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CUSTOM KIT

CK-AG-53

Initial Release: 01/26/2021

TURN LIGHT INSTALLATION

AIRPLANES AFFECTED:

MODEL

SERIAL NUMBERS

S2R-T660

109 & UP

S2R-H80

101 & UP

S2R-G10

169 & UP

S2R-T34

273 & UP

S2R-T65HG

011 & UP

A handwritten signature in blue ink, appearing to read "Levan Tabidze", written over a horizontal line.

Levan Tabidze

Vice President of Engineering

LOG OF REVISIONS

NOTE: Reformatting and correction of typographical errors is not considered revision. True revisions are indicated by a dark vertical line at the right margin of the lines revised.

Rev.	Page	Description of Revision	By:
IR	All	New Document Initial Release.	M.Lim 01/26/2021

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1. PURPOSE/REASON FOR PUBLICATION:

This Custom Kit provides instructions and parts for the installation of the Thrush Aircraft Turn Light.

2. SCOPE/COMPLIANCE:

This Custom Kit is recommended for the following Thrush aircraft:

- S2R-T660
- S2R-H80
- S2R-G10
- S2R-T34
- S2R-T65HG

3. BY WHOM WORK WILL BE ACCOMPLISHED:

The work is to be accomplished by a FAA Certified A&P mechanic or foreign equivalent.

4. APPROVAL:

This Custom Kit is approved by the Vice President of Engineering at Thrush Aircraft, LLC.

5. MAN HOURS:

4 hours will be required

6. SPECIAL TOOLS:

No special tools required.

7. PARTS LIST

QTY	PART NUMBER	DESCRIPTION
2	334010004-001	Turn Light Assembly
1	90356-27	Turn Light Relay Assy
3	MS21044N3	Nut
3	AN960-10L (NAS1149F 0332P)	Washer, Flat (ALTERNATE P/N)
3	AN5261032R8	Screw
8	MS24693-28	Screw
2	21253-001	Cover Assembly
4	MS24693S29	Screw
2	21382-001	Turn Light Socket Contact Assembly
12	AN960-6 (NAS1149F N632P)	Washer (ALTERNATE P/N)
12	MS21044N06	Nut
12	AN526-632R8	Screw
2	90345-001	Plug in Machined

ELECTRICAL PARTS**See Appendix for full wiring schematic*

QTY	PART NUMBER	TYPE	DESCRIPTION/LOCATION
1	29043-097-18	Wire	Start Panel Switch (MS35059-21) that pins into QDH
1	29043-115-18	Wire	Start Panel Switch (MS35059-21) that pins into QDH
1	29043-114-18	Wire	Start Panel Switch (MS35059-21) that pins into QDH
1	29043-482-20	Wire	Start Panel Switch (MS35059-21) that pins into QDH
1	29043-476-20	Wire	Start Panel Switch (MS35059-21) that pins into QDH
1	29043-497-18	Wire	Start Panel Switch (MS35059-21) that pins into QDH
1	29043-477-18	Wire	Start Panel Switch (MS35059-21) that pins into QDH
1	29043-096-18	Wire	Start Panel Switch (MS35059-21) that pins into QDH
1	29043-482A-20	Wire	Taxi Light Panel switch extend/retract
1	20 AWG Wire (4 inch length)	Wire	Taxi Light Case Ground
1	29043-478-12	Wire	Taxi Light Right Hand Panel Circuit Breaker (25Amp)
1	29043-479-12	Wire	Taxi Light Right Hand Panel Circuit Breaker (25Amp)
1	29043-107-18	Wire	Right Hand Panel Circuit Breaker Turn Light Power (10 Amp)
1	29043-098-20	Wire	Left Landing Light Switch Extend/Retract pins into QDH start panel
1	29043-099-20	Wire	Left Landing Light Switch Extend/Retract pins into QDH start panel
1	29043-100-20	Wire	Right Landing Light Switch Extend/Retract pins to QDH start panel
1	29043-101-20	Wire	Right Landing Light Switch Extend/Retract pins to QDH start panel
1	29043-091-8	Wire	Master Relay to 50 Amp Breaker on Battery Plate
1	29043-092-8	Wire	Battery Plate 50 Amp Breaker to Landing Light Relay
1	29043-093-8	Wire	Landing Light Relay to Right Hand Panel
1	20 AWG Wire (4 inch length)	Wire	Case Ground on Landing Light Relay
1	29043-094-12	Wire	Right Hand Panel Left Landing Light Power (25 Amp)
1	29043-095-12	Wire	Right Hand Panel Right Landing Light Power (25 Amp)
1	29043-096A-18	Wire	Right Hand Panel Landing Control for Night Working Lights (10 Amp)
3	TIGC5M6S BL WBL	Switch	Switch
1	MS390310 211	Switch	Switch
1	MS35059 21	Switch	Control Switch in Start Switch Panel
1	7277-2-10	Circuit breaker	10 Amp Circuit Breaker
1	727-8-25	Circuit breaker	25 Amp Circuit Breaker
1	PDLA-50	Circuit breaker	50 Amp Circuit Breaker
2	MS3108B18-5S	Cannon Plug	Cannon Plug for Taxi Light
2	MS3057-10A	Adapter	Taxi Light Adapter/Backshell
1	29043-9120	Relay	Taxi Light Relay
1	90329-108	Placard	Taxi Light Placard
1	90329-110	Placard	Taxi Light Placard

8. ACCOMPLISHMENT INSTRUCTIONS:

The following procedure applies to T660, H80, G10, T34 and T65HG aircraft.

The procedure has two configurations:

- CK-AG-53-1: Aircraft that never had turn lights installed.
- CK-AG-53-2: Aircraft that have turn lights installed.

CK-AG-53-1: Aircraft that never had turn lights installed

1. Disconnect aircraft batteries.
2. If aircraft is not a T660, skip to step 7.
3. If aircraft is a T660, install Turn Light Assembly 334010004-001 on Rear Spar Assembly 95622. Remove skins as necessary to gain access to Rear Spar Assembly 95622. Refer to Figures 1 and 2.

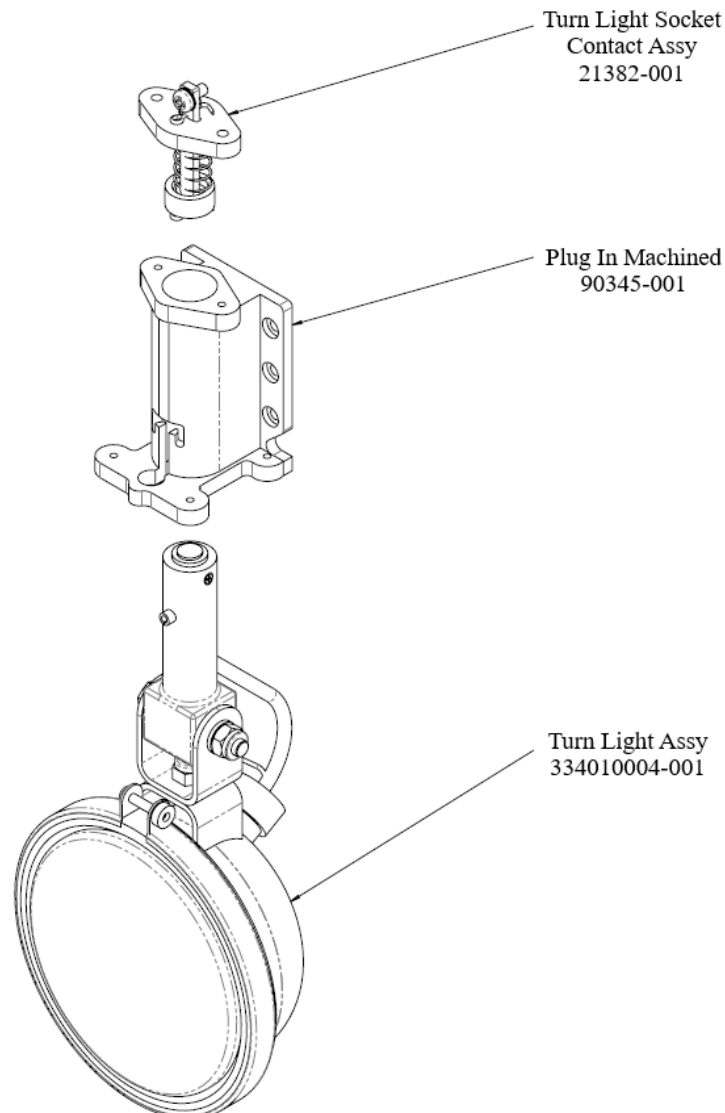


Figure 1: New Turn Light Assembly

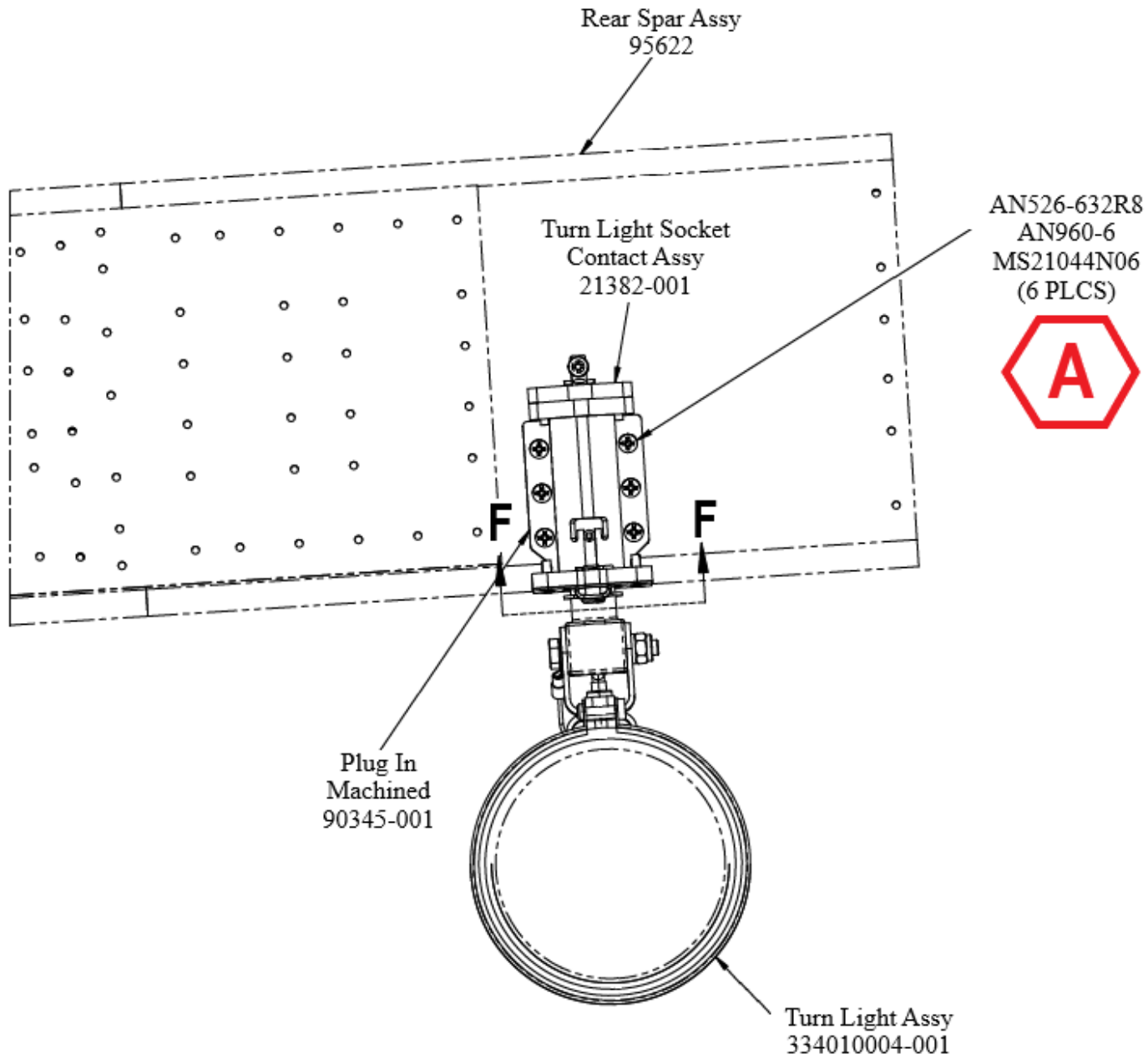


Figure 2: T660 Turn Light Intallation

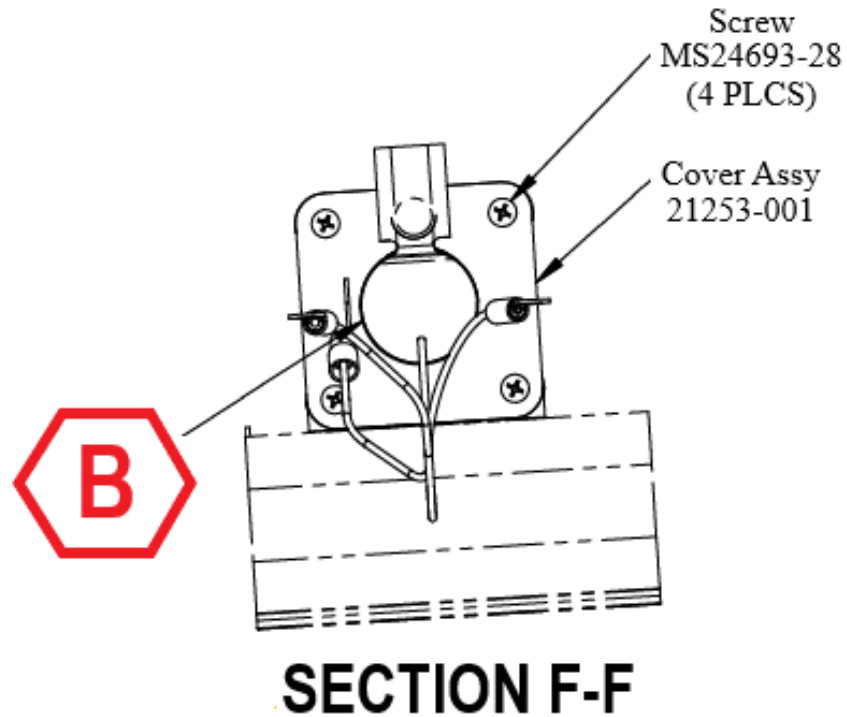


Figure 3: Section F-F Showing Cover Assembly for T660 Aircraft

4. Drill 0.169 inch holes to match the Plug In Machined 90345-001. Refer to Figure 2, section A.
5. Drill 1.00 inch hole through lower wing skin from Turn Light Assy 33401004-001. Refer to Figure 3, section B
6. Repeat steps 3-5 for the left wing of T660 aircraft.
7. If aircraft is a H80, G10, T34 or T65HG, install Turn Light Assembly 334010004-001 on Main Spar Extension 20501 on right wing. Remove skins as necessary to gain access to Main Spar Extension 20501. Refer to Figures 1 and 4.

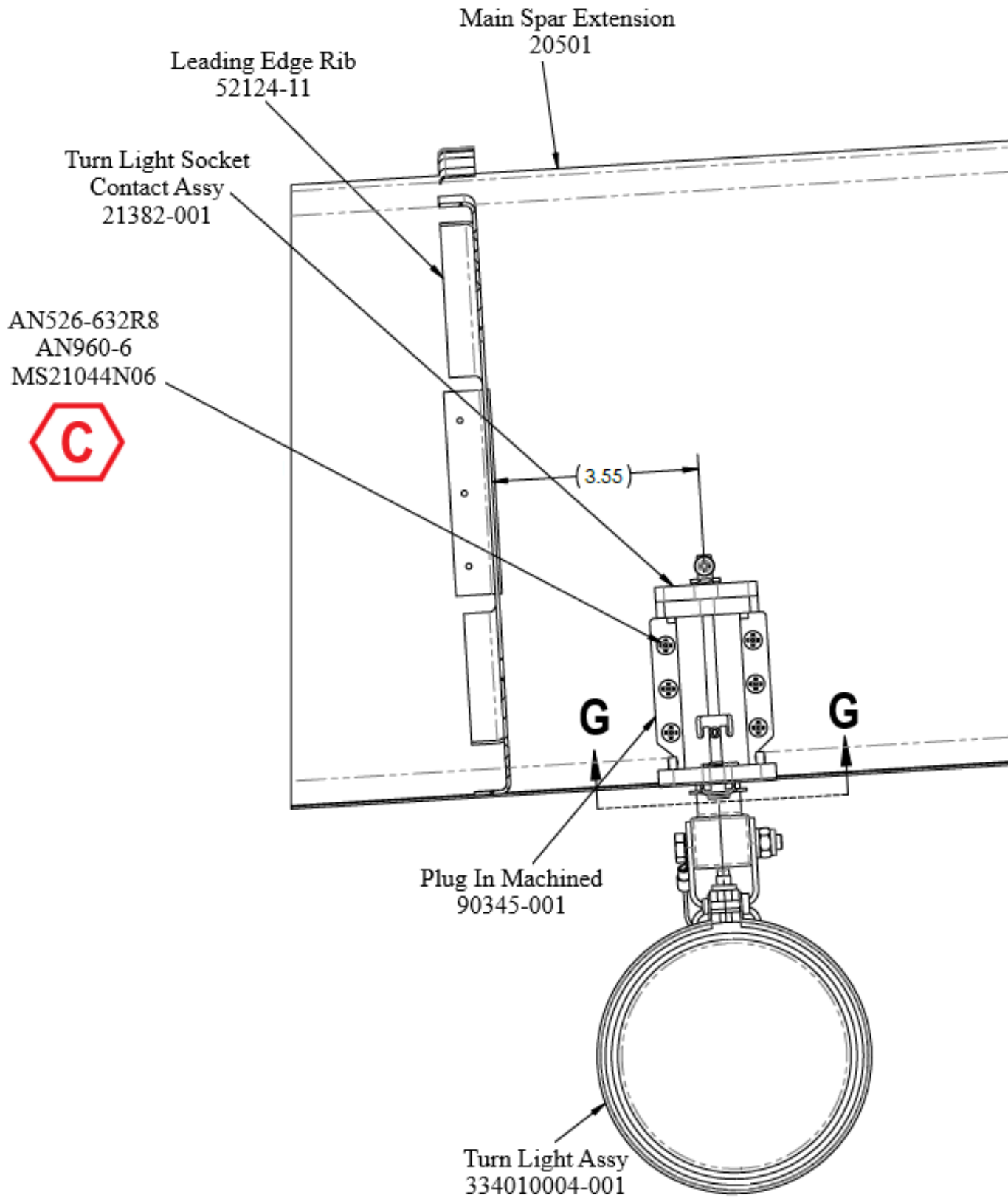


Figure 4: Turn Light Installation for H80, G10, T34 or T65HG

8. Drill 0.169 inch holes to match the Plug In Machined 90345-001. Refer to Figure 4, section C.
9. Drill 1.00 inch hole through lower wing skin from Turn Light Assy 33401004-001. Refer to Figure 5, section D.

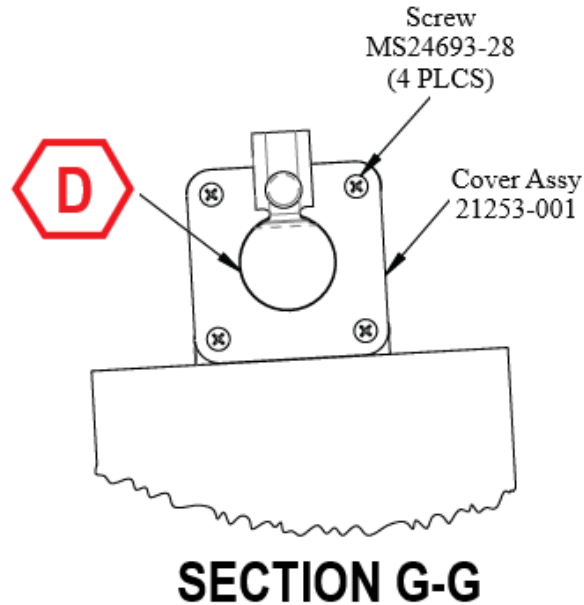


Figure 5: Section G-G Showing Cover Assembly for H80, G10, T34 or T65HG Aircraft

10. Repeat steps 7-9 for the left wing of H80, G10, T34 or T65HG aircraft.
11. Remove fuselage side skins as necessary to gain access to location shown in Figure 6. Install Turn Light Relay Assembly 90356-027 on 10601-021 as shown in Figures 6 and 7.

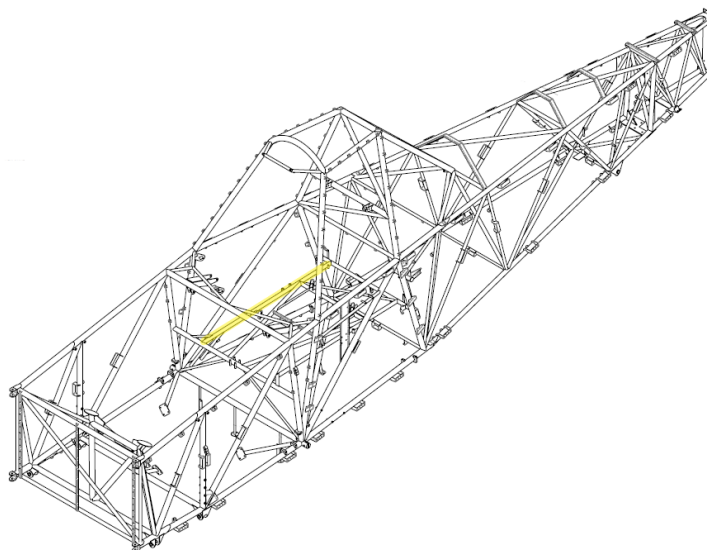


Figure 6: Location of Relay Assembly Installation

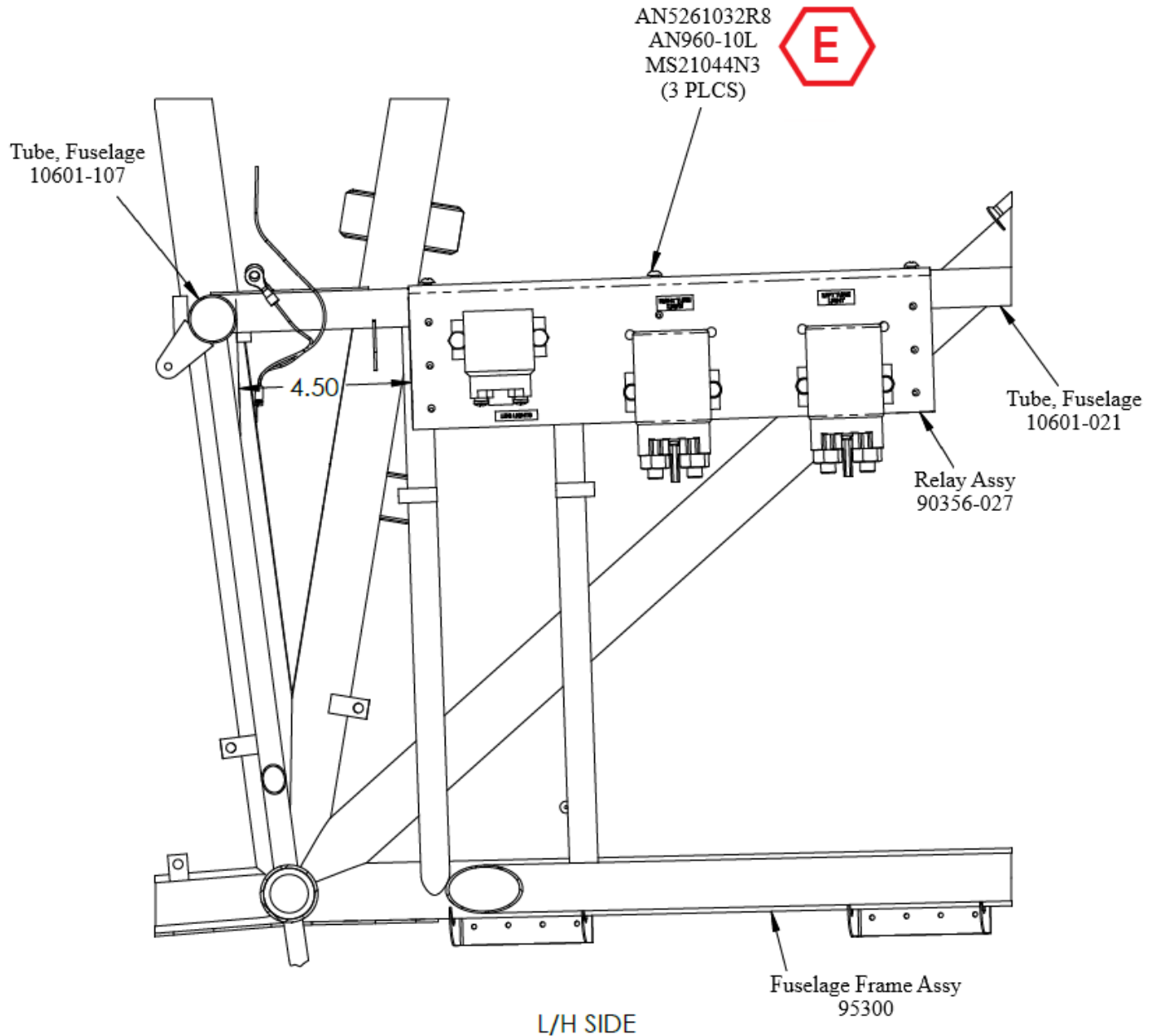


Figure 7: 90356-27 Relay Assembly Installation

12. Connect the wires from the Turn Light Assemblies (R/H and L/H) to the Turn Light Relay Assembly as shown in Figures 7,8 and 9. (See Appendix for detailed wiring charts)
13. Drill size #10 on assembly to match Relay Assy 90356-27. Refer to Figure 7, section E.
14. Connect electrical equipment and wires as shown in steps 15-25. Refer to Figures 8 and 9 for overall electrical schematic. (Refer to wiring charts in Appendix).

15. If 90329-110 placard not installed; install 90329-110 placard as shown in Figure 10.

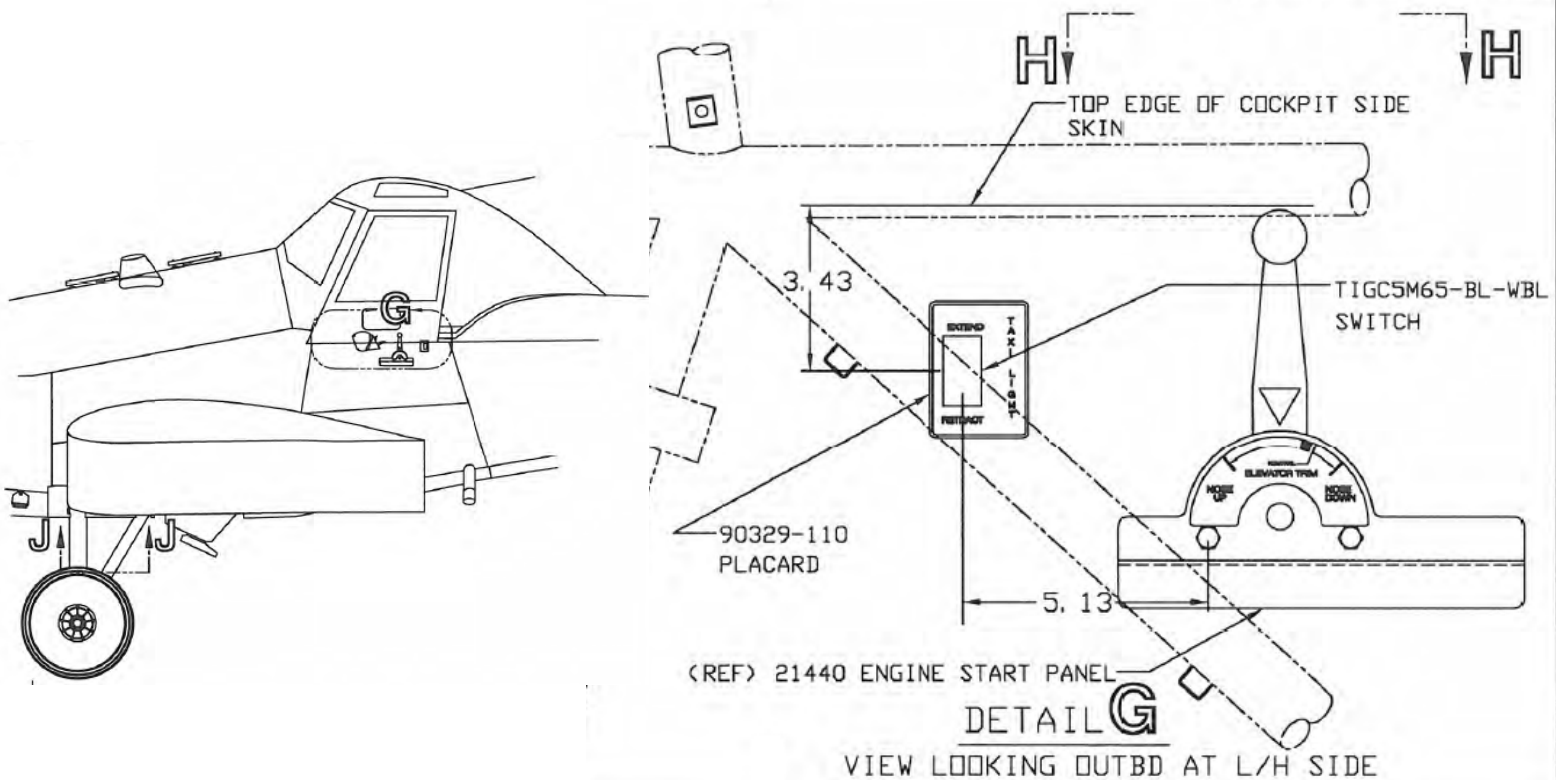


Figure 10: Location of 90329-110 Placard and 90329-108 Placard

16. If 90329-108 placard not installed; remove existing placard and switch. Replace with 90329-108 placard and MS35059-21 switch. Refer to Figures 10 and 11.

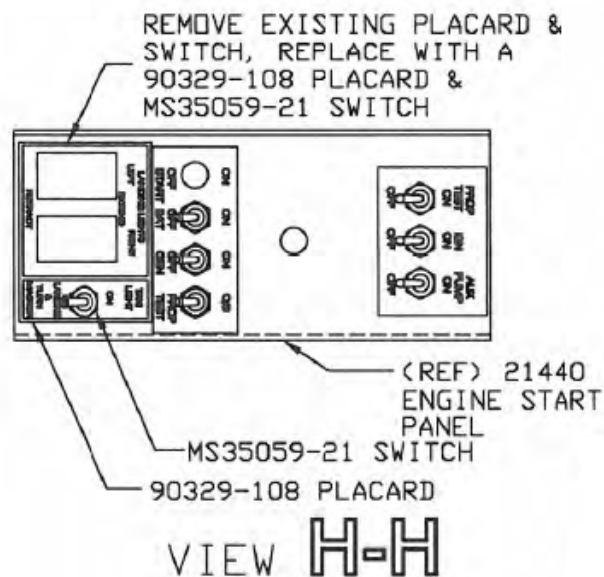


Figure 11: 90329-108 Placard and MS35059-21 Switch

17. Take note of the location of the Taxi Light, MS3108B18-5S, Cannon Plug and AN3095-11A Light Assy. Refer to Figures 10 and 12.

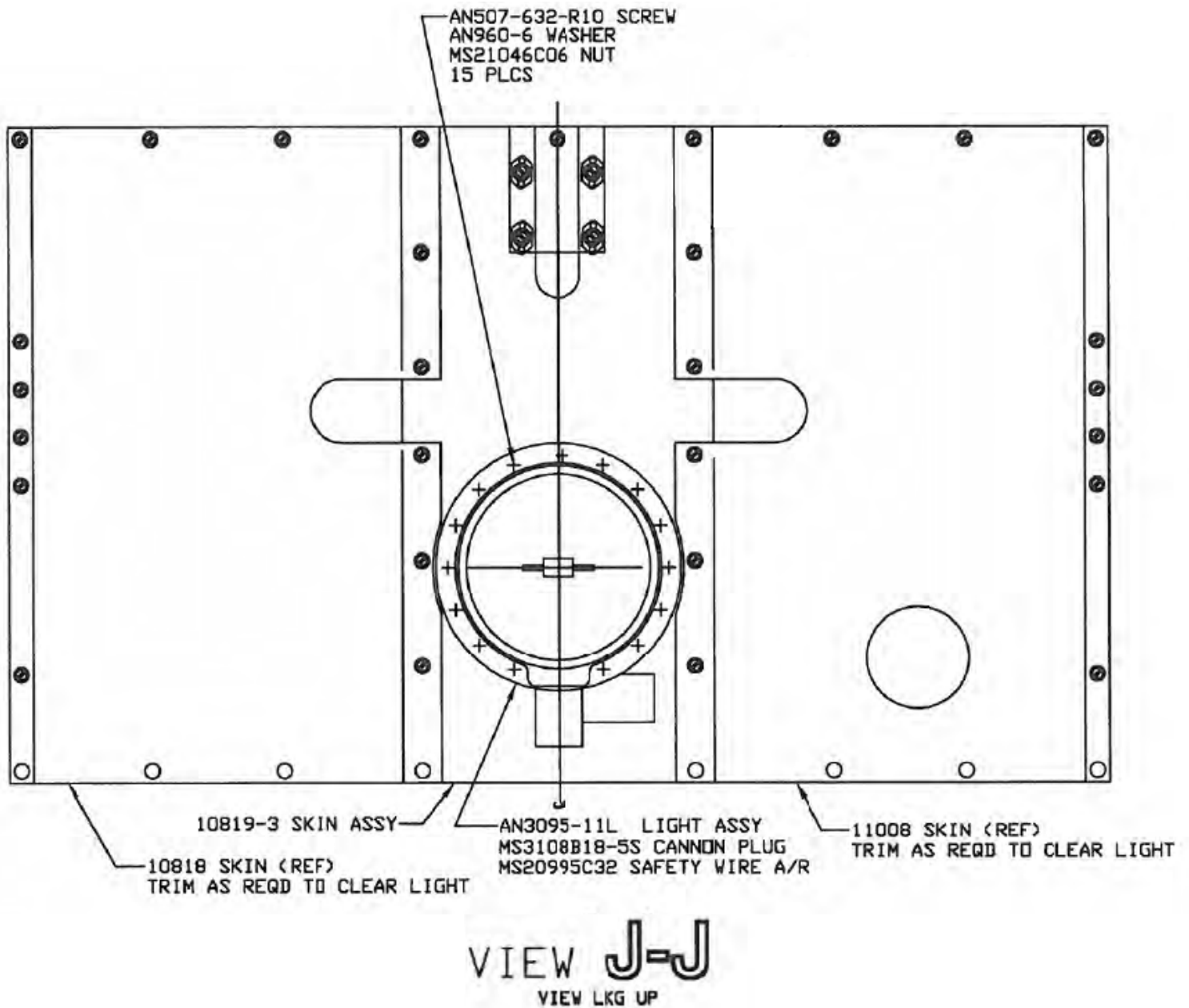


Figure 12: Location of Taxi Light, Cannon Plug and Light Assy

18. Connect the following wires from Start Panel Switch (Control Switch MS35059-21) to QDH pins:
Refer to Figures 11 and 13 .

- 29043-097-18
- 29043-115-18
- 29043-114-18
- 29043-482-20
- 29043-476-20
- 29043-497-18
- 29043-477-18
- 29043-096-18

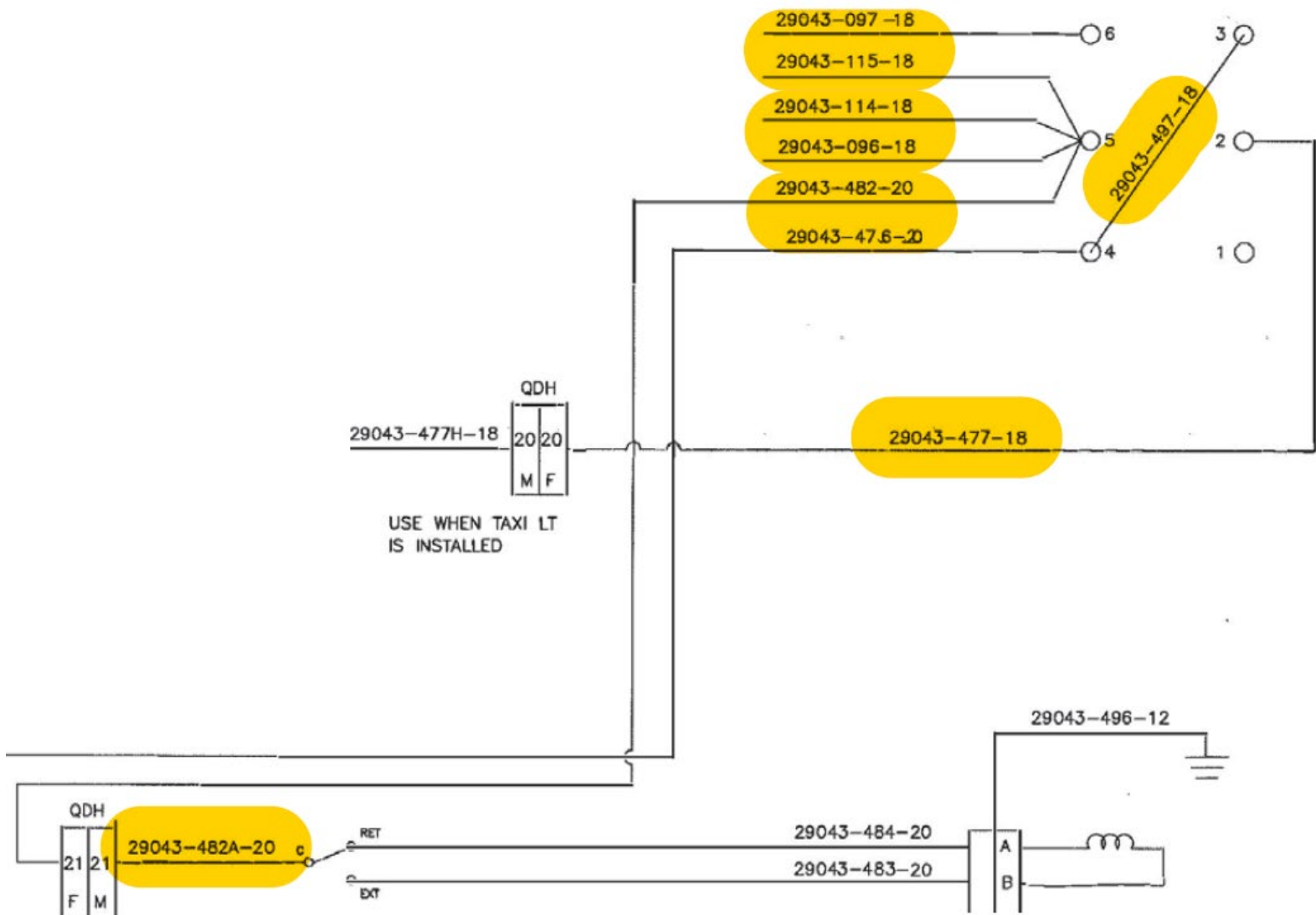


Figure 13: Start Panel Switch Wires

- Connect 29043-482A-20 wire to the Taxi Light Panel Switch Extend/Retract. Connect the 20 AWG wire (4 inch length) to the Taxi Light Relay (29043-9120) case ground (Refer to Figure 14).

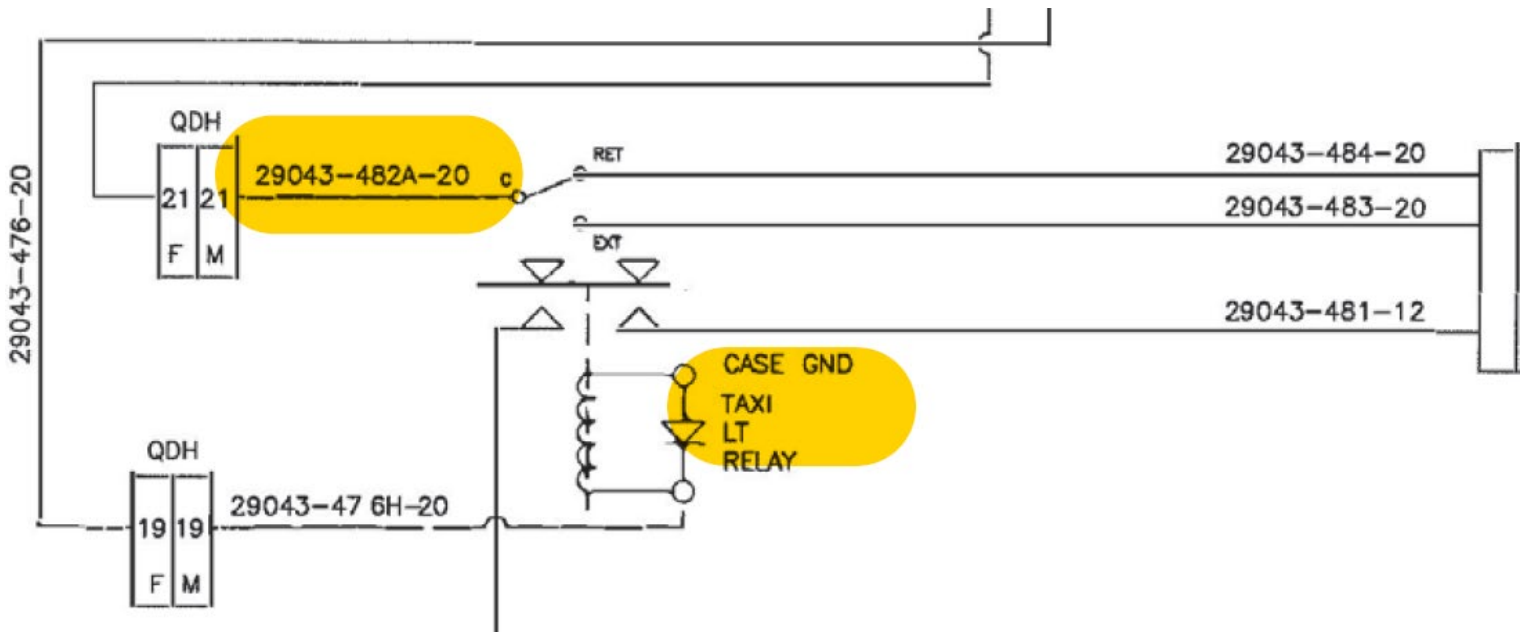


Figure 14: Taxi Light Side Panel Switch and Taxi Light Relay Case Ground Wires

- Connect 29043-478-12 and 29043-479-12 wires to the Taxi Light Right Hand Panel and 25 Amp circuit breaker (7271-8-25). Refer to Figure 15.

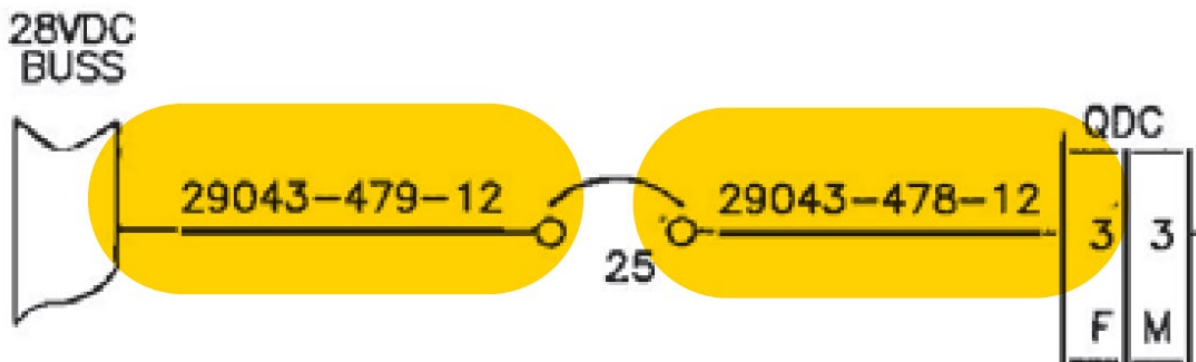


Figure 15: Taxi Light Right Hand Panel and 25 Amp Circuit Breaker Wires

21. Connect 29043-107-18 wire to Right Hand Panel 10 Amp Circuit Breaker (7277-2-10 Turn Light Power Circuit Breaker) as shown in Figure 16.

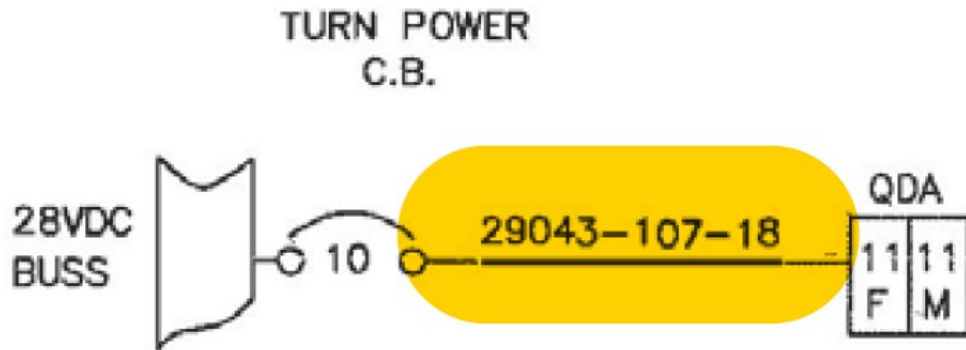


Figure 16: Right Hand Panel 10 Amp Circuit Breaker (Turn Light Power) Wire

22. Connect 29043-098-20, 29043-099-20, 29043-100-20 and 29043-101-20 wires as shown in Figure 17.

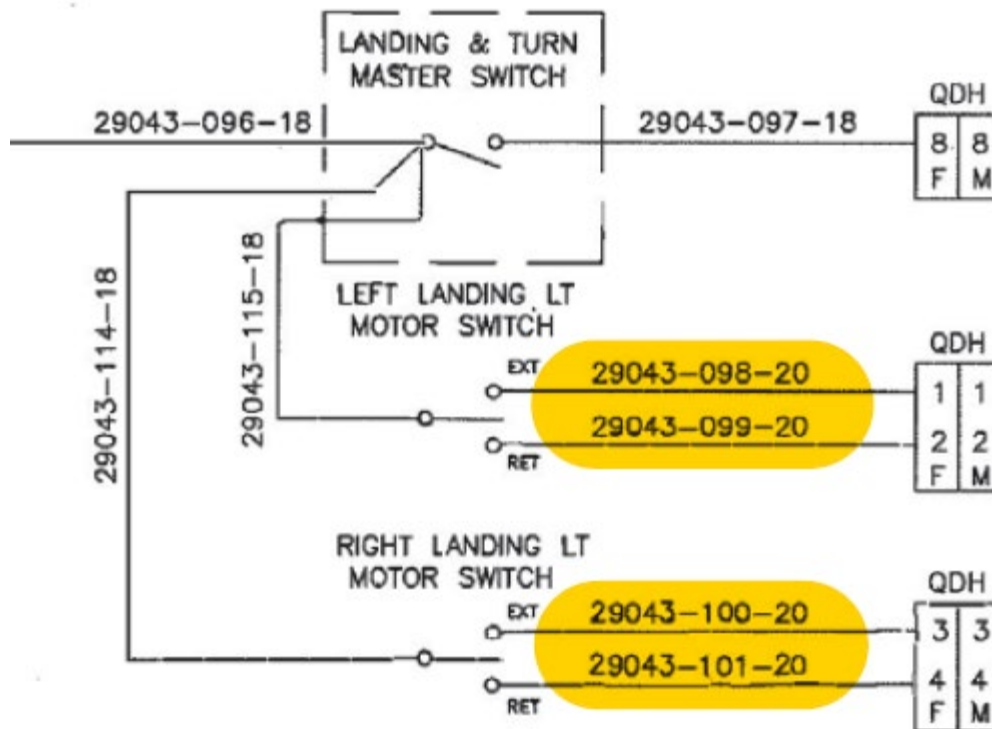


Figure 17: Left and Right Landing Light Switch Wires

23. Connect 29043-091-8 wire to Master Relay and 50 Amp Circuit Breaker (PDLA-50) on battery plate. Connect 29043-092-8 wire to 50 Amp Breaker on battery plate and to Landing Light Relay. Connect 24 AWG wire (4 inch length) to Case Ground on Landing Light Relay. Refer to Figure 18.

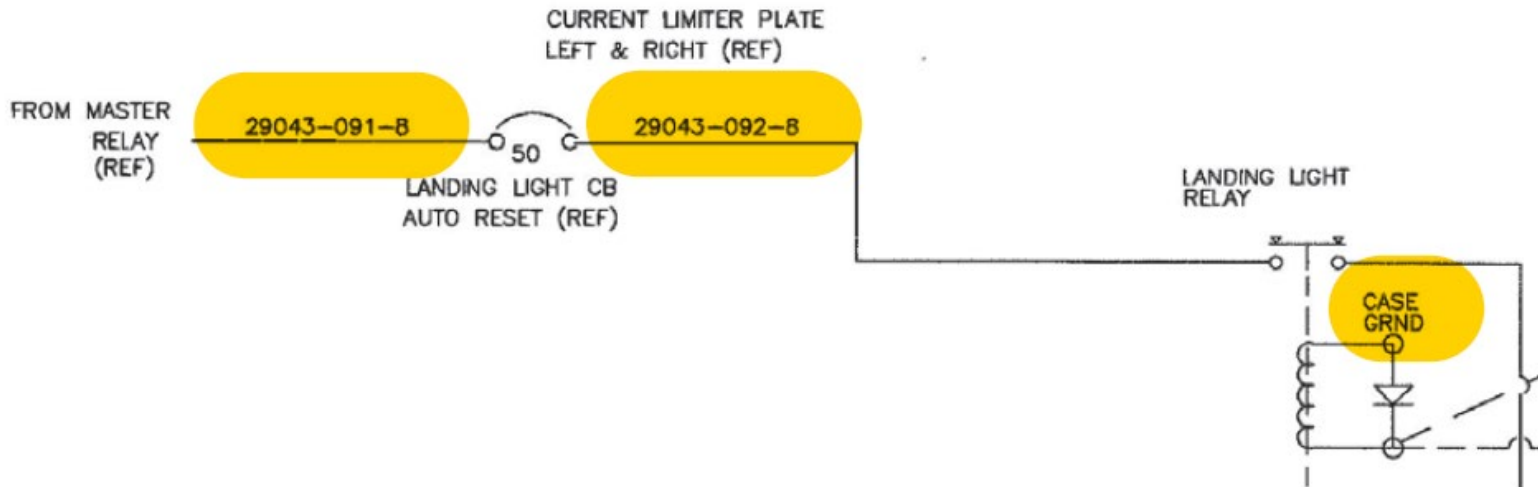


Figure 18: Master Relay, 50 Amp Circuit Breaker on Battery Plate, Landing Light Relay and Case Ground Wires

24. Connect 29043-093-8 wire to Landing Light Relay and Right Panel. Connect 29043-094-12 to Right Hand Panel and 25 Amp Left Landing Light Power Circuit Breaker (7271-8-25). Connect 29043-095-12 to Right Hand Panel and 25 Amp Right Landing Light Power Circuit Breaker (7271-8-25 25). Refer to Figure 19.

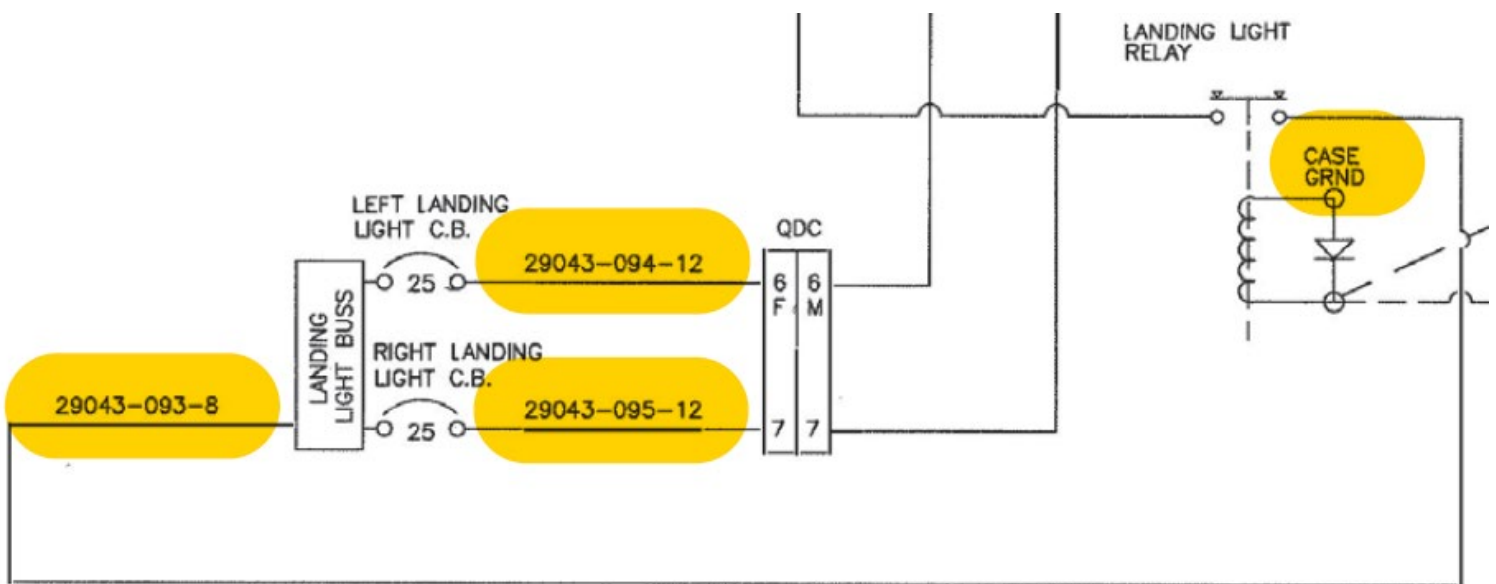


Figure 19: Landing Light Relay, Left Landing Light Power Circuit Breaker and Right Landing Light Power Circuit Breaker wires

25. Connect 29043-096A-18 wire to Right Hand Panel and 10 Amp Landing Control Circuit Breaker (7277-2-10) for night working lights. Refer to Figure 20.

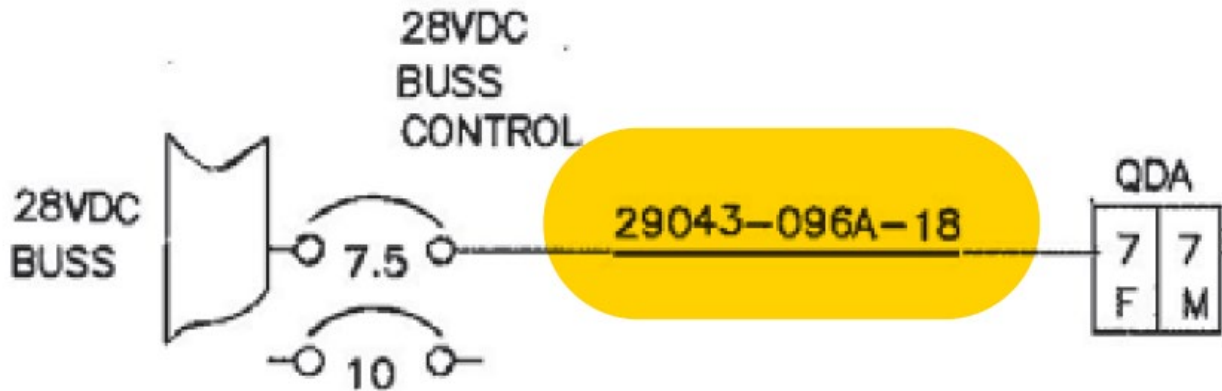


Figure 20: Right Hand Panel and Landing Control Wire for Night Working Lights

26. Reinstall any removed skins.
27. Reconnect aircraft batteries.
28. Check all avionics systems for interference from this installation.
29. Flight check should be performed by a certified pilot.
30. Update aircraft records.

CK-AG-53-2: Aircraft that have turn lights installed

1. Disconnect aircraft batteries.
2. If aircraft is not a T660, skip to step 4.
3. If aircraft is a T660, remove old Turn Light Assembly on right wing, as shown in Figure 10 (21261-1, 4553, MS25241-4553 or D3 50-9). Install new Turn Light Assembly 334010004-001 on Rear Spar Assembly 95622 (Refer to Figure 2). Repeat this step for the left wing.

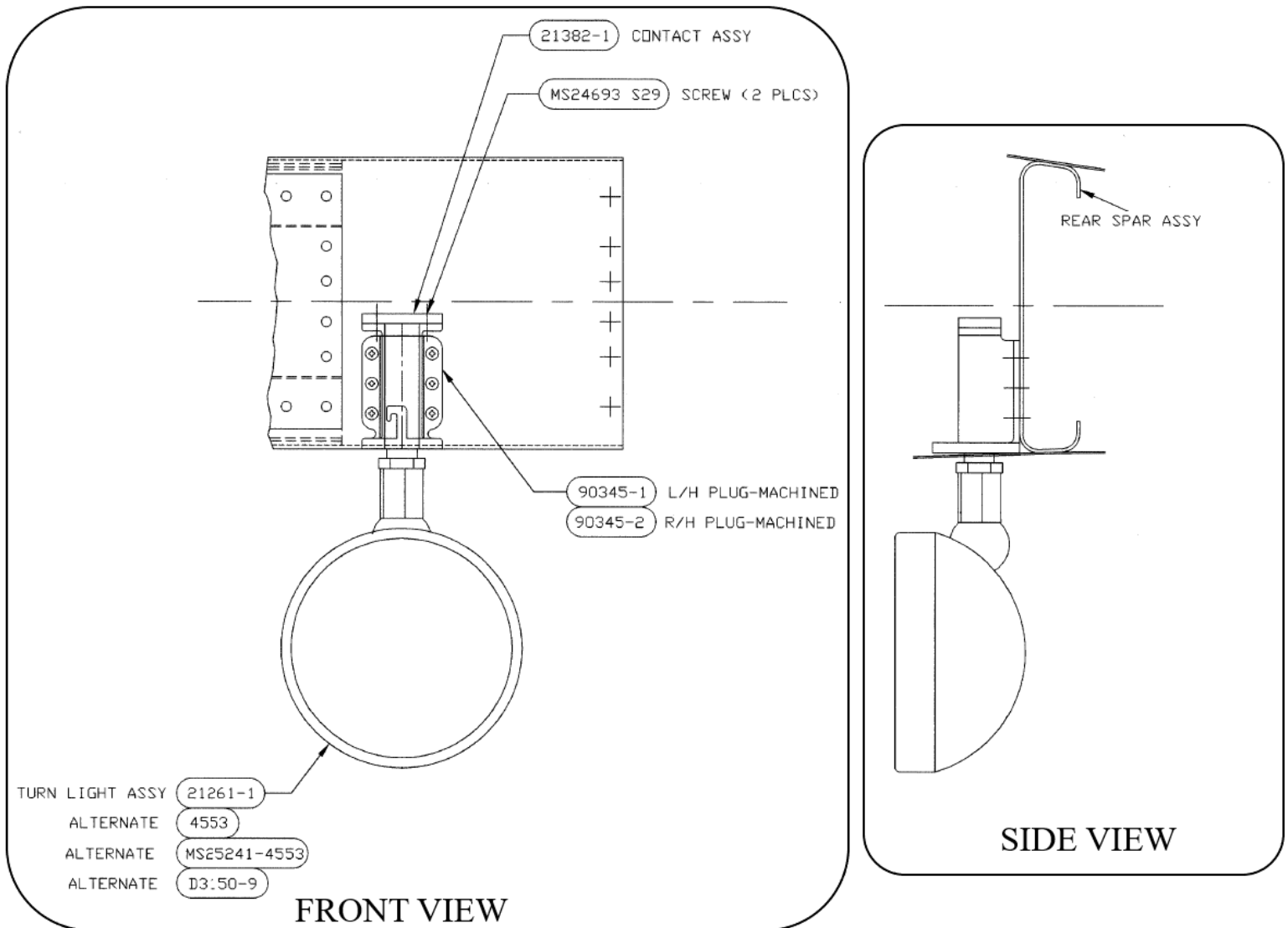


Figure 10: Old Turn Light Assembly

4. If aircraft is a H80, G10, T34 or T65HG; remove old Turn Light Assembly on right wing, as shown in Figure 10 (21261-1, 4553, MS25241-4553 or D3150-9). Install new Turn Light Assembly 334010004-001 on Main Spar Extension 20501 (Refer to Figure 4). Repeat this step for the left wing.
5. Reconnect aircraft batteries.
6. Check all avionics systems for interference from this installation.
7. Flight check should be performed by a certified pilot.
8. Update aircraft records.

9. RECORD OF COMPLIANCE:

Make appropriate entry in airplane maintenance records as follows:

“Thrush Custom Kit CK-AG-53 Rev. IR complied with at _____ total hours on aircraft.”

Type of Modification installed: (Select one)

CK-AG-53-1 (Aircraft that never had turn lights installed): _____

CK-AG-53-2 (Aircraft that have turn lights installed): _____

Modification accomplished by:

Name & Certificate #	Date
----------------------	------

10. RESPONSE CARD

The final step in compliance with this Custom Kit is to complete and return the compliance card on the next page. It may be mailed, Faxed, or scanned and e-mailed.

Fax to: Ed Rusk 229-317-8225

Email to: Ed Rusk ed.rusk@thrushaircraft.com

Custom Kit CK-AG-53 Rev. IR Compliance Report

Aircraft S/N:	Aircraft Owner:
Aircraft Registration #:	Address of Owner:
CK-AG-53-1:	CK-AG-53-2:
Airframe total time:	City & State:
Engine total time:	Physical location:
Complied with by:	Date of Compliance:
Signature:	Certificate #:

PLEASE RETURN THIS REPORT ONLY AFTER MODIFICATION IS MADE

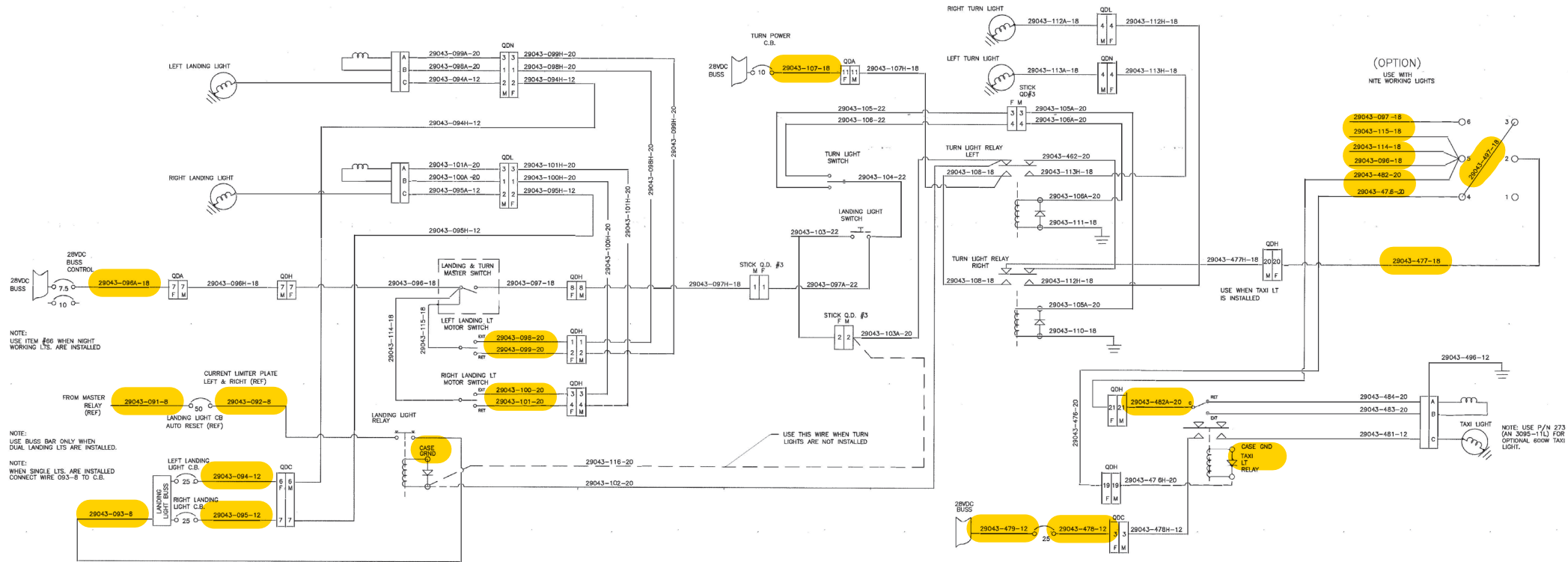
This response card may be mailed, faxed to (229) 317-8225, or emailed to ed.rusk@thrushaircraft.com.

Fold, Tape & Mail (Do Not Staple)

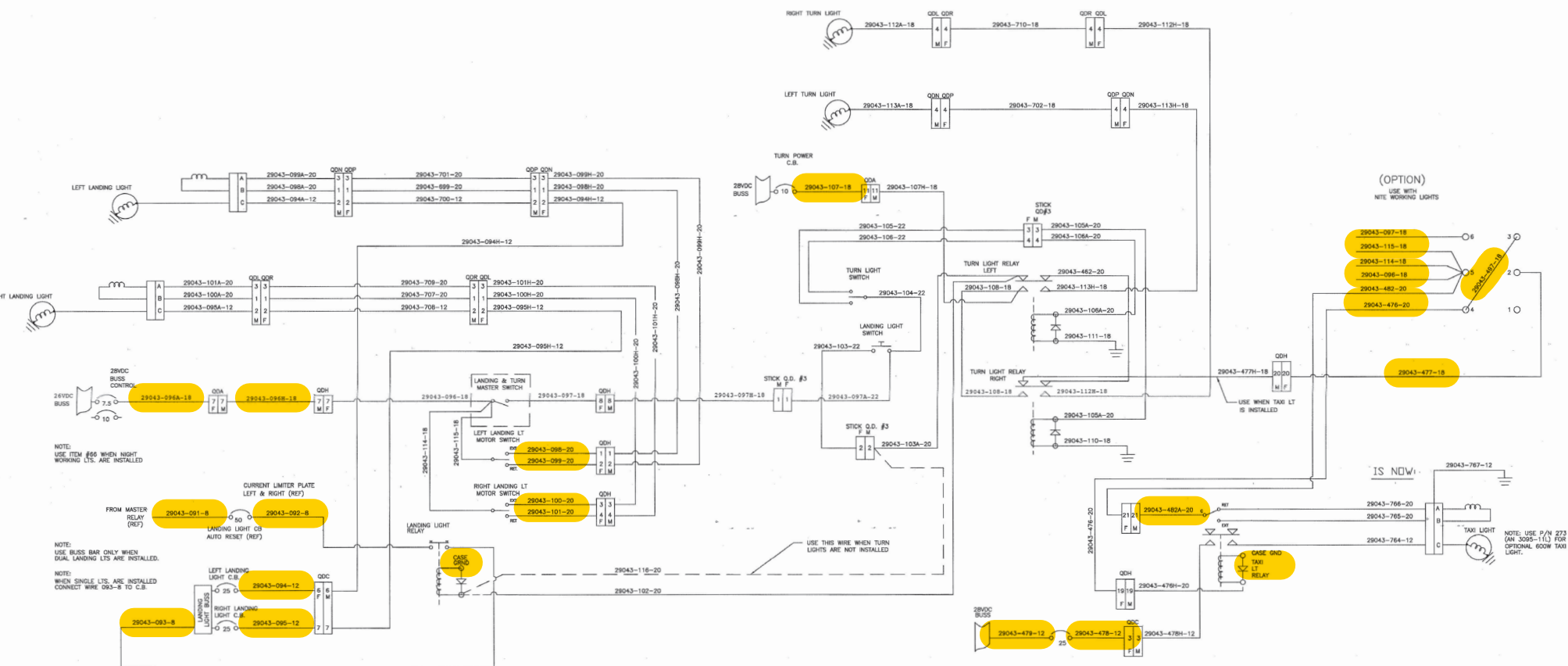
Return Address

**Thrush Aircraft LLC.
Attn: Ed Rusk
300 Old Pretoria Road
Albany, Ga 31721**

APPENDIX



WIRING DIAGRAM FOR H80, G10, T34 OR T65HG AIRCRAFT



WIRING DIAGRAM FOR T660 AIRCRAFT