XK2-A1	M39029/5-118	8TB4-2	MS25036-112
ADD	L1D20	8.00	8XK1-X1	M39029/5-116	8TB4-1	MS25036-103
ADD	L1E20	8.00	8XK2-X1	M39029/5-116	8TB4-2	MS25036-103
ADD	L2A12	30.00	DS7	MS25036-156	8XK2-A2	M39029/5-118
ADD	L6A12N	30.00	DS8	MS25036-156	LOCAL GRND	MS25036-112
ADD	L7A12N	30.00	DS7	MS25036-156	LOCAL GRND	MS25036-112
ADD	L5A12	30.00	DS8	MS25036-156	8XK1-A2	M39029/5-118
ADD	L3A20	48.00	8XK2-X2	M39029/5-116	TB4-6	MS25036-102
ADD	L4D20	48.00	8XK1-X2	M39029/5-116	TB4-9	MS25036-102

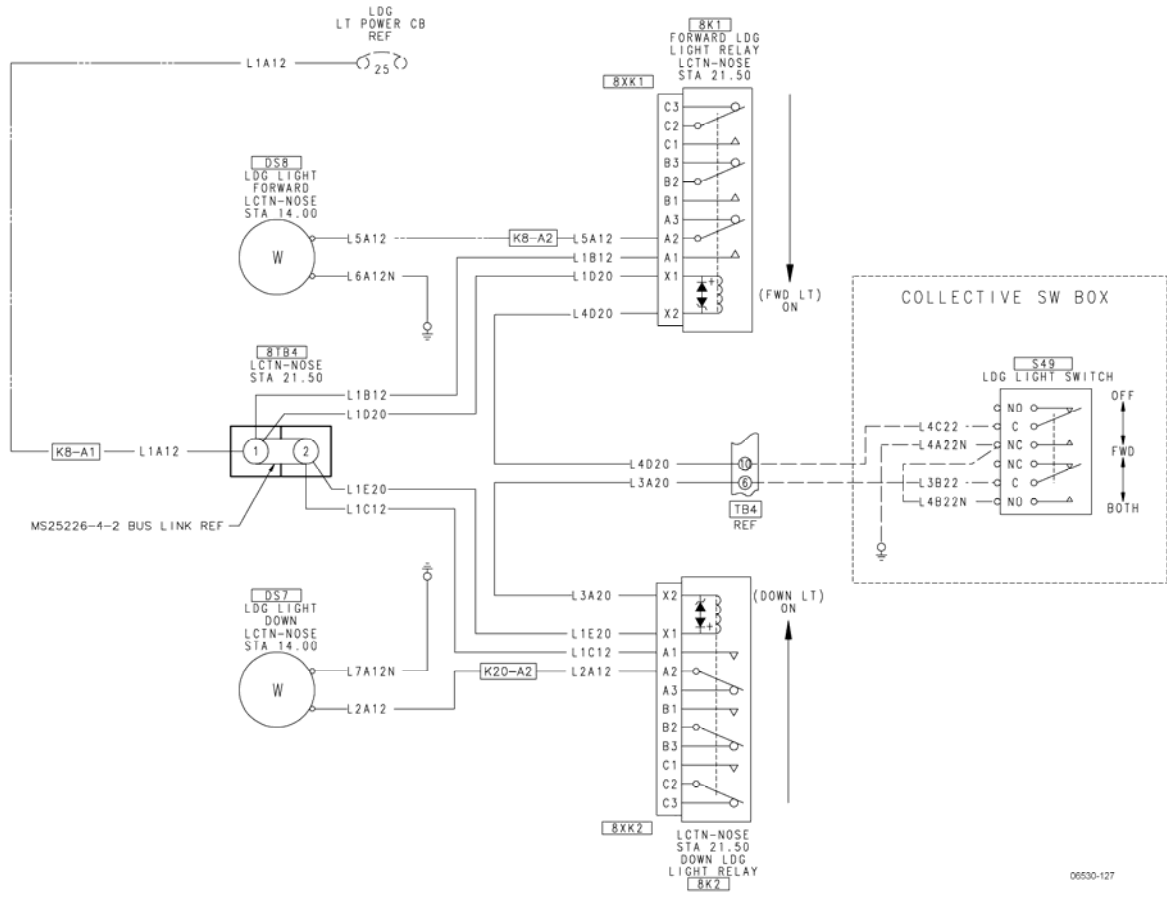
Figure 3. Helicopters S/N 154 - 253



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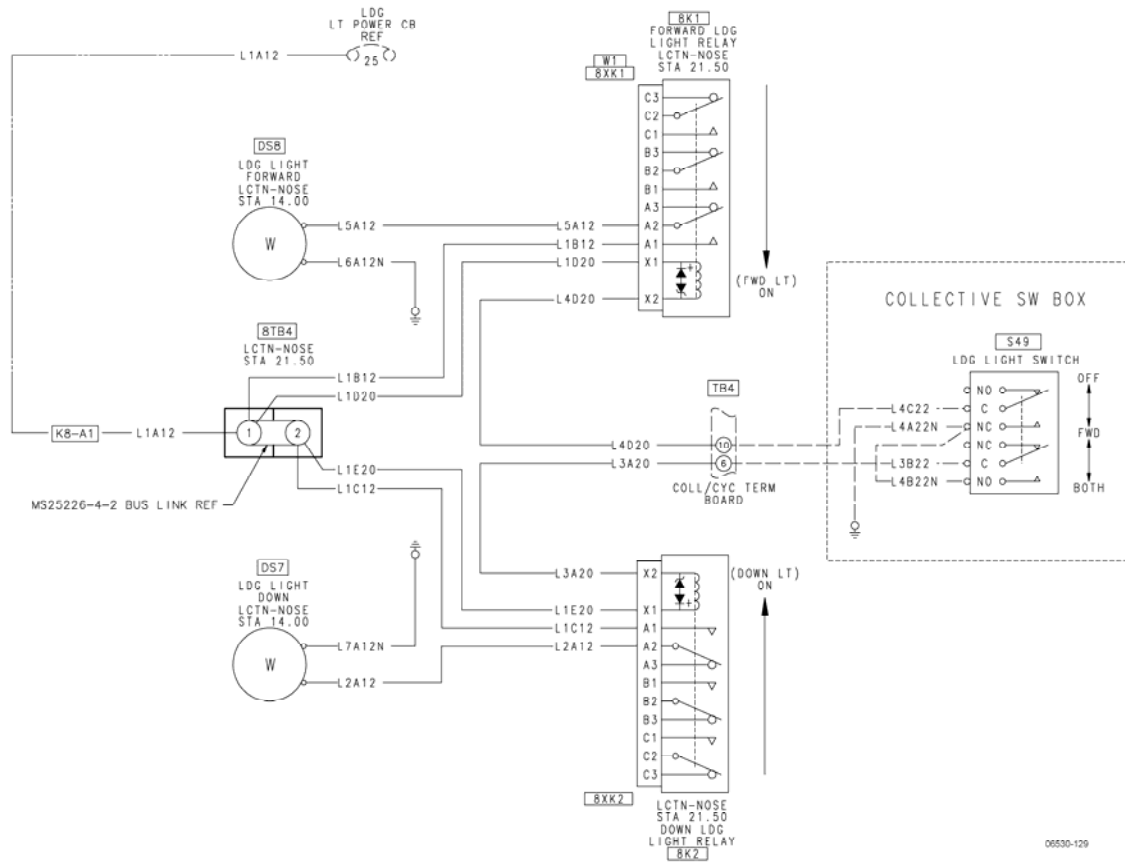
WIRING MODIFICATIONS INSTRUCTIONS TABLE						
ACTION	WIRE NUMBER	LENGHT (INCH)	FROM	HARDWARE	TO	HARDWARE
DELETE	L1C16	-	K8-A1	-	K20-A1	-
DELETE	L1D22	-	K20-A1	-	K20-X1	-
DELETE	L5A16	-	DS8	-	K8-A2	-
DELETE	L2A16	-	DS7	-	K20-A2	-
DELETE	L7A16N	-	DS7	-	LOCAL GRND	-
DELETE	L6A16N	-	DS8	-	LOCAL GRND	-
DELETE	L4D22	-	K8-X1	-	TB4-10	-
DELETE	L3A22	-	K20-X2	-	TB4-6	-
RETERMINATE	L1A12	-	K8-A1	-	8TB4-1	MS25036-112
ADD	L1B12	8.00	8XK1-A1	M39029/5-118	8TB4-1	MS25036-112
ADD	L1C12	8.00	8XK2-A1	M39029/5-118	8TB4-2	MS25036-112
ADD	L1D20	8.00	8XK1-X1	M39029/5-116	8TB4-1	MS25036-103
ADD	L1E20	8.00	8XK2-X1	M39029/5-116	8TB4-2	MS25036-103
ADD	L2A12	30.00	DS7	MS25036-156	8XK2-A2	M39029/5-118
ADD	L6A12N	30.00	DS8	MS25036-156	LOCAL GRND	MS25036-112
ADD	L7A12N	30.00	DS7	MS25036-156	LOCAL GRND	MS25036-112
ADD	L5A12	30.00	DS8	MS25036-156	8XK1-A2	M39029/5-118
ADD	L3A20	48.00	8XK2-X2	M39029/5-116	TB4-6	MS25036-102
ADD	L4D20	48.00	8XK1-X2	M39029/5-116	TB4-10	MS25036-102

Figure 4. Helicopters S/N 254 - 2305



WIRING MODIFICATIONS INSTRUCTIONS TABLE						
ACTION	WIRE NUMBER	LENGHT (INCH)	FROM	HARDWARE	TO	HARDWARE
DELETE	L1C16	-	K8-A1	-	K20-A1	-
DELETE	L1D22	-	K20-A1	-	K20-X1	-
DELETE	L4D22	-	K8-X1	-	TB4-10	-
DELETE	L3A22	-	K20-X2	-	TB4-6	-
RETERMINATE	L1A12	-	K8-A1	-	8TB4-1	MS25036-112
RETERMINATE	L5A12	-	K8-A2	-	8XK1-A2	M39029/5-118
RETERMINATE	L2A12	-	K20-A2	-	8XK2-A2	M39029/5-118
ADD	L1B12	8.00	8XK1-A1	M39029/5-118	8TB4-1	MS25036-112
ADD	L1C12	8.00	8XK2-A1	M39029/5-118	8TB4-2	MS25036-112
ADD	L1D20	8.00	8XK1-X1	M39029/5-116	8TB4-1	MS25036-103
ADD	L1E20	8.00	8XK2-X1	M39029/5-116	8TB4-2	MS25036-103
ADD	L3A20	48.00	8XK2-X2	M39029/5-116	TB4-6	MS25036-102
ADD	L4D20	48.00	8XK1-X2	M39029/5-116	TB4-10	MS25036-102

Figure 5. Helicopters S/N 2306 – 4310 and S/N 5101 - 5237



WIRING MODIFICATIONS INSTRUCTIONS TABLE						
ACTION	WIRE NUMBER	LENGHT (INCH)	FROM	HARDWARE	TO	HARDWARE
DELETE	L1C16	-	K8-A1	-	K20-A1	-
DELETE	L1D22	-	K20-X1	-	K20-A1	-
DELETE	L7A10N	-	DS7	-	LOCAL GRND	-
DELETE	L6A10N	-	DS8	-	LOCAL GRND	-
DELETE	L4D22	-	K8-X1	-	TB4-9	-
DELETE	L3A22	-	K20-X2	-	TB4-6	-
DELETE	L5A10	-	K8-A2	-	DS8	-
DELETE	L2A10	-	K20-A2	-	DS7	-
RETERMINATE	L1A12	-	K8-A1	-	8TB4-1	MS25036-112
ADD	L5A12	36.00	8XK1-A2	M39029/5-118	DS8	MS25036-156
ADD	L2A12	36.00	8XK2-A2	M39029/5-118	DS7	MS25036-156
ADD	L1B12	6.50	8XK1-A1	M39029/5-118	8TB4-1	MS25036-112
ADD	L1C12	8.00	8XK2-A1	M39029/5-118	8TB4-2	MS25036-112
ADD	L1D20	6.50	8XK1-X1	M39029/5-116	8TB4-1	MS25036-103
ADD	L1E20	6.50	8XK2-X1	M39029/5-116	8TB4-2	MS25036-103
ADD	L6A12N	36.00	DS8	MS25036-156	LOCAL GRND	MS25036-112
ADD	L7A12N	36.00	DS7	MS25036-156	LOCAL GRND	MS25036-112
ADD	L3A20	60.00	8XK2-X2	M39029/5-116	TB4-6	MS25036-102
ADD	L4D20	60.00	8XK1-X2	M39029/5-116	TB4-10	MS25036-102

Figure 6. Helicopters S/N 4311 - 4394