

SERVICE BULLETIN



Service Bulletin No.: DAC1-33-01 Rev.1

Date Issued: February 21, 2000

Title: Recognition Lights

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1. ATA Code: 3311

2. Effectivity: DA20 Aircraft

3. General: This service bulletin addresses the installation of a Pulselite recognition system. The function of the system is to enhance the aircraft flight path recognition by pulsing the landing and taxi lights. It may be used any time the pilot desires.

4. Compliance: Compliance with this service bulletin is optional.

5. Approval: Engineering data referenced or contained in this service bulletin is approved as part of the type design.

6. Labor: Approximately 8 hours will be required to accomplish this service bulletin.

This estimate is for direct labor performed by a technician and it does not include setup, planning, familiarization, cure time, part fabrication or tool acquisition.

7. Material	Part Number	Description	Qty
	22-3342-01-00	Pulselite, Sub Assembly	1
	22-3342-10-01	Label, Circuit Breakers	1
	22-3342-25-00	Bracket, Light Assembly	1
	22-3342-30-00	Harness, Instrument Panel	1
	22-3342-31-00	Harness, Fuselage, LH	1
	22-3342-33-00	Harness, Extension	3
	22-3910-04-12	Label, Switches, Top	1
	327638	Splice	3
	D436-38	Splice	2
	AN3-4A	Bolt	4
	AN526C832-R9	Screw, Machine, Pan-head, 9/16"	4
	AN960-10	Washer, Flat	8
	CA02-J1-1-2-07-Q	Switch, Rocker	1
	KT-DJ-001	Jig, Drill	1
	KT-HRF-001	Template, Routing	1
	MS21044N3	Nut, Self-locking	4
	MS21047-08	Nutplate	4
	CCR244SS-3-05	Rivet, Blind, Countersunk	8
	MS3320-15	Circuit Breaker, 15 amp	1
	MS3320-3	Circuit Breaker, 3 amp	1
	MS3367-4-9	Tie, Cable	15
	MS3367-5-9	Tie, Cable	5
	MS51957-43	Screw, Machine	1
	NAS44-191-7	Busbar	1

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Part Number	Description	Qty
3-350820-2	Faston	1
36157	Ring Terminal	1
VF4-65F11	Relay	1

The above material may be ordered as kit DAC1-33-01-AMK0.

Resin

Material not supplied and to be procured locally.

8. Special Tools: Hand routing fixture P/N KT-HRF-001, Drill Jig P/N KT-DJ-001, Crimping tool AMP P/N 59824-1 or equivalent, Extraction tool AMP P/N 305183 or equivalent.

9. References: DA20 Maintenance Manual (MM), Document number DA201-C1.

10. Accomplishment Instructions:

- 10.1 Disconnect the battery.
- 10.2 Remove the instrument panel cover.
- 10.3 Remove the placard from the light switch panel.
- 10.4 Carefully remove the knockout from the PULSE light switch position. Take care not to damage wires behind the instrument panel or introduce metal filings. Dress the edges of the hole and protect with touch up paint.
- 10.5 Remove the pilot seat. Refer to chpt. 25-10, MM.
- 10.6 Remove the cover from the throttle quadrant.
- 10.7 Remove the lens cover from the wing lights.
- 10.8 Remove the existing taxi light (outboard light).
- 10.9 Use hand routing fixture (P/N KT-HRF-001) to locate and cut the hole for the new recognition light assembly.
- 10.10 Install the Light Assembly Bracket (P/N 22-3342-25-00) and use it as a template to locate the upper holes in the wing (temporarily remove the middle pulse light). Remove the Light Assembly Bracket.
- 10.11 Install the nutplates (P/N MS21047-08) with rivets (P/N CCR244SS-3-05).
- 10.12 Seal the edges of the cutout with resin.
- 10.13 Locate the Pulselite power supply using drill jig (P/N KT-DJ-001). Refer to Figure 1.
- 10.14 Install the pulselite power supply as shown in Figure 1.

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- 10.15 Install the Recognition Light Fuselage Harness (P/N 22-3342-31-00).
- 10.16 Route the harness from the instrument panel to the Pulselite power supply.
- 10.17 Refer to the wiring diagram (Figure 5). Disconnect P2400-01 from J2400-01. Release the back shell from P2400-01. Insert wire #33424B14 into position 26, insert wire # 33429B22N into position 35, insert wire #33423B22 into position 20.
- 10.18 Use cable ties to secure the fuselage harness in place.
- 10.19 Extract wire #33410A16 from position 8 of J2400-01 using amp 305183 tool. Removal of the connector mounting bracket (refer to Figure 2) may provide better visibility and access for the extraction tool.
- 10.20 Cut the cable ties from J2400-01 back to ground stud #08. Route wire #33410A16 back to ground stud #08. Cut to length and attach ring terminal (P/N 36157) to the wire. Do not attach to ground until the instrument panel harness is installed. Refer to Figure 2.
- 10.21 Remove the mounting hardware from the aft most relay. Connect and mount the new relay through the same mounting hole as shown in Figure 2.
- 10.22 Remove the bus bar from the existing circuit breakers in the LIGHTS row and install the seven position bus bar (P/N NAS44-191-7).
- 10.23 Remove the hole plugs from the two outboard Pulselite circuit breaker locations.
- 10.24 Install one 3 amp circuit breaker (P/N MS3320-3) in the most outboard position and one 15 amp circuit breaker (P/N MS3320-15) just inboard to the 3 amp breaker. Install the circuit breakers so that the line side of the breaker is attached to the bus bar.
- 10.25 Locate wire #33422A22 and wire #33424A14 which are capped and stowed in the harness behind the Pulselite circuit breaker location.
- 10.26 Attach wire #33422A22 to the load side of the 3 amp circuit breaker.
- 10.27 Attach wire #33424A14 and wire #33426A14 (from the recognition light instrument panel harness (P/N 22-3342-30-00)) to the load side 15 amp circuit breaker. Use the longer MS51957-43 screw to attach the two ring terminals to the breaker.
- 10.28 Disconnect wire #33409A16 from the existing TAXI/MAP circuit breaker. Cut the cable ties from the circuit breaker back to the relay mounting location shown in Figure 2.

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- 10.29 Install the recognition light instrument panel harness (Figure 2).
- 10.30 Insert wire #33427A14 into position 8 and wire #33429A22N into position 35 of J2400-01.
- 10.31 Cut wire #33409A16 to length and terminate the wire with the diode into the Faston crimp P/N 3-350820-2 (refer to Figure 2).
- 10.32 Connect wire #33429A22N and wire #33410A16 to the ground #08.
- 10.33 Remove the turn coordinator. Locate the two capped Faston terminals (wire #33422A22 and #33423A22) stowed in the wire harness behind the pulselite switch location. Install the new Pulselite switch (P/N CA02-J1-1-2-07-Q) and attach wire #33422A22 and #33423A22.
- 10.34 Replace any removed cable ties with new ones.
- 10.35 Attach the connector mounting bracket if removed and reconnect P2400-01 to J2400-01. Reinstall the turn coordinator and any other instrument removed to gain access.
- 10.36 Install the new switch placard and new circuit breaker placard.
- 10.37 Find the existing taxi and landing light wire #334410B14 and wire #33414B14N, near the Pulselite power supply where the fuselage harness routes through to the wing route. See figure 3.
- 10.38 Cut wire #33410B14 and splice exactly as shown in Figure 3.
- 10.39 Cut wire #33412B14 and splice exactly as shown in Figure 3.
- 10.40 Cut wire #33414B14N and splice exactly as shown in Figure 3.
- 10.41 Connect the Pulselite power supply to the fuselage harness.
- 10.42 Cut the connector from the taxi light wires as shown in Figure 4. Splice the lamp extension wires to the existing taxi light wiring using raychem AD-1377 tool.
- 10.43 Connect the lamps to the connectors.
- 10.44 Install the lamps and bracket assembly with screws (P/N AN526C832-R9).
- 10.45 Reconnect battery.
- 10.46 Test the system.
 - 10.46.1 Set GEN/BAT master switch to ON.
 - 10.46.2 Check that all light switches are in OFF position.
 - 10.46.3 Set Pulse switch to ON – taxi and landing lights should flash.

use
amp
59824-1
tool

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- 10.46.4** Set Taxi switch to ON – taxi light should be on steady and landing light should flash.
- 10.46.5** Set Landing switch to ON – all lights should be on steady.
- 10.46.6** Set all switches to OFF – all lights should be off.
- 10.47** Amend the aircraft weight and balance record (Refer to section 11.).
- 10.48** Make a log book entry that this service bulletin has been incorporated.
- 10.49** Reinstall the instrument panel cover.
- 10.50** Reinstall the throttle quadrant covers.
- 10.51** Reinstall the pilot's seat.

11. Weight and Balance:

The Recognition Lights installation adds 2.5 lbs (1.13 kg) of weight at a 0 in (0 m) moment arm.

12. Availability:

Contact Diamond Aircraft.

To obtain satisfactory results, procedures specified in this service bulletin must be accomplished in accordance with accepted methods and current government regulations. Diamond Aircraft Industries Inc. cannot be responsible for the quality of work performed in accomplishing the requirements of this service bulletin. Diamond Aircraft reserves the right to void continued warranty coverage in the area affected by this Service Bulletin if it is not incorporated.

If you no longer own the aircraft to which this service bulletin applies, please forward it to the current owner and send the name of the current owner to Diamond Aircraft Industries, Inc., at the address below.

Diamond Aircraft Industries Inc. 1560 Crumlin Sideroad, London, Ontario, Canada N5V 1S2
Phone: (519) 457-4041 Fax: (519) 457-4045

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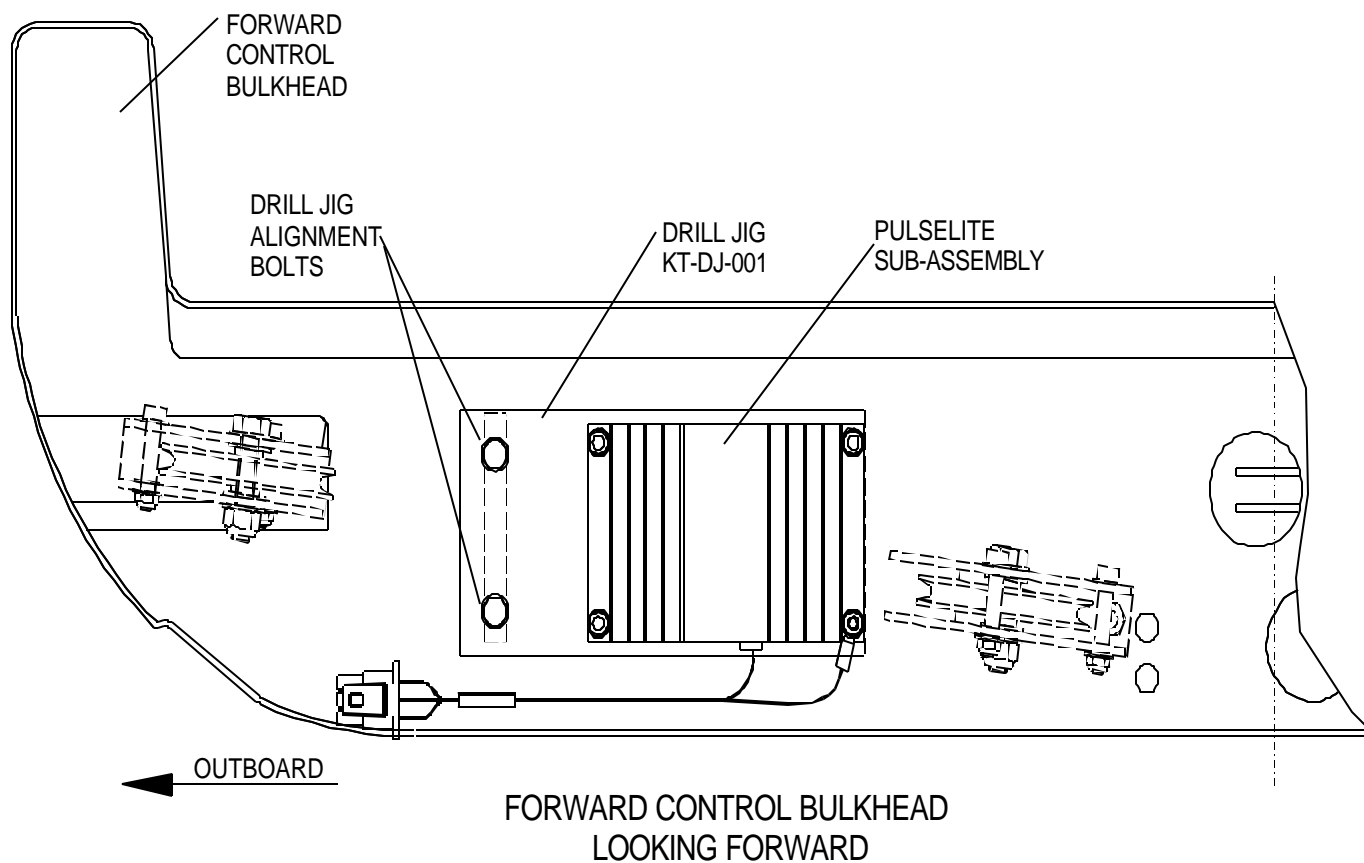


Figure 1

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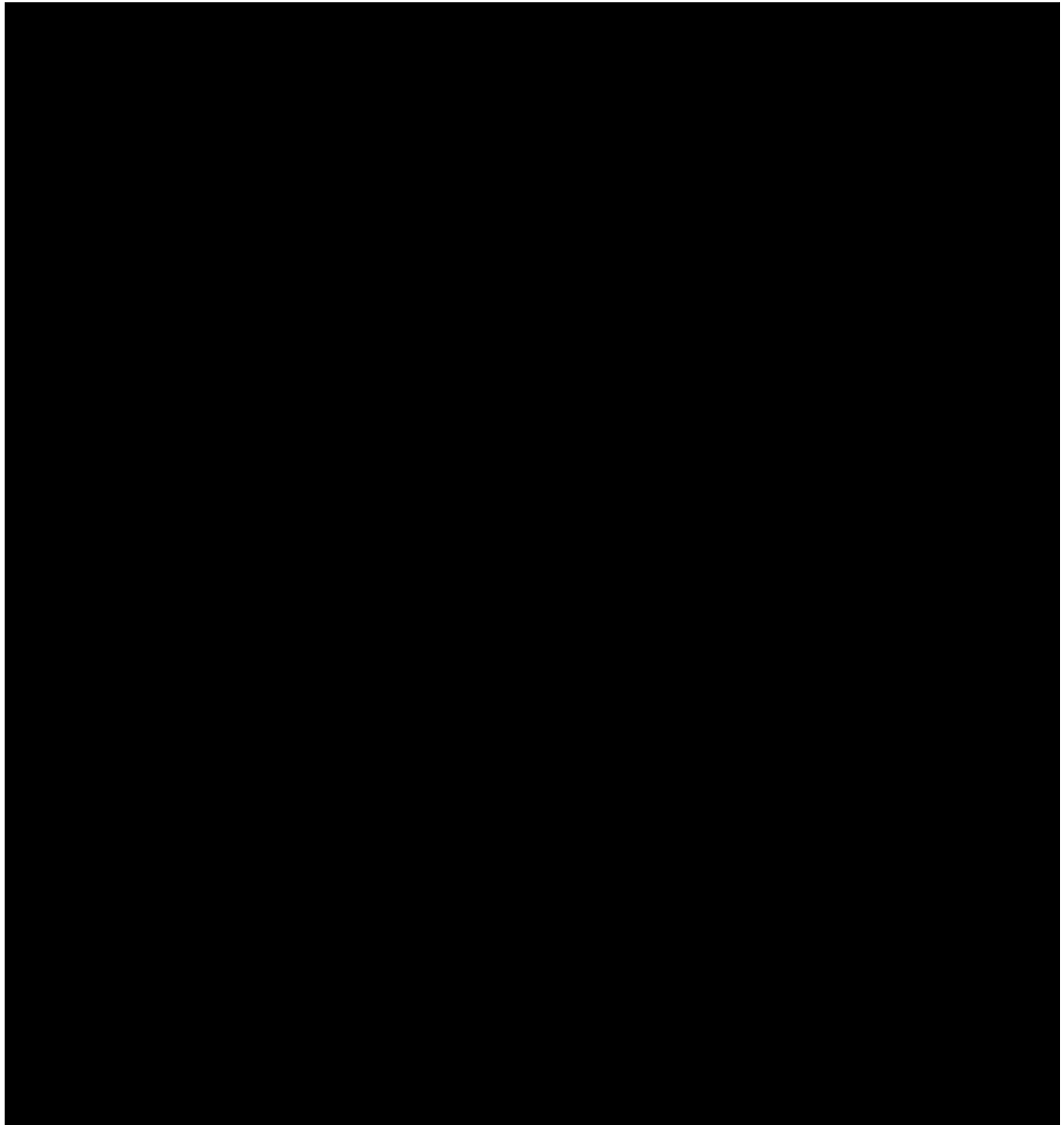


Figure 2

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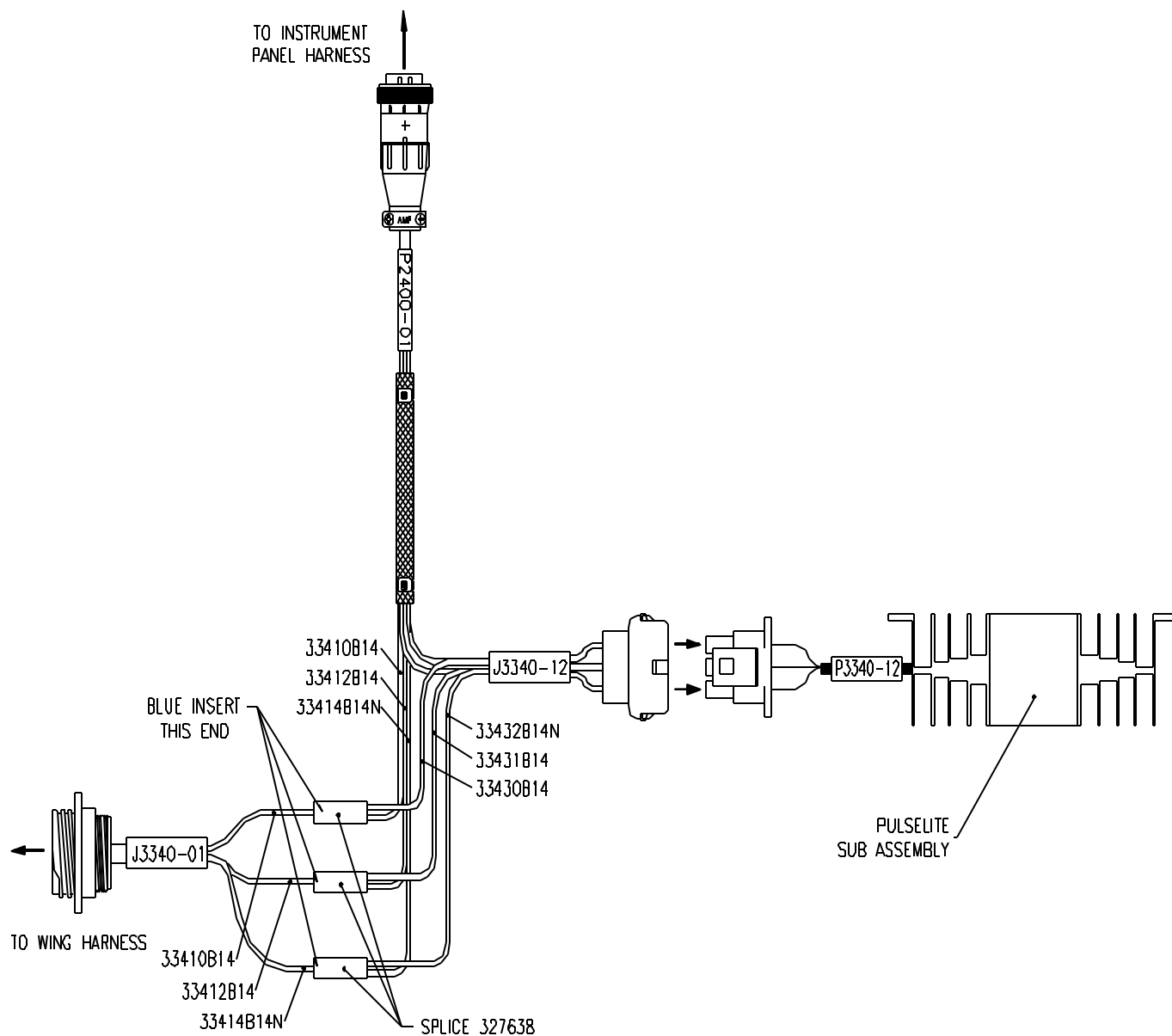


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WING AND FUSELAGE WIRING HARNESSES

Figure 3

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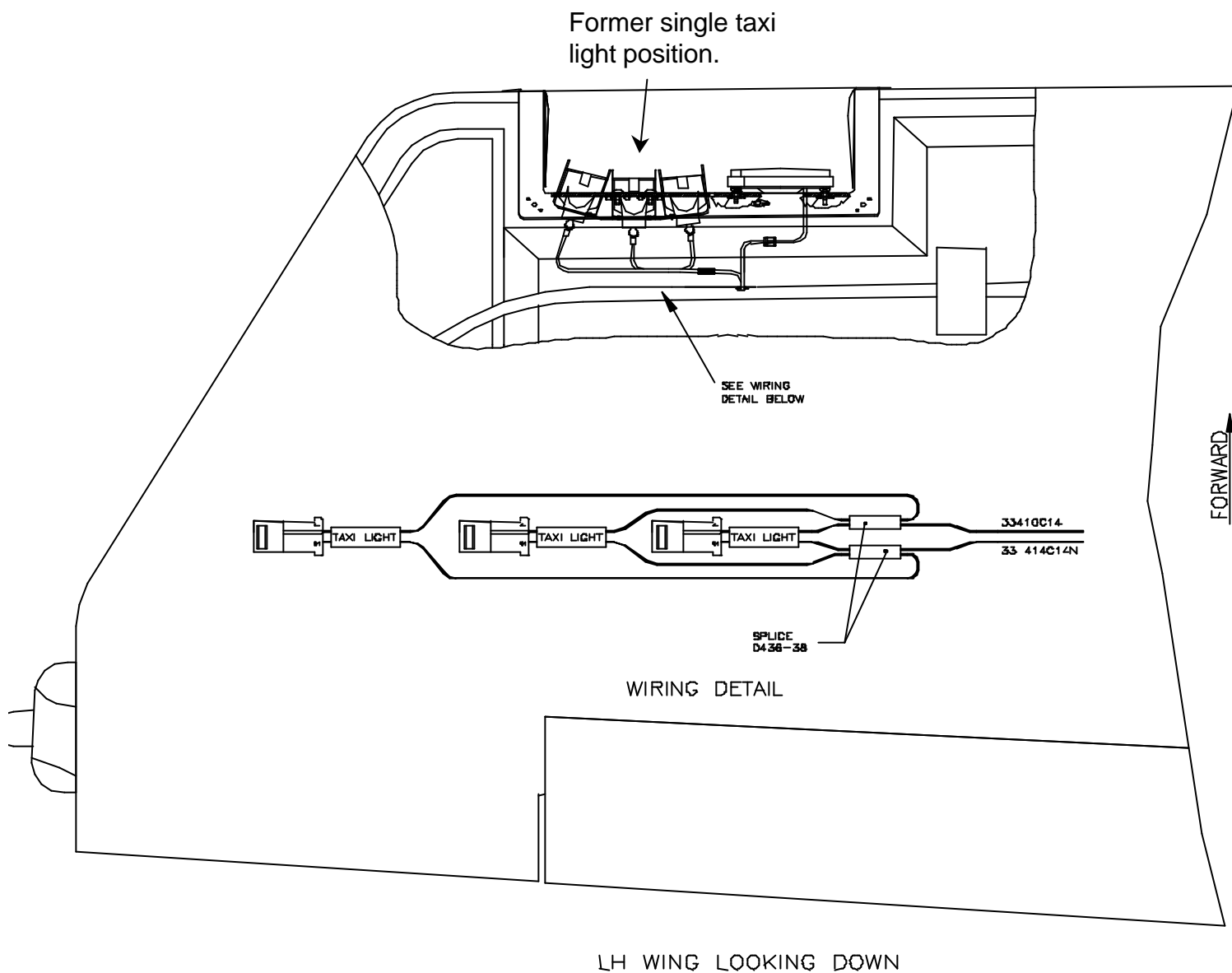


Figure 4

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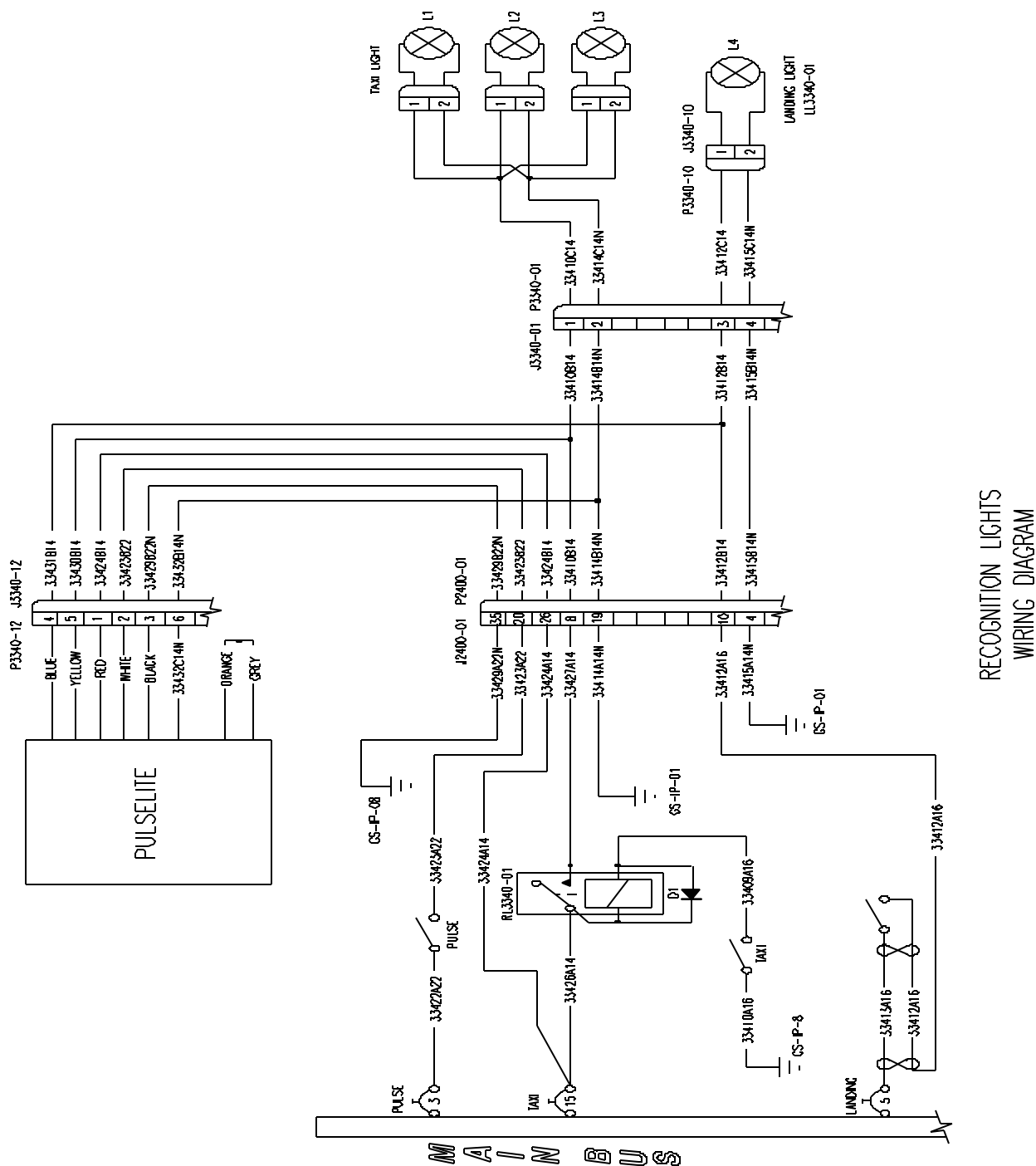


Figure 5