

# SERVICE BULLETIN



**Service Bulletin No.:** DAC1-33-04 Rev 2

**Date Issued:** 06 February 2012

**Title:** Installation of Backlighting on the Instrument Panel

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**1. ATA Code:** 3300

**2. Effectivity:** DA20-C1 Aircraft S/N C0391 to C0400, C0418 to C0424, C0442, C0444, C0446 to C0451, C0467 to C0471, C0482 to C0488, C0496, C0497, C0504, C0505, C0511 to C0513, C0536, C0577 to C0581 and C0611.

**3. General:** This Service Bulletin gives the necessary instructions for the installation of backlighting to the Engine Gauges and the Flight Instruments.  
Revision 2 of this Service Bulletin adds aircraft S/N C0611 to the Effectivity range.

**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. Labour:** Approximately 3 hours will be required to accomplish this Service Bulletin.

*This estimate is for direct labour 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
	22-3312-01-00SB	Backlighting Retrofit Harness	1
	* LW3014AA	Bezel (ALT, VSI)	2
	* LW3014	Bezel (AS, TC, AH)	3
	* LW3014A	Bezel (DG)	1
	MS35214-29	Screw	3
	MS35214-31	Screw	8
	MS35214-33	Screw	10
	1-480319-0	Connector	1
	60618-1	Contact, Socket	2
	920-1/8" BKWH	Expando, 1/8"	100 mm
	60619-1	Contact, Socket	2
	MS3367-5-9	Cable, Tie	20
	<b>* Item includes the following:</b>		
	1-480319-0	Connector	1
	60618-1	Contact, Socket	2
	920-1/8" BKWH	Expando, 1/8"	100 mm

The above material can be ordered as kit **DAC1-33-04-AMK0**.

The following items, if not already installed on the instrument panel, are necessary for installation of the instrument backlighting system. These items are not supplied in kit.

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Part Number	Description	Qty
600-815	Bulb (Fuel PSI, Fuel Qty, Oil Temp, Oil PSI, Amps, Volts)	6
600-809	Bulb (EGT)	1
600-802	Bulb (CHT)	1
600-840B	Socket (Fuel PSI, Fuel Qty, Oil Temp, Oil PSI, Amps, Volts)	6
600-823	Socket (EGT)	1
600-813	Socket (CHT)	1

**8. Special Tools:** N/A

**9. References:** DA20-C1 Aircraft Maintenance Manual (AMM), Document Number DA201-C1 and DA20-C1 Airplane Flight Manual (AFM), Document No. DA202-C1.

## 10. Accomplishment Instructions:

- 10.1 Disconnect the aircraft battery. Refer to AMM Chapter 24-31-00.
- 10.2 Remove the instrument panel cover. Refer to AMM Chapter 25-10-00.
- 10.3 Pull the Battery circuit breaker located on the right side of the instrument panel.
- 10.4 Route the Backlighting retrofit harness (P/N 22-3312-01-00SB) onto the existing instrument panel harness starting at the engine gauges as shown in Figure 1.

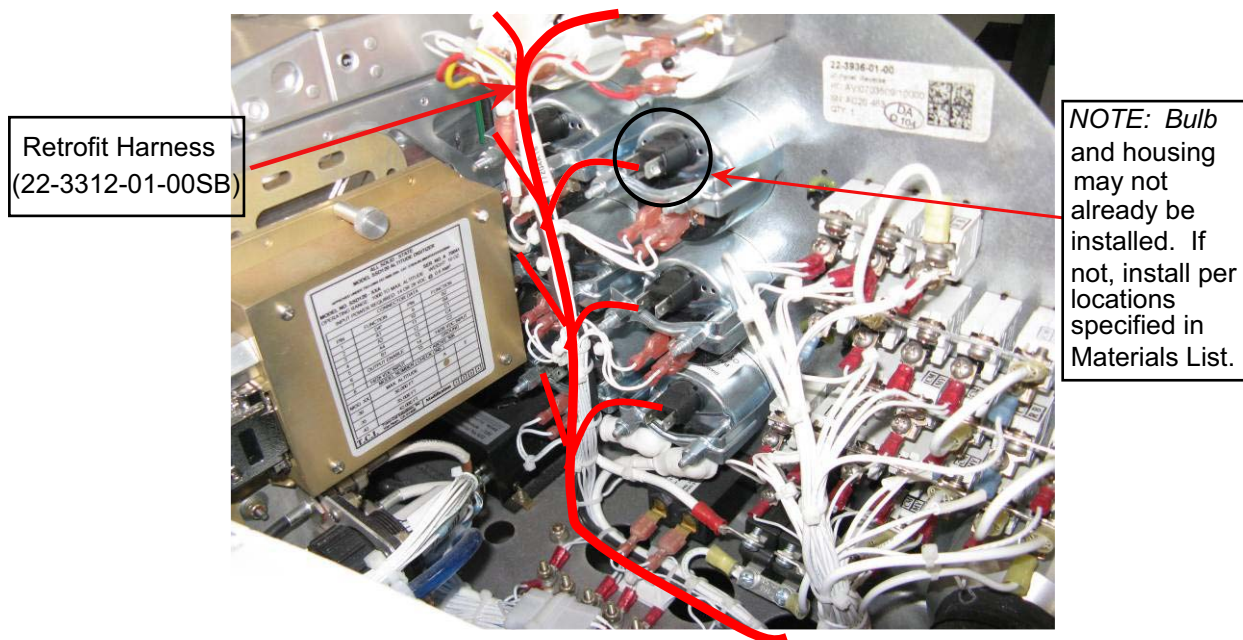


Figure 1

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- 10.5 Plug in each Faston contact from the retrofit harness into each bulb of engine gauge matching the label on the harness to the engine gauge.
- 10.6 Attach the ground wires as shown in Figure 2.

NOTE: Ground stud numbering placard currently exists in the instrument panel to help locate GS#3 and GS#4.

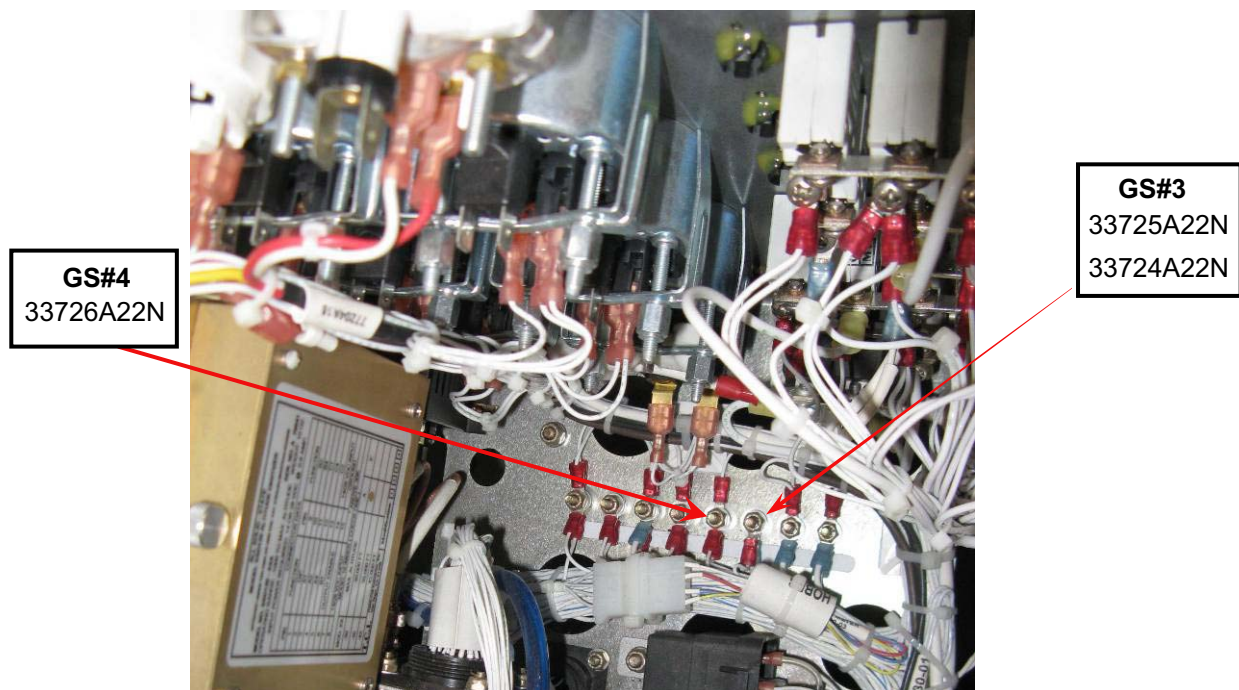


Figure 2

- 10.7 Secure this portion of the retrofit harness to the existing instrument panel harness using supplied cable ties.
- 10.8 Remove the hardware mounting of each instrument indicator from the instrument panel.

NOTE: Do not disconnect the Pitot/Static lines, the vacuum hose or the connectors when doing this. If this is done, follow the instructions in AMM for establishing proper functioning of the equipment.

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10.9 Attach the ground wires as shown in Figure 3.

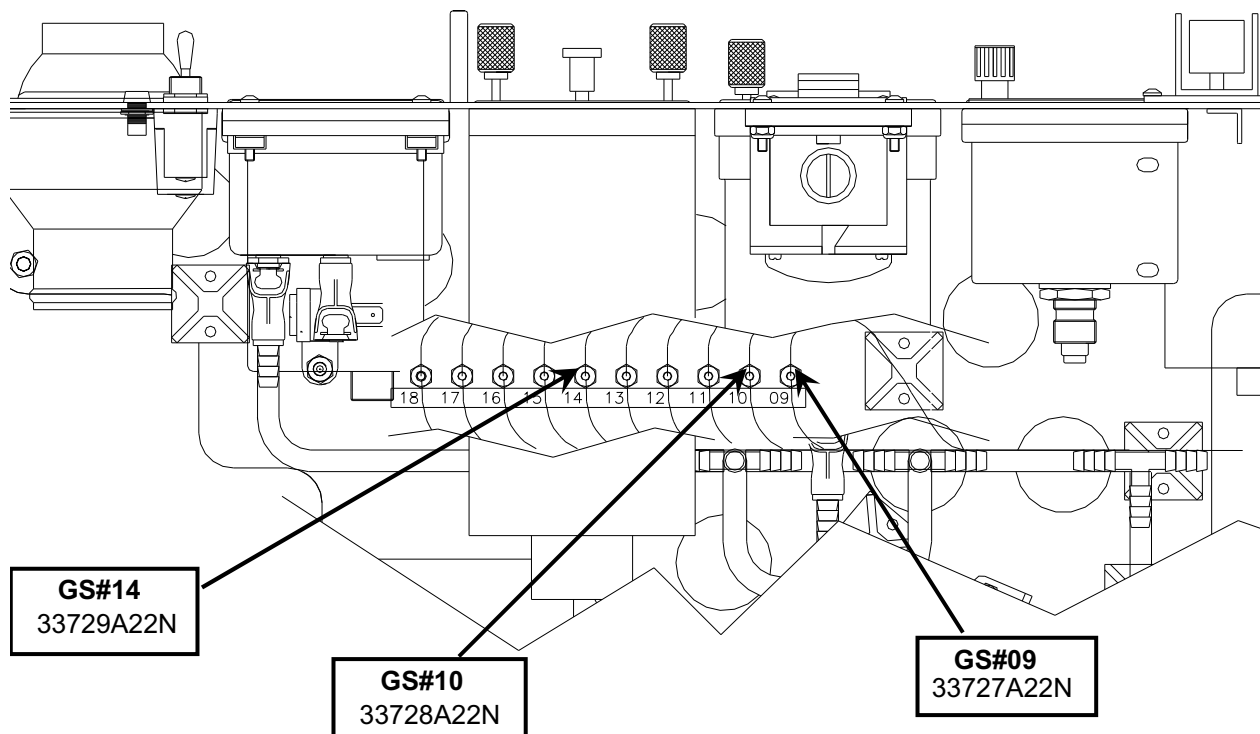


Figure 3

10.10 Install each bezel assembly to the instrument panel and indicator with mounting screws provided. See Figures 4 and 5 that follow for bezel assembly and attaching hardware locations.

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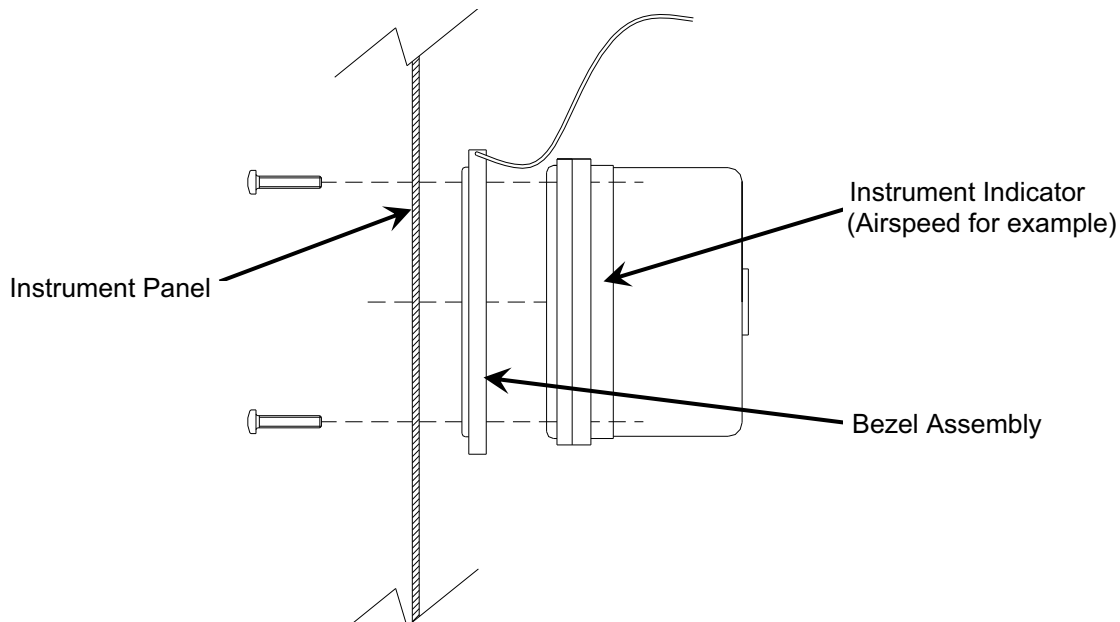


Figure 4



Figure 5



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- 10.11 Remove the tied in TACH lighting wires and add expando (P/N 920-1/8" BKWH), contacts (P/N 60618-1) and the connector (P/N 1-480319-0) to the wire ends.

NOTE: Wire may require trimming. See Figure 6 for clarity.

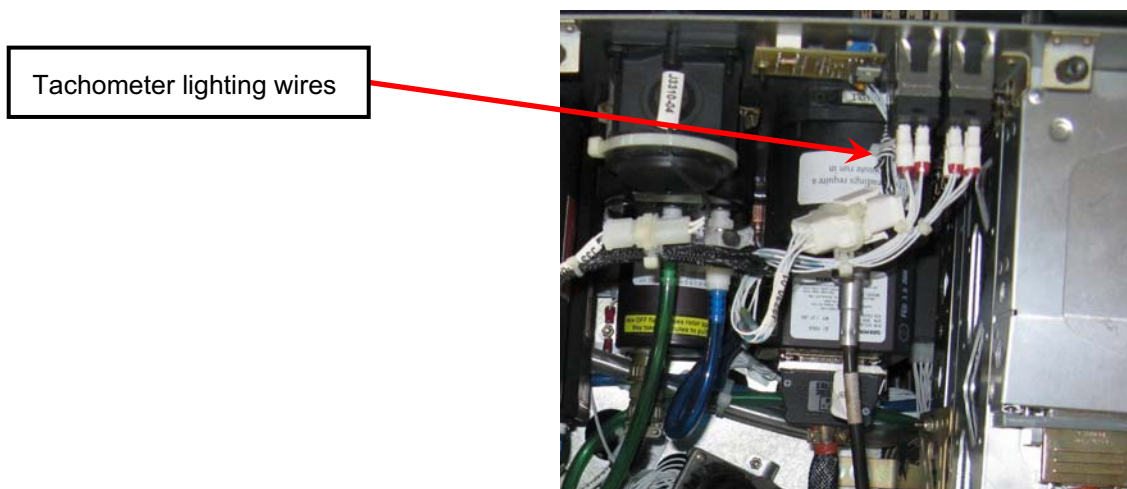


Figure 6

- 10.12 Cut off crimps from the existing J3310-04 (compass lighting) connector located on the existing instrument panel harness.
- 10.13 Crimp retrofit harness pigtail (J3370-08) with J3310-04 wires together as shown in Figure 7.

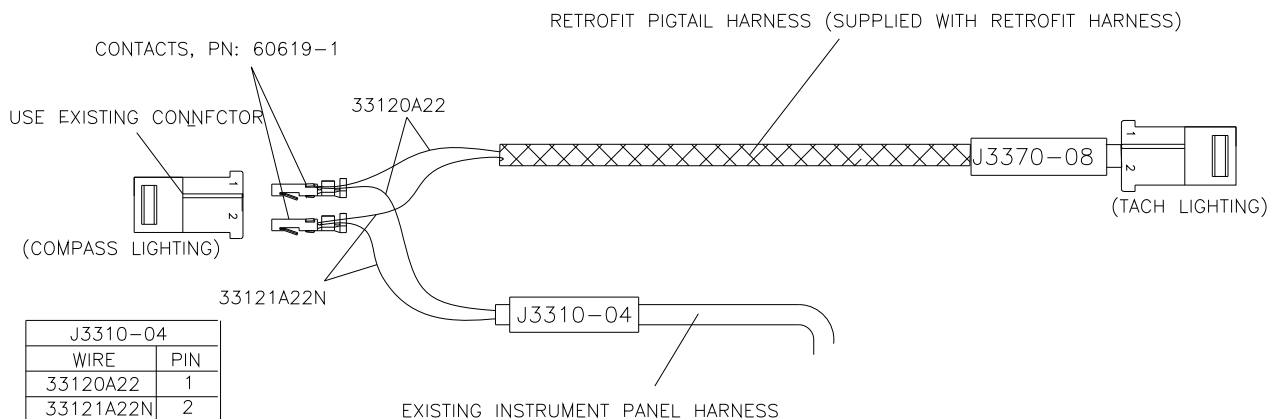


Figure 7

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- 10.14 Connect the J3310-04 connector to the compass lighting connector and connect J3370-08 connector to the Tachometer lighting connector. Secure to the instrument panel harness/panel.
- 10.15 Remove the backshell from the existing instrument panel harness connector J3325-02, located below radios. See Figure 8 for location of J3325-02 connector.

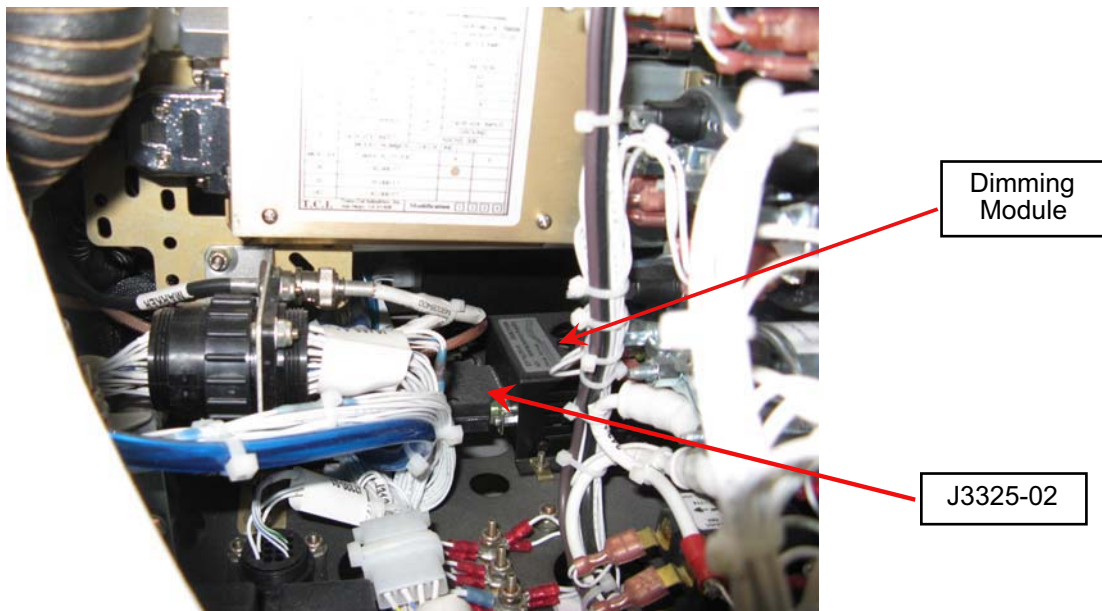


Figure 8

- 10.16 Install the following wires, of the retrofit harness, into J3325-02 connector, and assemble the connector and install into the dimming module.

J3325-02	
PINS	WIRE
9	33704A22
10	33707A22
15	33706A22
16	33709A22
21	33705A22
22	33708A22

- 10.17 Secure the retrofit harness portion located below the instrument indicators and radio rack.

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10.18 Plug in the remaining 6 Bezel light assemblies (J3370-02, J3370-03, J3370-04, J3370-05, J3370-06 and J3370-07) to the retrofit harness, matching labels accordingly and secure to the existing instrument panel harness/panel.

10.19 Clean the work area and inspect for foreign objects.

10.20 Install the instrument panel. Refer to AMM Chapter 25-10-00.

10.21 Connect the aircraft battery. Refer to AMM Chapter 24-31-00.

10.22 Do a functional test of the backlighting system as follows:

10.22.1 Push in battery circuit breaker and turn on the Electrical Master switch.

10.22.2 Turn the instrument light on and continue to adjust the potentiometer clockwise. Make sure that the engine gauges and the instrument indicator lamps turn on, and continue to get brighter.

10.22.3 Disconnect the power to the aircraft and make a log book entry that this Service Bulletin has been incorporated.

**11. Weight and Balance:** Make the following adjustments to the weight and balance.

Item	Weight lbs (kg)	Arm in (m)
Light Bezels and harness	+0.47 (+0.22)	-16.4 (-0.42)

**12. Availability:** Contact Diamond Aircraft Industries Inc.

**13. Electrical Load Data:** There is no impact to the electrical load.

**14. Credit:** None.



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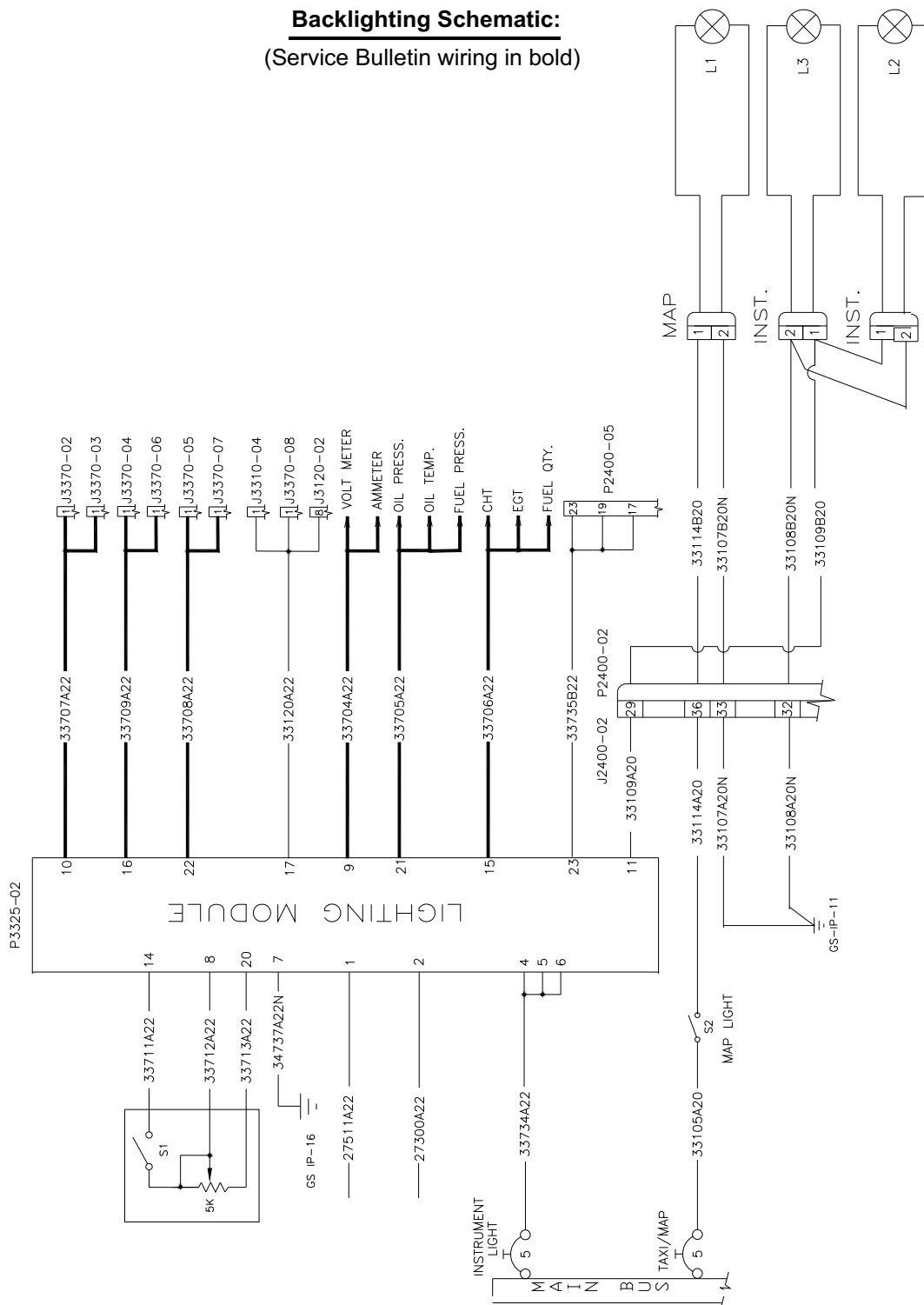
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## Backlighting Schematic: (Service Bulletin wiring in bold)



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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.

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