OPTIONAL SERVICE BULLETIN NO. DAC1-77-01 REV. 5

SUPERSEDES DAC1-77-01 REV. 4

I TECHNICAL DETAILS

I.1 Category

Optional.

I.2 Airplanes Affected

Type: DA 20-C1

S/N: C0001 to C0647 not equipped with the Vision Microsystem VM1000 engine management system

I.3 Date of Effectivity

09 February 2023

I.4 Time of Compliance

At owner's discretion.

I.5 Subject

Installation of UMA indicators.

ATA code: 7700.

I.6 Reason

This service bulletin allows the installation of new exhaust gas temperature (EGT) indicator, cylinder head temperature (CHT) indicator, fuel pressure indicator, fuel quantity indicator, oil temperature indicator, oil pressure indicator, ammeter, and voltmeter. Any combination of the indicators may be installed.

I.7 Concurrent Documents

None.

I.8 Approval

The technical content of this document is approved as part of the type design.

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I.9 Accomplishment/Instructions

I.9.1 General

1. Disconnect the aircraft battery. See AMM Section 24-31-00.
2. Remove the instrument panel cover. See AMM Section 25-10-00.
3. Pull the battery circuit breaker located on the right side of the instrument panel.
4. Place the template 22-7700-13-00SB on top of the existing engine indicating instruments. Center the template and secure it in position.
   A. Mark the locations of the screw positions for the options being installed.
   B. Remove the template.
5. Remove all eight gauges as per the AMM:
   A. For the EGT indicator, refer to AMM Section 77-00-00.
   B. For the CHT indicator, refer to AMM Section 77-00-00.
   C. For the fuel pressure indicator, refer to AMM Section 73-00-00.
   D. For the fuel quantity indicator, refer to AMM Section 28-40-00.
   E. For the oil temperature indicator, refer to AMM Section 79-00-00.
   F. For the oil pressure indicator, refer to AMM Section 79-00-00.
   G. For the ammeter, refer to AMM Section 24-31-00.
   H. For the voltmeter, refer to AMM Section 24-31-00.
6. Cover and protect the area on the inside of the instrument panel, and the cockpit areas to ensure metal filings/burrs from subsequent operations are contained.
7. Drill two of the 3.6 mm (9/64 in) screw holes that were previously marked.
8. Place the template back in position. Secure with two #6 screws.
   A. Drill the remainder of the screw holes one at a time. Install hardware (#6 screw or Cleco) for the indicators being installed.
   B. Enlarge the holes in the instrument panel to match the holes in the template. Use a drum sander, or a high-speed rotary grinder.

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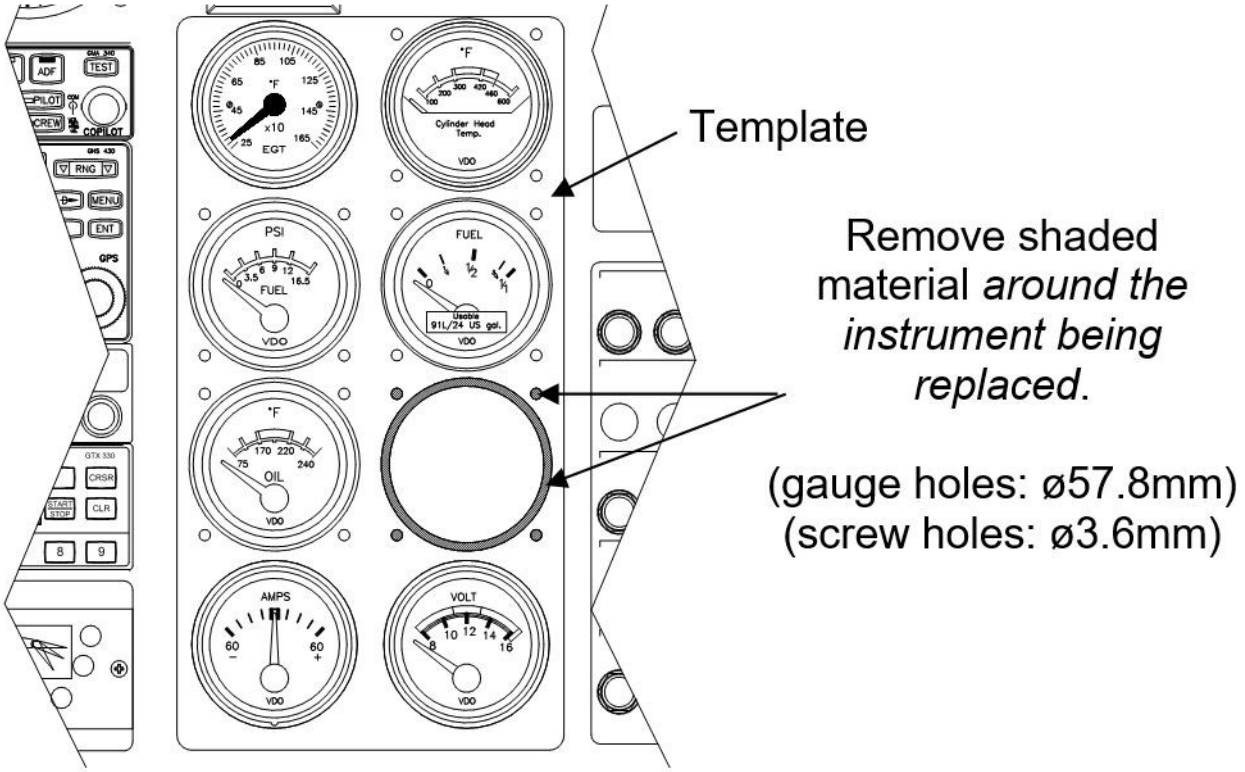

Figure 1. Modifications to the instrument panel.

9. Remove the template.
10. Deburr sharp edges as necessary.
11. Apply a protective coating (Alodine) to the bare metal.
12. Optional: Paint the edges of the openings in the panel to match.
13. Clean working areas.
14. Reinstall any indicators that are not being replaced. Refer to applicable AMM Sections as indicated in Step 5.
15. For reversed instrument panel installations with the SSD120-30A encoder installed:
    A. Remove the encoder and mounting tray from the support bracket stand-offs.
    B. Install the new encoder mounting plate (22-3935-80-02SB) using the supplied screws (MS24693C24) onto the stand-offs as per Figure 2, below.

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C. Install the encoder (without the mounting tray) using the supplied screws (MS35206-216). See Figure 3.

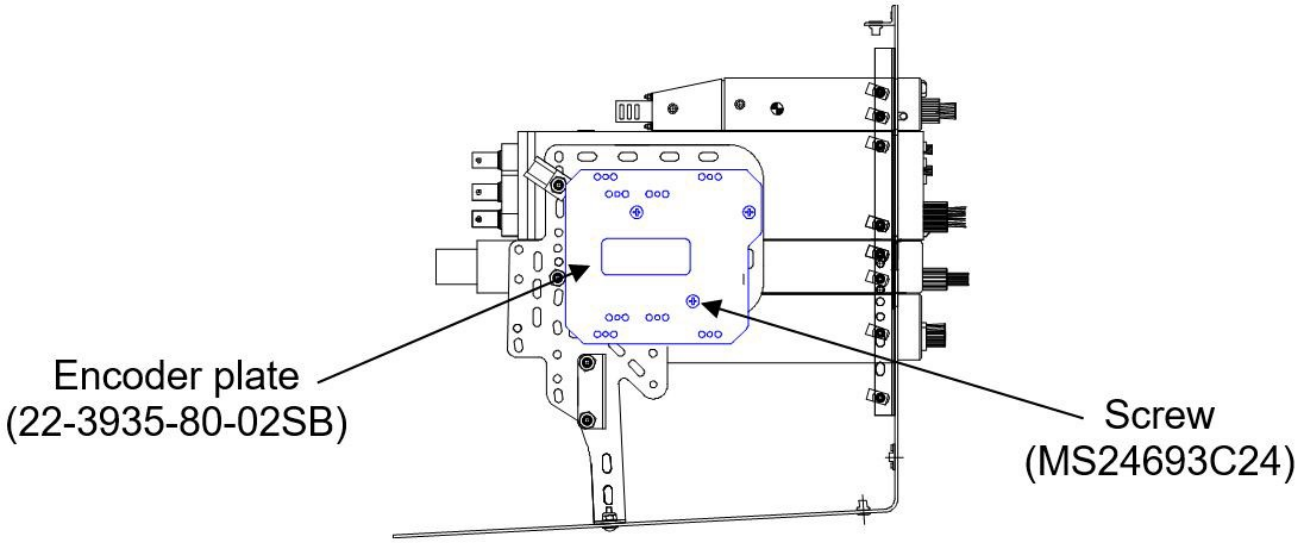

Figure 2. Encoder plate installation.

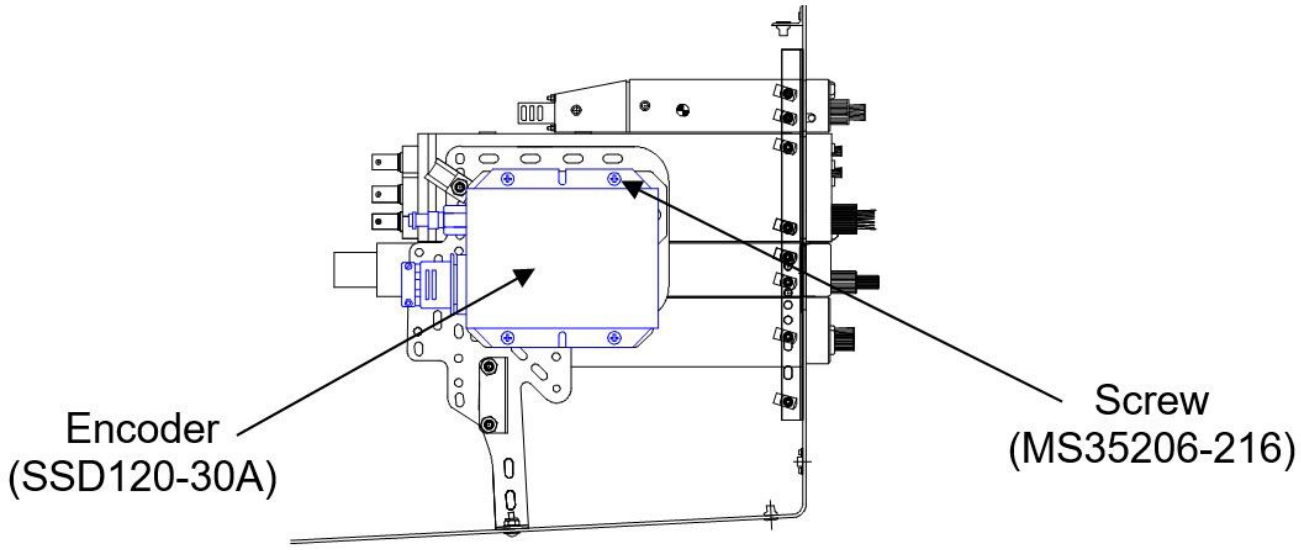

Figure 3. Encoder installation.

NOTE: If the static line was disconnected, a leak check must be carried out.

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I.9.2 Modification for Panels with Shock Mount Isolator

NOTE: The steps in this section are required for instrument panels that are equipped with shock mount isolators between the instrument panel and the instrument panel cover. This section describes a modification to one of the shock mount isolators to allow clearance for the new EGT gauge.

NOTE: If a new EGT gauge will not be installed, this section may be disregarded.

1. Grind 1 mm off the supplied isolator stud.
2. Remove the existing isolator located nearest the EGT gauge.
3. Drill out the rivet nut from the tab.
4. Fasten the supplied isolator stud to the tab. Use the supplied NAS1149CN832R flat washer and MS210042-08 locknut.

I.9.3 Option A: Oil Pressure Indicator/Transducer

1. Remove the following oil pressure indicator wires from the instrument panel harness:

Wire Code	From	To
79303A20	Oil pressure indicator	Oil pressure circuit breaker
79310A20N	Oil pressure indicator	Ground Stud #1
79300A20	Oil pressure indicator	Oil pressure transducer

2. Install the new oil pressure indicator (22-7930-04-00) into the instrument panel. Use the supplied hardware (screws: MS35214-29, nuts: MS21042-06).
3. Install the oil pressure indicator harness (22-7930-01-00SB). Connect J7930-01 to the oil pressure connector P7930-01.
4. Plug the 22-7930-01-00SB harness wire 33705AA22 into the existing lightning wire 33705A22 and wire 33725AA22N into existing lightning wire 33725A22N. See Figure 4.
5. Refer to Section I.9.11 for the inverter installation.
6. Route the 79303A22 wire to the oil pressure circuit breaker and connect using the existing hardware.
7. Route the 79310A22N wire to Ground Stud #1. Connect using the existing hardware.
8. Route the triple twisted wire 79300A22 of the harness through the firewall and along the existing harness to the oil pressure transducer location. See Figure 5.

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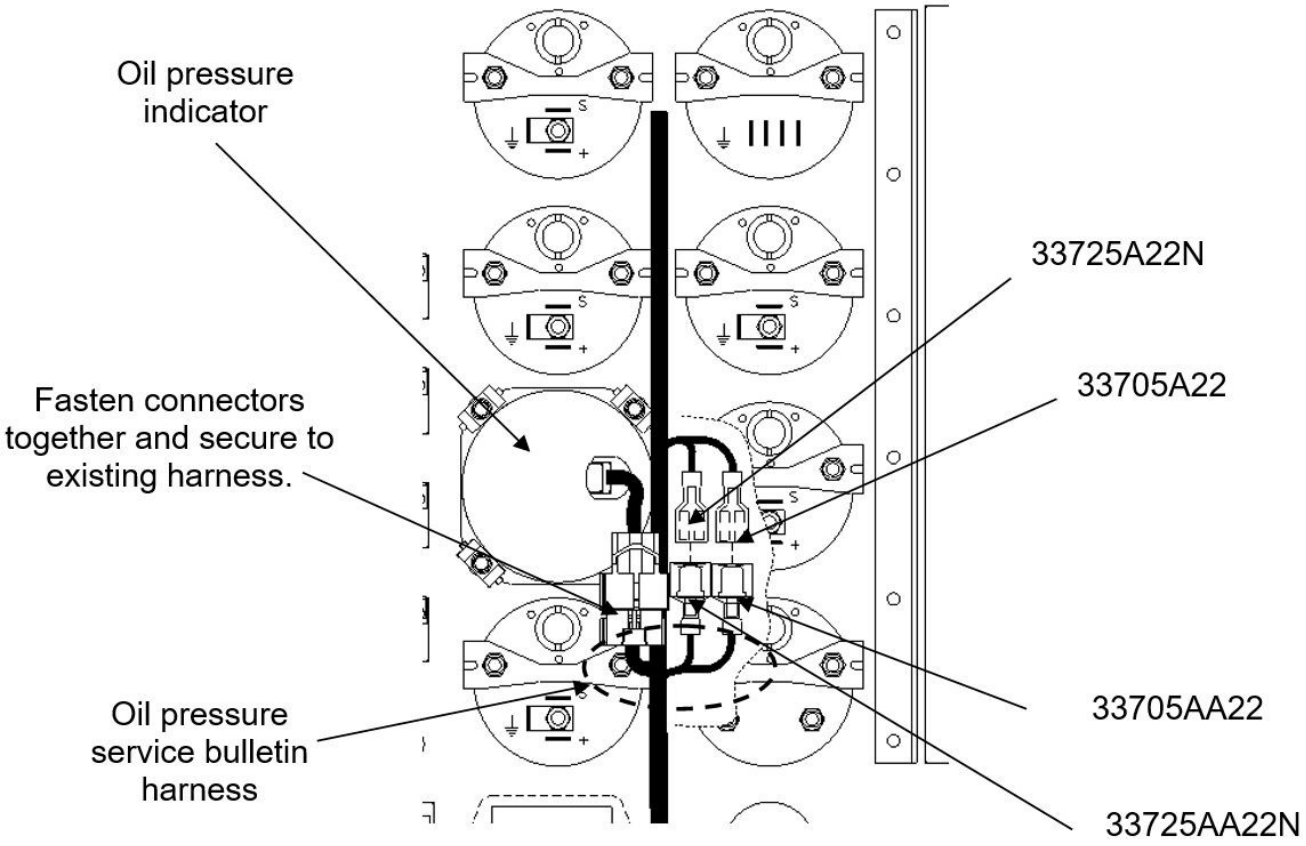

Figure 4. Oil pressure indicator installation.

9. Secure the oil pressure harness using the supplied cable ties (MS3367-5-9).
10. Remove the existing oil pressure transducer, and install the new oil pressure transducer (22-7930-05-00) in its place. Use Loctite 545 (1-2 threads past finger-tight).

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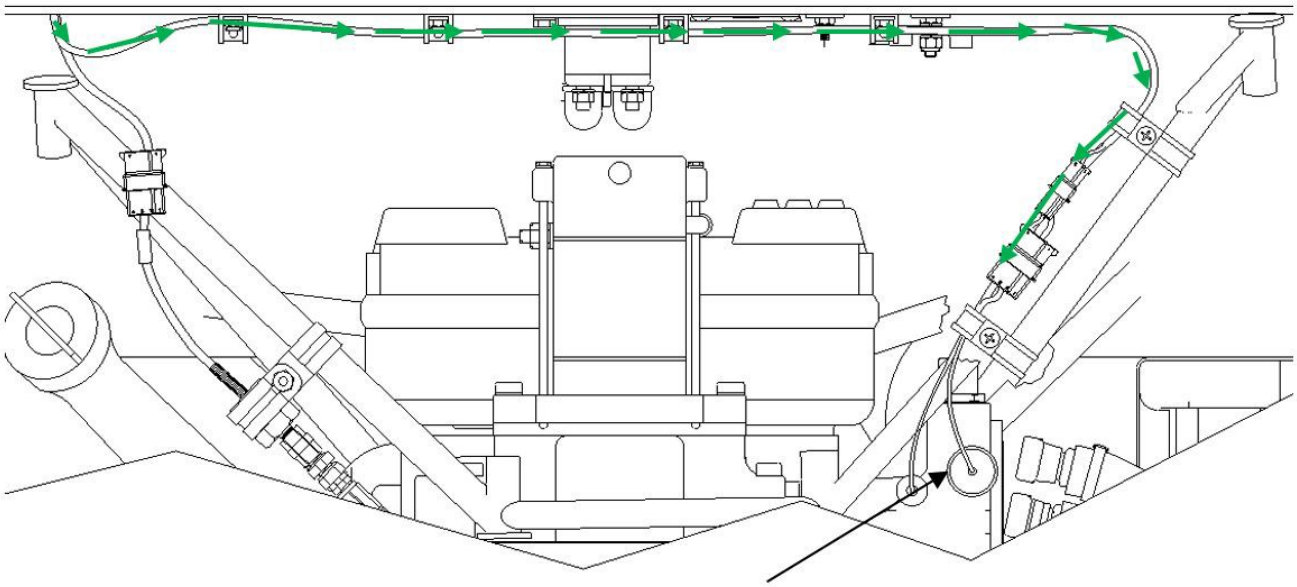

Figure 5. Oil pressure transducer location.

11. Cut the triple-twisted harness wire 79300A22 to an appropriate length, strip shield back, apply solder sleeve (M83519/2-8) and terminate (60617-1) as shown below with the supplied connector (1-480424-0).

12. Connect the P7930-02 connector (transducer) with the J7930-02 connector (harness), and secure using the supplied cable ties (MS3367-5-9).

P7930-02	
Pin	**Wire Code**
1	79300A22BL
2	79300A22OR
3	79300A22WH
4	79300A22SH

I.9.4 Option B: Fuel Pressure Indicator/Transducer

1. Remove the following fuel pressure wires from the instrument panel harness:

Wire Code	From	To
73300A20	Fuel pressure indicator	Fuel pressure circuit breaker
73302A20N	Fuel pressure indicator	Ground Stud #6
73301A20	Fuel pressure indicator	Fuel pressure transducer

2. Install the new fuel pressure indicator (22-7330-03-00) into the instrument panel. Use the supplied hardware (screws: MS35214-29, nuts: MS21042-06).
3. Install the fuel pressure indicator service bulletin harness (22-7330-03-00SB) connector J7330-01 to the fuel pressure indicator connector P7330-01.
4. Plug the service bulletin wire 33705AA22 into the existing lighting wire 33705A22 and wire 33725AA22N into the existing lighting wire 33725A22N. See Figure 6.
5. Refer to Section I.9.11 for the inverter installation.
6. Route the 73300A22 wire to the fuel pressure circuit breaker and connect using the existing hardware.
7. Route the 73302A22N wire to Ground Stud #6 and connect using the existing hardware.
8. Route the triple-twisted wire 73301A22 of the harness through the firewall and along the existing harness to the oil pressure transducer location. See Figure 7.

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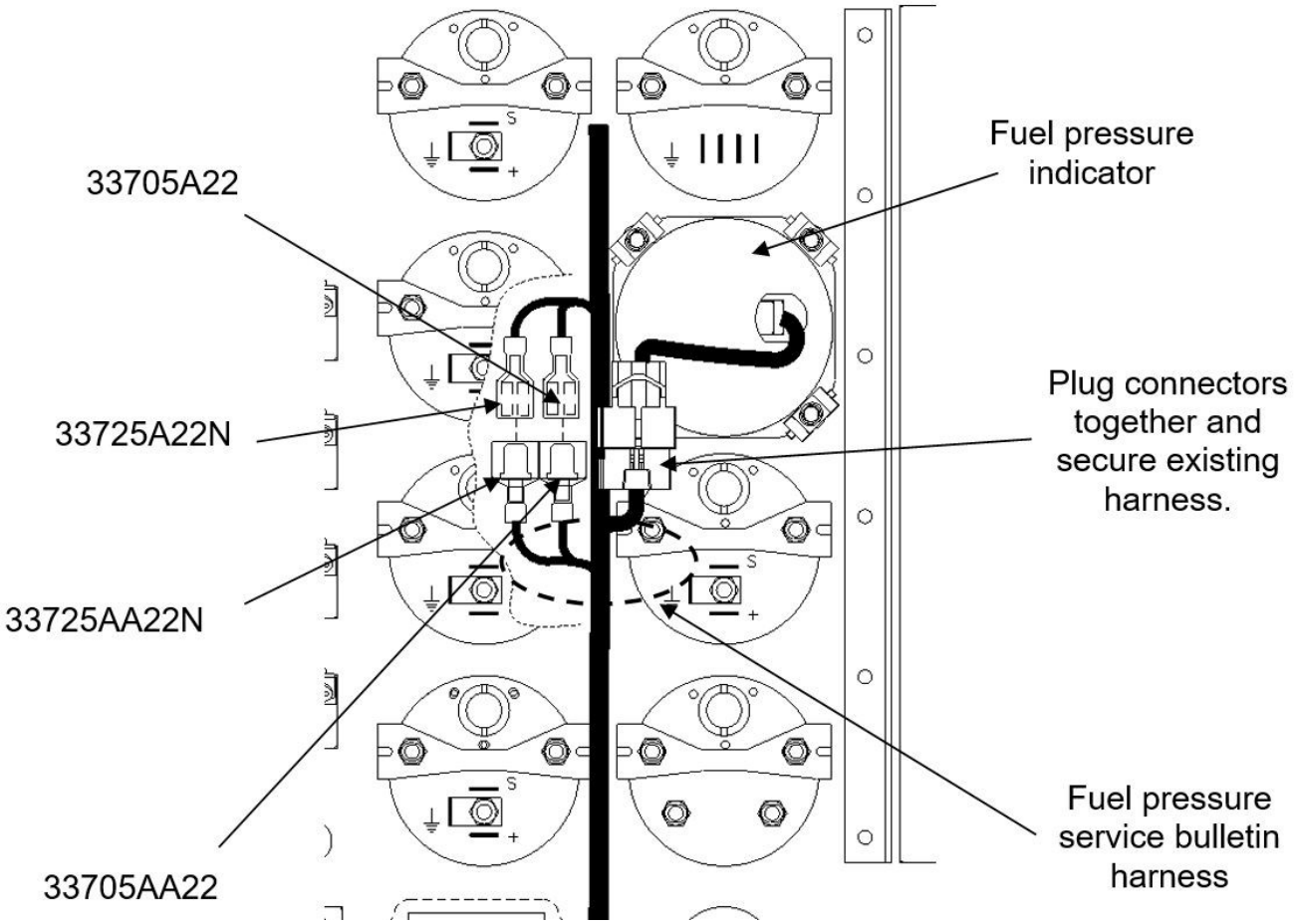

Figure 6. Fuel pressure indicator installation.

9. Remove the existing fuel pressure transducer, and install the new fuel pressure transducer (22-7330-04-00). Use sealube.

10. Cut the triple-twisted harness wire 73301A22 to an appropriate length, and strip the shield back no more than 3 inches.

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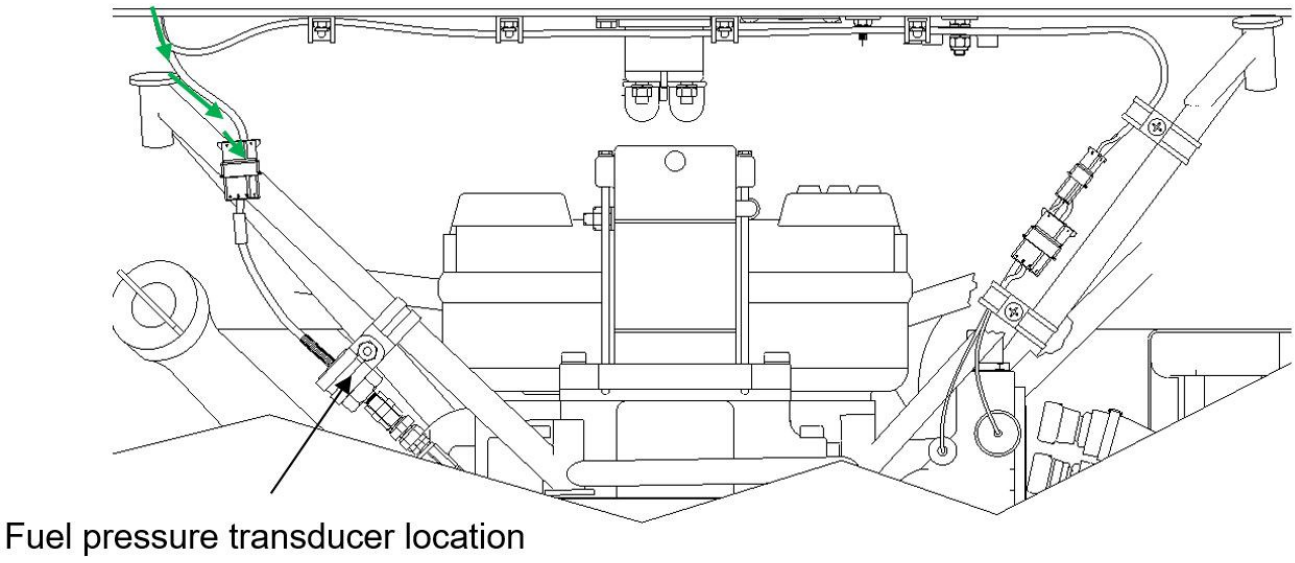

Figure 7. Fuel pressure transducer location.

11. Apply solder sleeve (M83519/2-8) to the wire, and crimp the wires with the supplied contacts (60617-1).
12. Plug the wires into the supplied connector (1-480424-0) with label J7330-02.

J7330-02	
Pin	**Wire Code**
1	73301A22BL
2	73301A22OR
3	73301A22WH
4	73301A22SH

13. Connect the P7330-02 connector (transducer) with the J7330-02 connector (harness).
14. Secure the wires with the supplied cable ties (MS3367-5-9).

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I.9.5 Option C: Oil Temperature Indicator/Probe

1. Remove the following oil temperature wires from the instrument panel harness:

Wire Code	From	To
79302A20	Oil temperature indicator	Oil temperature circuit breaker
79311A20N	Oil temperature indicator	Ground Stud #1
79301A20	Oil temperature indicator	Oil temperature probe

2. Install the new oil temperature indicator (22-7931-02-00) into the instrument panel. Use the supplied hardware (screws: MS35214-29, nuts: MS21042-06).
3. Install the oil temperature indicator service bulletin harness (22-7931-02-00SB) connector J7931-01 to the oil temperature indicator connector P7931-01.
4. Plug the service bulletin wire 33705AA22 into the existing lighting wire 33705A22 and wire 33725AA22N into the existing lighting wire 33725A22N. See Figure 8.
5. Refer to Section I.9.11 for the inverter installation.
6. Route the 79302A22 wire to the oil temperature circuit breaker and connect using the existing hardware.
7. Route the 79311A22N wire to ground stud #1 and connect using the existing hardware.
8. Route the double-twisted wire 79301A22 through the firewall and along the existing harness to the oil temperature probe location. See Figure 9.

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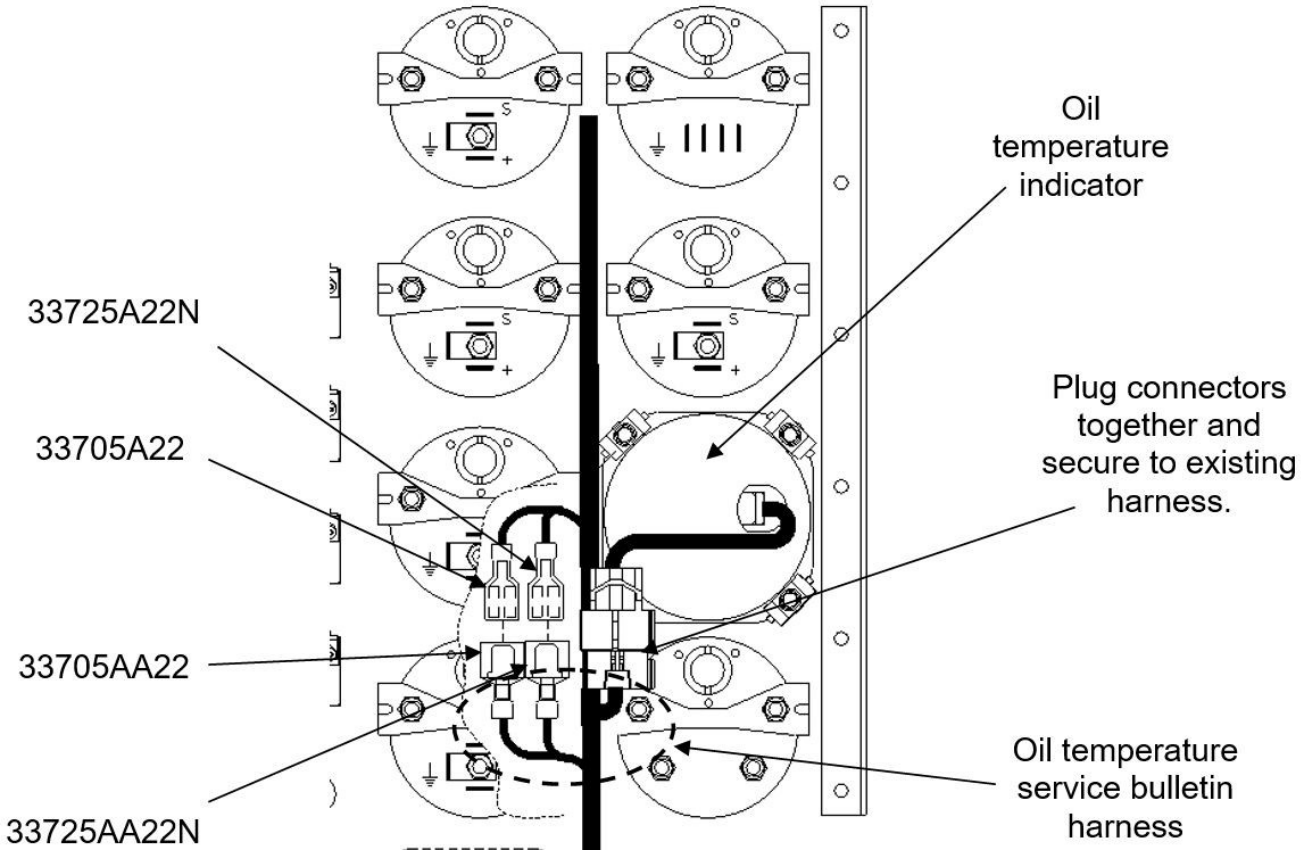

Figure 8. Oil temperature indicator installation.

9. Remove the existing oil temperature probe, and install the new oil temperature probe (22-7931-01-00). Use Loctite 545 (1-2 threads past finger tight).

10. Cut the service bulletin harness wire (79301A22) to an appropriate length and strip the shield back no more than 3 inches. Apply heat shrink (RNF100-1/8 WHT).

11. Crimp the wires with the supplied contacts (60617-1).

12. Plug the wires into the supplied connector (1-480318-0) with label J7931-02.

J7931-02	
Pin	**Wire Code**
1	79301A22BL
2	79301A22WH

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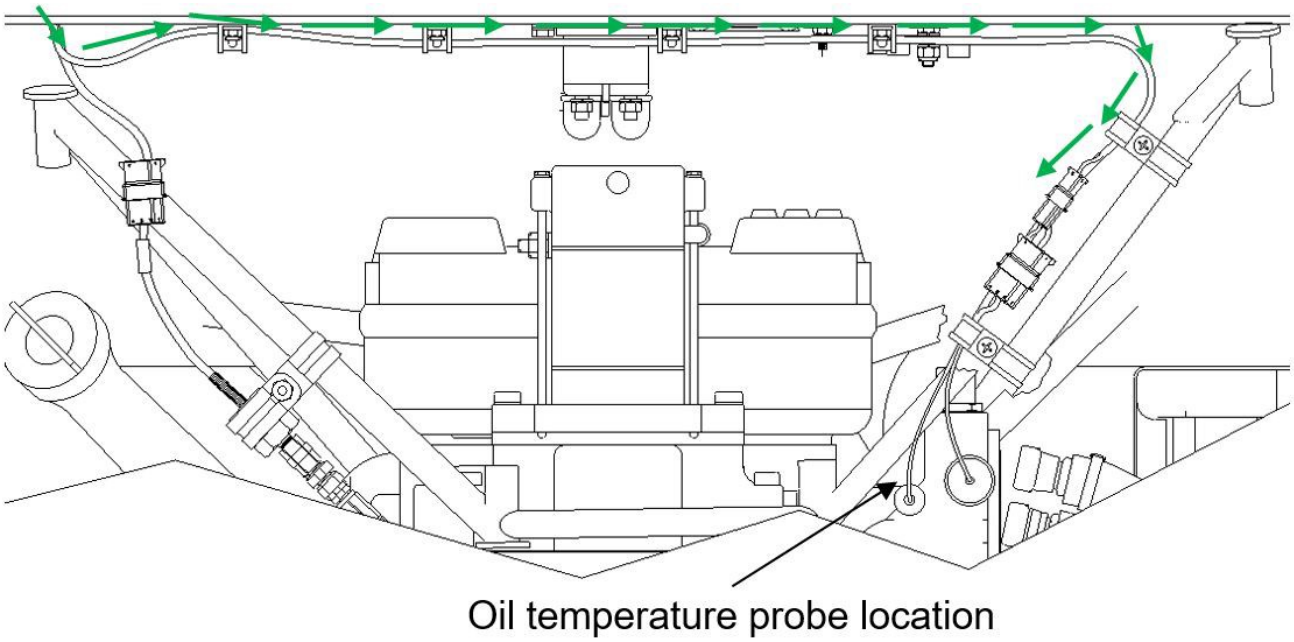

Figure 9. Oil temperature probe location.

13. Connect the P7931-02 connector (transducer) with the J7931-02 connector (harness).
14. Secure the wires with the supplied cable ties (MS3367-5-9).

I.9.6 Option D: Fuel Quantity Indicator/Probe

1. Remove the seats. Refer to AMM Section 25-10-00.
2. Remove the baggage floors. Refer to AMM Section 25-10-00.
3. Remove the following fuel quantity wires from the instrument panel harness:

Wire Code	From	To
28400A20	Fuel quantity indicator	Fuel quantity circuit breaker
28403A20N	Fuel quantity indicator	Ground Stud #2
28401A20*	Fuel quantity indicator	Fuel quantity probe

* Wire may include a 2 ohm resistor. The resistor is to be removed from the harness.

4. Install the new fuel quantity indicator (22-2840-01-00) into the instrument panel. Use the supplied hardware (screws: MS35214-29, nuts: MS21042-06).

5. Install the supplied fuel quantity placard (22-1131-00-13) onto the bottom section of the face of the installed fuel quantity indicator.
6. Install the fuel quantity indicator service bulletin harness (22-2840-01-00SB) connector J2840-01 to the fuel quantity indicator connector P2840-01.
7. Plug the service bulletin wire 33706AA22 into the existing lightning wire 33706A22 and wire 33726AA22N into the existing lightning wire 33726A22N. See Figure 10.
8. Refer to Section I.9.11 for the inverter installation.
9. Route the 28400A22 wire to the fuel quantity circuit breaker and connect using the existing hardware.
10. Route the 28403A22N wire to Ground Stud #2 and connect using the existing hardware.
11. Route the triple-twisted wire 28401A22 down through the center console and along with the mic/ phone jack wires. See Figure 11.
12. Remove the existing fuel probe and install the new fuel probe (22-2840-02-00) using sealube and the supplied hardware (screws: AN525-10R20, torque to 20 in.lbs). If the threads of the screws bottom out, install the supplied washers (NAS1149F0332P or NAS1149F0363P).
13. Install the supplied cable tie base (EMS-A-CO). Use DP100 adhesive or equivalent in the approximate location shown in Figure 11.

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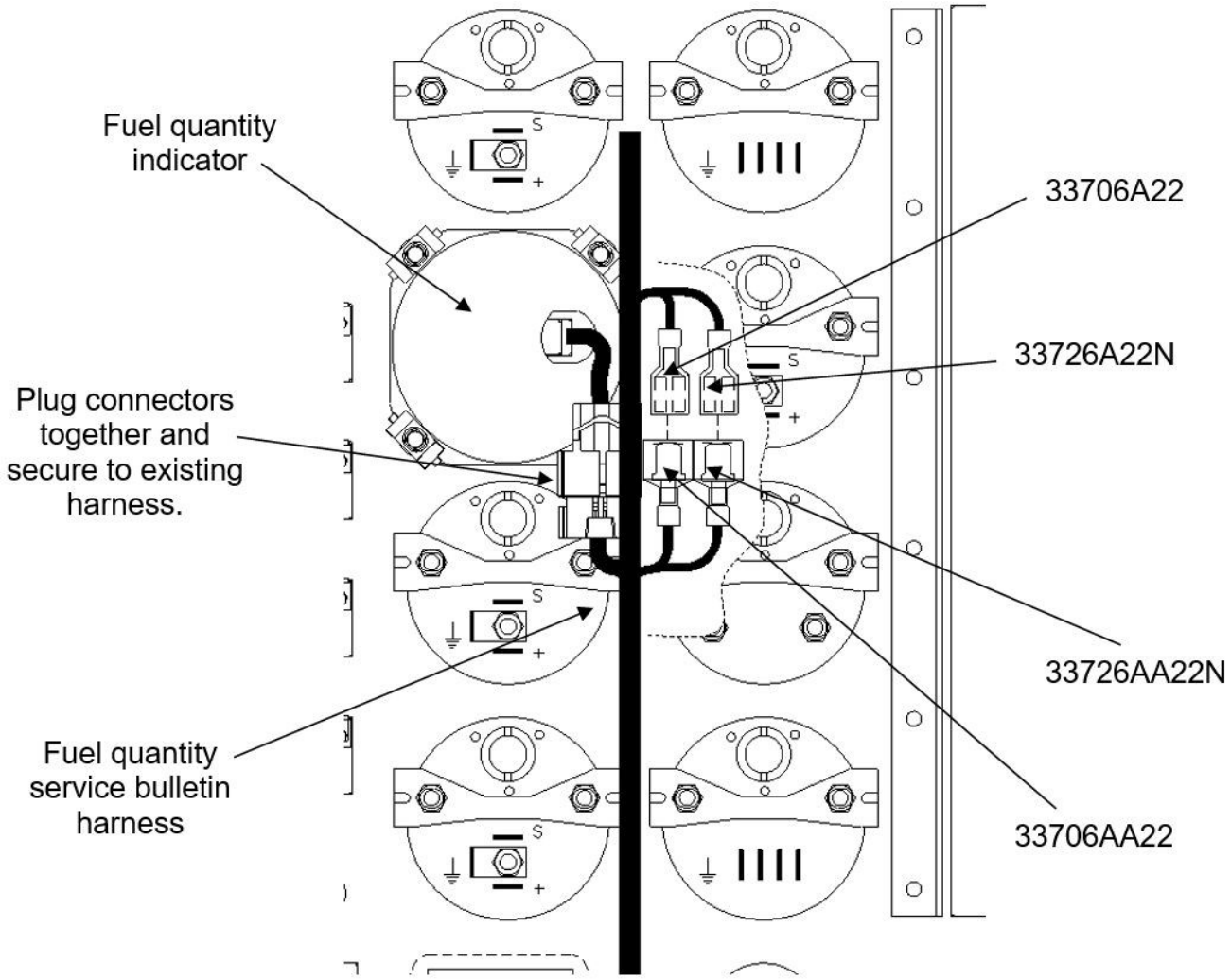

Figure 10. Fuel quantity indicator installation.

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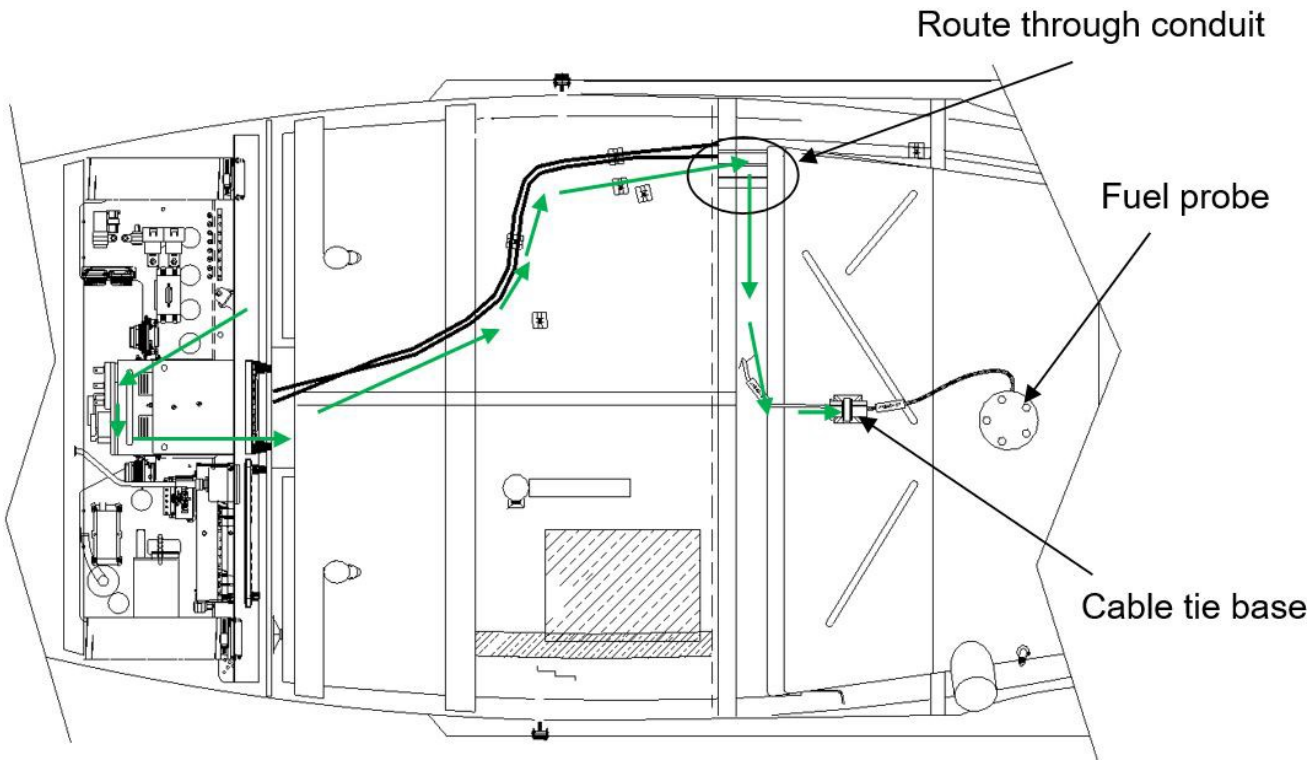

Figure 11. Routing of wires.

14. Terminate the fuel quantity wires as shown below and install into the supplied connector (1-480424-0) with label (J2840-02).

J7931-02	
Pin	**Wire Code**
1	JUMPER*
2	JUMPER* 28401A22BL
3	28401A22WH
4	28401A22OR

* The jumper wire is supplied with the fuel quantity harness and is crimped together with the 28401A22BL wire.

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15. Plug the fuel quantity wire connector J2840-02 into the fuel probe connector P2840-02 and secure with the supplied cable tie (MS3367-5-9).
16. Temporarily install the center baggage floor in position on top of the fuel tank.
17. Mark the location of the fuel probe. Remove the baggage floor.
18. Cut a 76 mm (3 in) diameter hole in the center baggage floor centered on the fuel probe location.
19. Temporarily position recess panel 22-2550-13-00SB on top of the center baggage floor such that it covers the 76 mm (3 in) hole. Mark location.
20. Remove the paint from the top surface of the baggage floor where bonding is going to be done.
21. Prepare the recess panel and baggage floor for bonding. Mask the areas beyond the bonding area.
22. Bond using DP420 or similar structural adhesive. Clean any excess adhesive.
23. Cure as per the adhesive manufacturer's instructions.
24. Touch up paint if required.
25. Inspect for foreign objects.
26. Install the baggage floor. Refer to AMM Section 25-10-00.
27. Install the seats. Refer to AMM Section 25-10-00.

I.9.7 Option E: CHT Indicator

1. Install the new CHT indicator (22-7720-03-00) into the instrument panel. Use the supplied hardware (screws: MS35214-29, nuts: MS21042-06).
2. Install the CHT indicator service bulletin harness (22-7720-03-00SB) and connect the J7702-01 connector to the CHT indicator connector P7702-01.
3. De-pin the CHT probe red wire and white wire from the existing harness connector, and plug them into the CHT indicator service bulletin harness connector J7702-01 as shown below.

J7702-01	
Pin	**Wire Code**
2	77204A18WH
3	77204A18RD

4. Plug service bulletin wire 33706AA22 into the existing lighting wire 33706A22 and wire 33726AA22N into the existing lighting wire 33726A22N. See Figure 12.
5. Refer to Section I.9.11 for the inverter installation.

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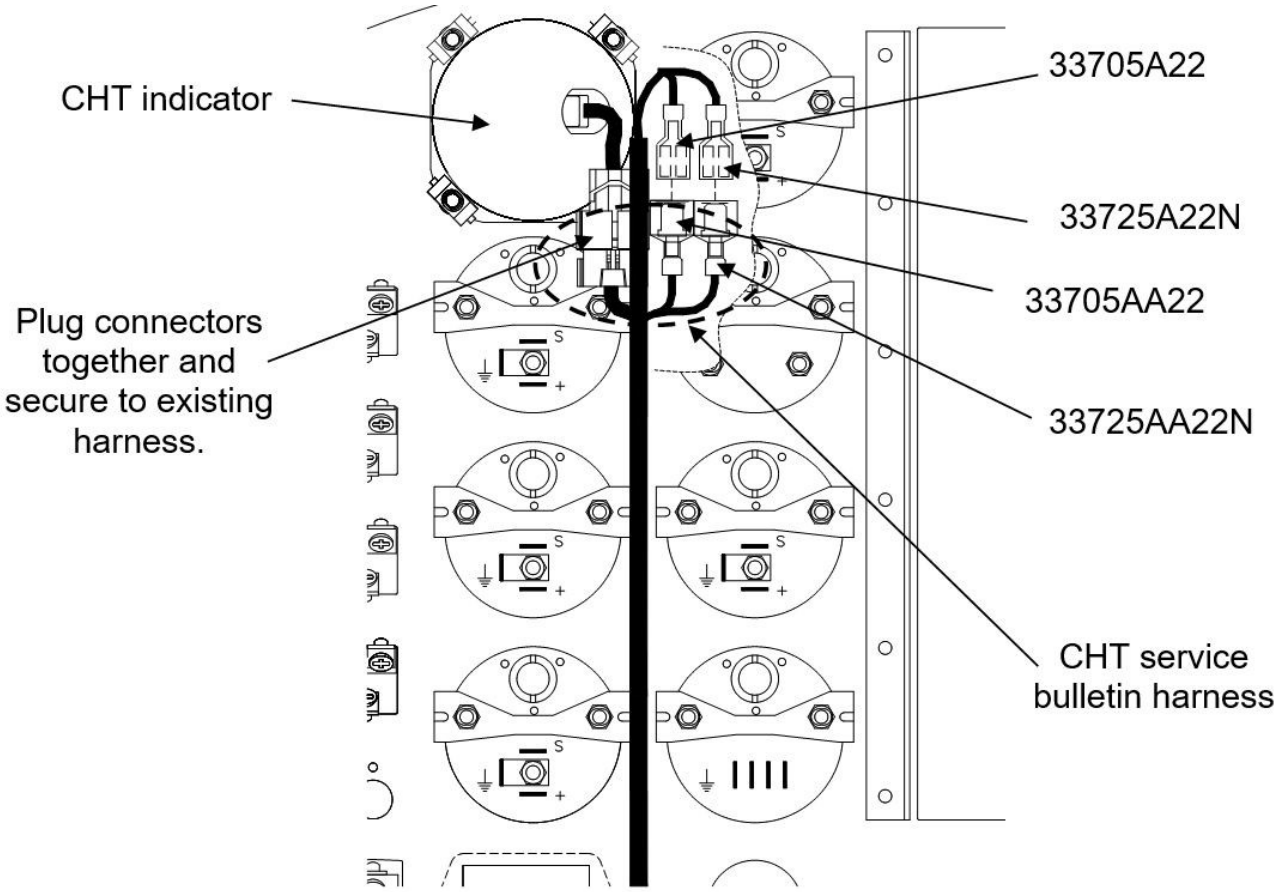

Figure 12. CHT indicator installation.

6. Route the 77205A22 wire to the new EGT/OIL TEMP circuit breaker and connect using the existing hardware.

7. Re-label the circuit breaker as shown below. Use a label maker or equivalent.

Existing Text	New Text
EGT/ OIL TEMP	EGT/CHT/ OIL TEMP

8. Route the 77206A22N wire to Ground Stud #7 (or another available ground stud) and connect using the existing hardware.

9. Secure the wires with the supplied cable ties (MS3367-5-9).

10. Route and install the CHT thermocouple wire from the CHT probes to the CHT gauge. Crimp with 60617-1 sockets at the gauge. Refer to schematic 22-7700-99-00.

I.9.8 Option F: Voltmeter Installation

1. Install the new voltmeter (22-2430-01-00) into the instrument panel. Use the supplied hardware (screws: MS35214-29, nuts: MS21042-06).
2. Install the voltmeter service bulletin harness (22-2430-03-00SB). Refer to schematic 22-7700-99-00.
3. Connect dimming wires 33704A22 to 33704AA22, and wires 33724A22N to 33724AA22N.
4. Route and install the voltmeter dimming wires to the inverter. Refer to schematic 22-3313-99-00.

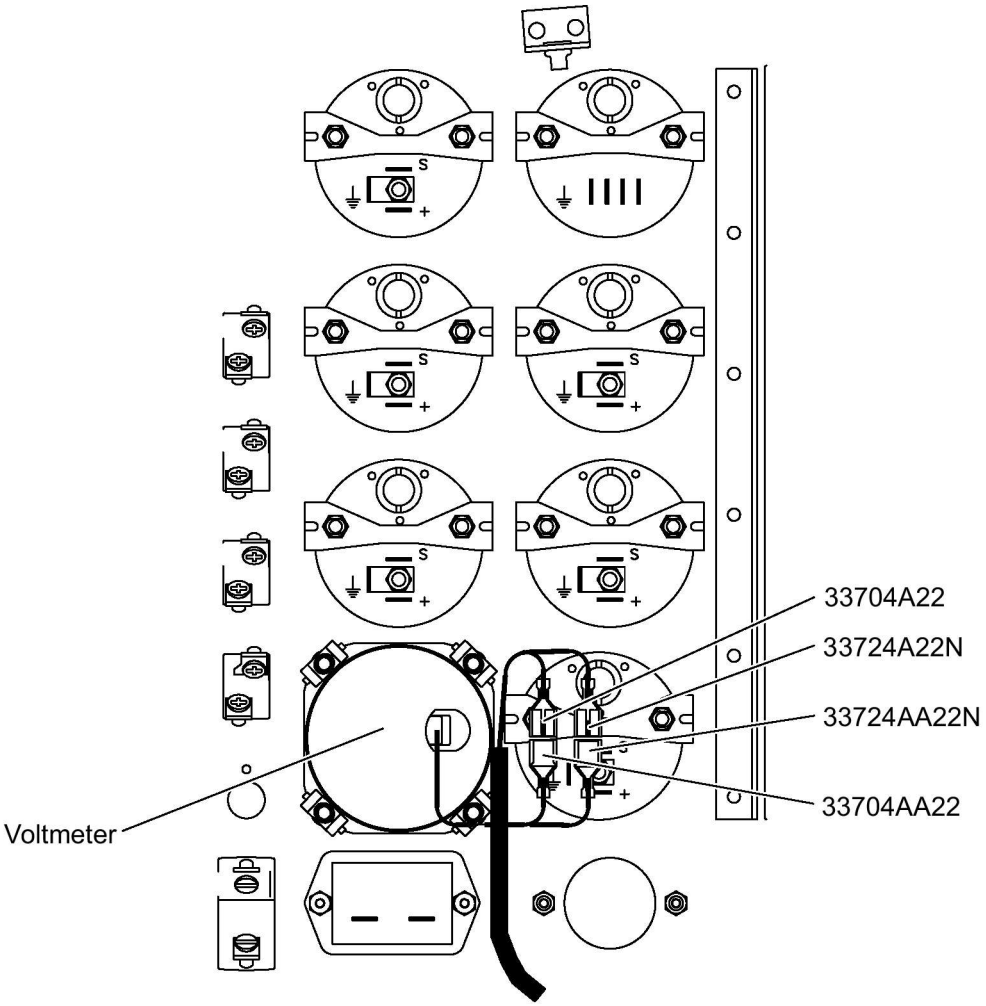

Figure 13. Voltmeter installation.

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I.9.9 Option G: EGT Gauge Installation

1. Install the new EGT gauge (22-7720-04-00) into the instrument panel. Use the supplied hardware (screws: MS35214-29, nuts: MS21042-06).
2. Route and install the EGT thermo couple wire from the from the EGT probe to the EGT gauge. Crimp with 60617-1 sockets at the gauge. Refer to schematic 22-7700-99-00.
3. Install the EGT service bulletin harness (22-7720-05-00SB). Refer to schematic 22-7700-99-00.
4. Connect dimming wires 33706A22 to 33706AA22, and wires 33726A22N to 337266AA22N.
5. Route and install the EGT dimming wires to the inverter. Refer to schematic 22-3313-99-00.

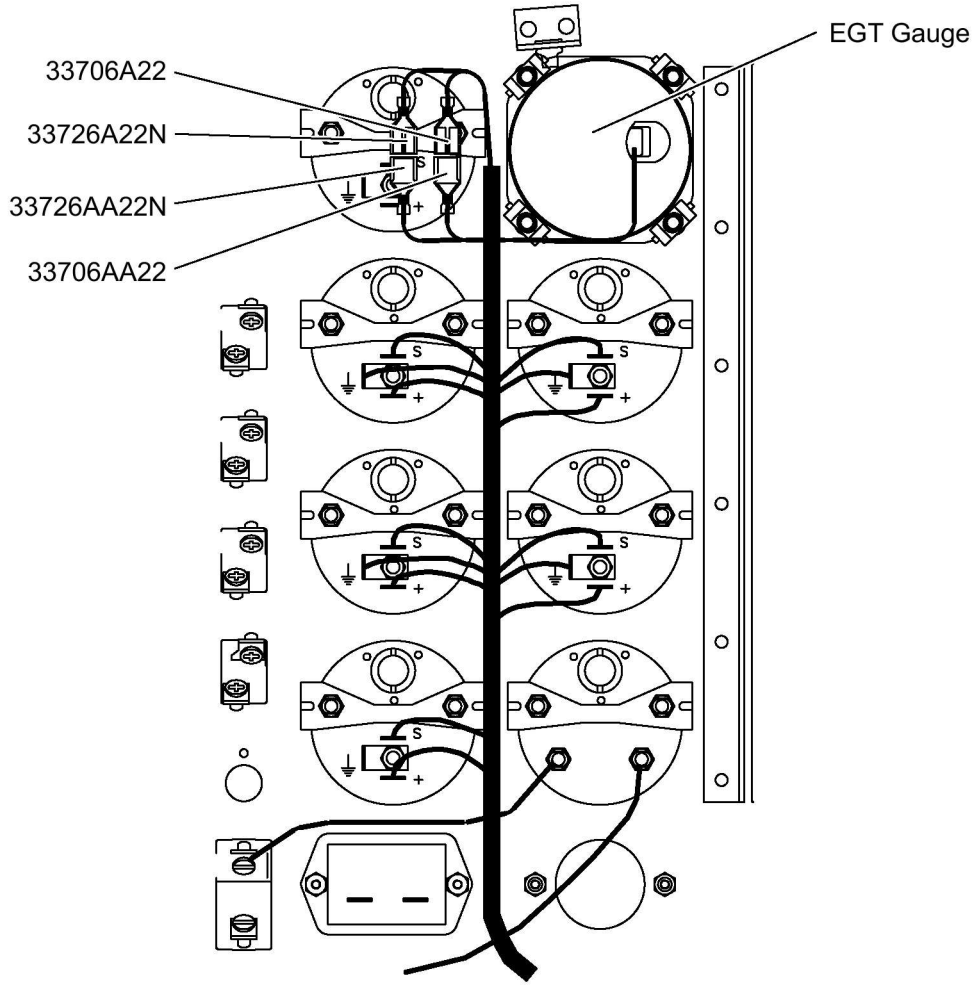

Figure 14. EGT gauge installation.

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I.9.10 Option H: Ammeter Installation

1. Install the new ammeter (22-2430-02-00) into the instrument panel. Use the supplied hardware (screws: MS35214-29, nuts: MS21042-06).
2. Install the ammeter service bulletin harness (22-2430-04-00SB). Refer to schematic 22-7700-99-00.
3. Route and install the supplied shunt with an AN3-6A bolt and an MS21044N3 locknut.
4. Remove the mounting hardware from the generator control relay, and discard.
5. Raise and mount the generator control relay with the supplied AN3-12A bolt, MS21044N3 locknut, and BU2-08-05-200C bushing. Refer to Figure 15.
6. Cut approximately 180 mm off the existing wire 24300A8, and crimp with the supplied ring terminal 33461. Install on the forward-facing shunt stud.
7. Install the supplied 8 AWG jumper wire 22-2430-05-00SB from the aft shunt stud to the 50 A battery circuit breaker.
8. Install the supplied insulation boots MS25171-1S over both the large shunt terminals.
9. Route and install the ammeter dimming wires to the inverter. Refer to schematic 22-3313-99-00.
10. Connect dimming wires 33704A22 to 33704AA22, and wires 33724A22N to 33724AA22N.

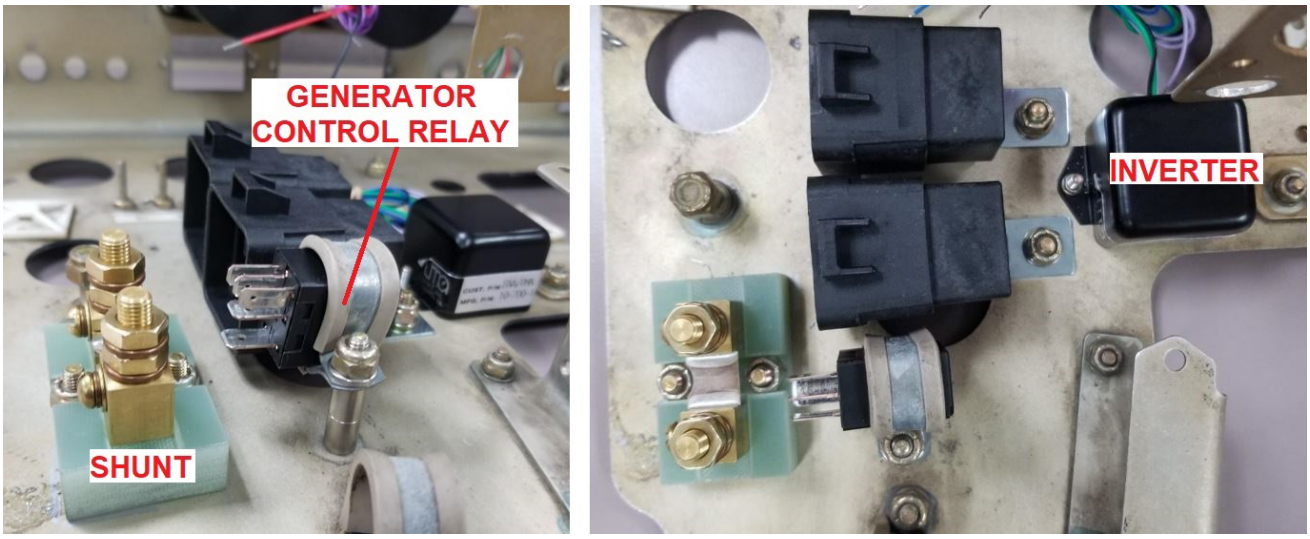

Figure 15. Shunt, generator control relay, and inverter installation.

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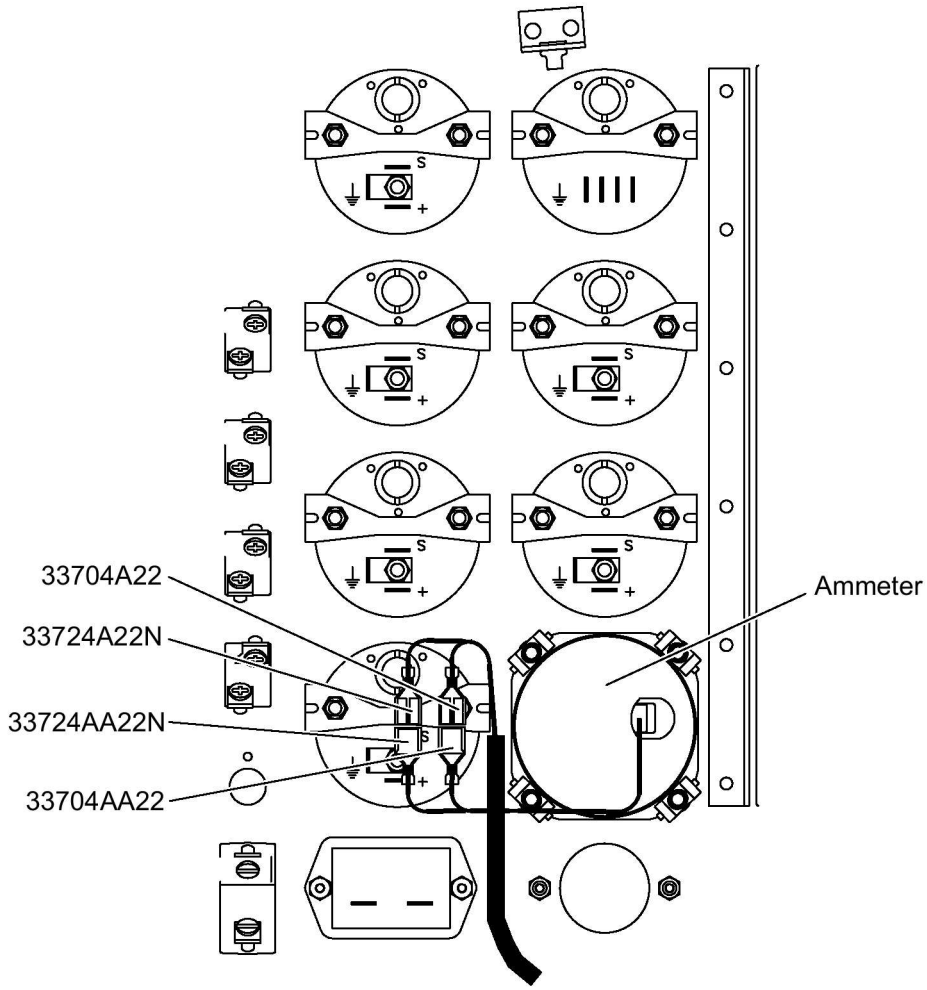

Figure 16. Ammeter installation.

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I.9.11 Lighting Inverter Installation

1. Crimp contacts 60618-1 onto inverter wires, and plug into connector 1-480426-0 as shown below.

Pin	Wire
1	Green
2	Black
3	Blue
4	Violet

2. Install the lighting inverter (10-700-14) inside the instrument panel using the inverter holes as a mounting template.

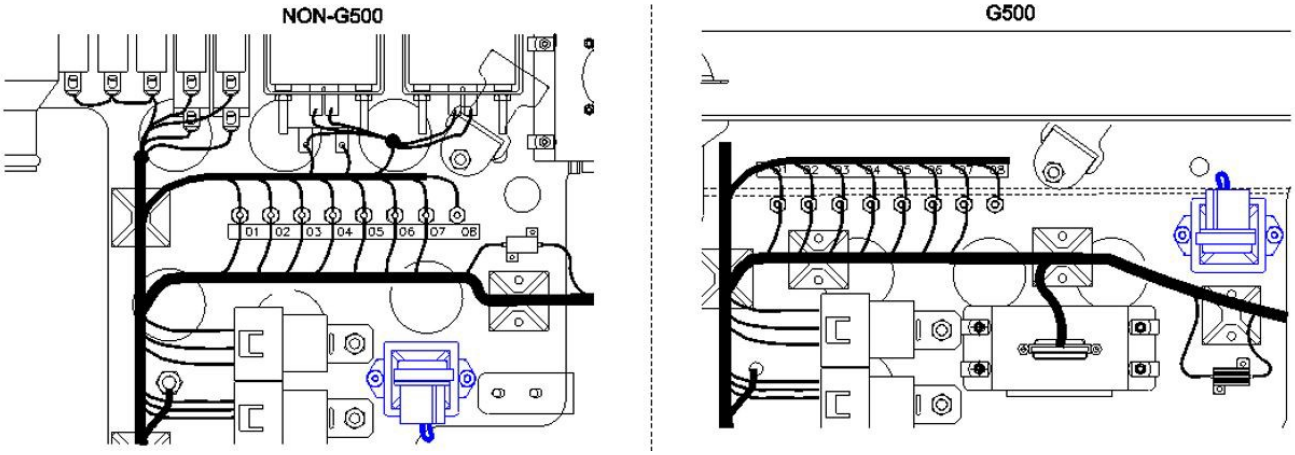


Figure 17. Inverter installation.

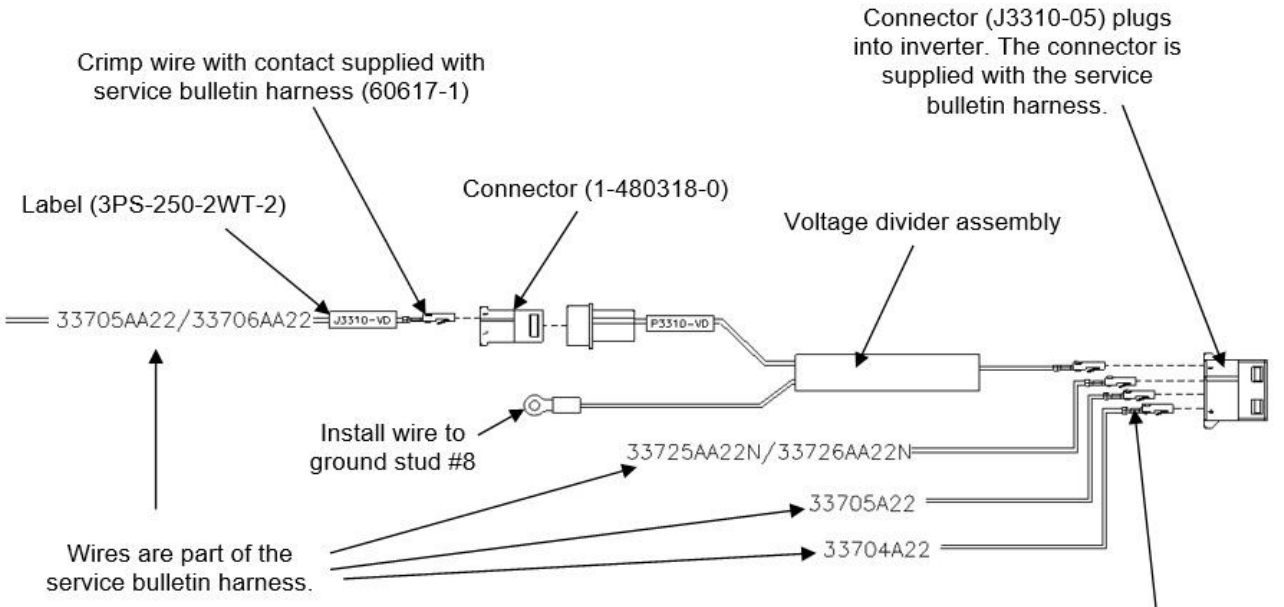
NOTE: Position is only a reference location. Installer may choose another location (attach the inverter to a metal surface for a heat sink).

3. Route the service bulletin lighting wires to the inverter and cut the wires to an appropriate length.

NOTE: If multiple indicator options are installed, refer to the schematic at the end of this service bulletin for wiring instructions.

NOTE: Cap and stow any unused lighting wires with the supplied heat shrink (RNF100-1/16 WHT).

4. Terminate the lighting wires with the supplied crimps and connect to plug with the supplied label. Install the voltage divider assembly as shown in Figure 18.



J3310-05	
PIN	**WIRE CODE**
1	Wire from Voltage Divider Assembly
2	33725AA22N
3	33705A22
4	33704A22

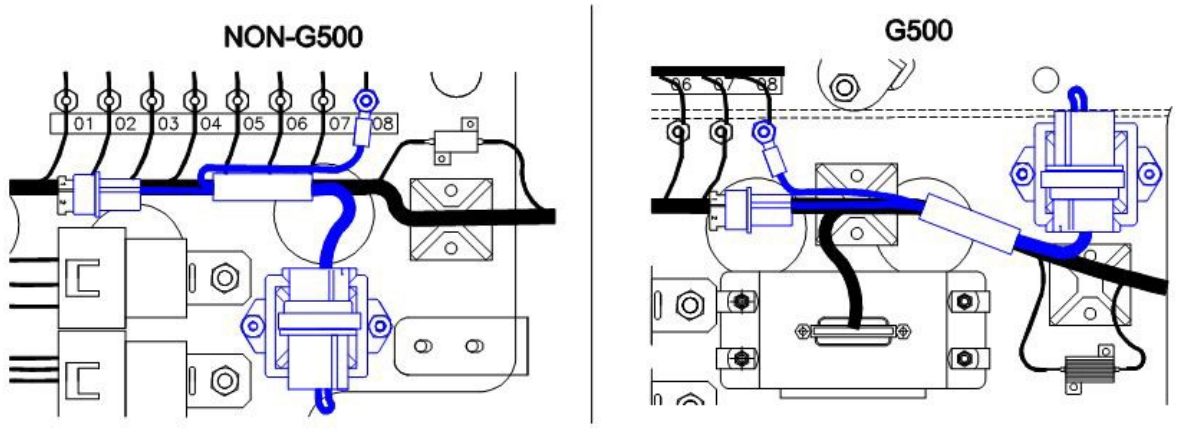


Figure 18. Voltage divider assembly installation.

I.9.12 Test Procedure

1. Clean the working areas and check for foreign objects.
2. Connect the aircraft battery. Refer to AMM Section 24-31-00.
3. Push in the battery circuit breaker.
4. Turn the electrical master switch to ON. Confirm that the needle on the tested indicator(s) rises.
5. Run the engine and verify operation of the indicators. Verify that the indicators display readings consistent with the airplane flight manual.
6. Verify operation of the lighting inverter.
7. Shut down and secure the engine.
8. Install the instrument panel cover. Refer to AMM Section 25-10-00.
9. Make a logbook entry that this service bulletin has been incorporated.
10. Submit the execution report to techpubs@diamondaircraft.com.

I.10 Mass (Weight) and CG

Make the following adjustments to weight and balance:

Items Removed		Items Installed	
Description	**Weight (lbs)**	**Description**	**Weight (lbs)**
VDO oil pressure indicator/transducer	0.5	UMA oil pressure indicator/transducer/ harness	0.82
VDO fuel pressure indicator/transducer	0.5	UMA fuel pressure indicator/transducer/ harness	0.82
VDO oil temperate indicator/probe	0.4	UMA oil temperature indicator/probe/ harness	0.75
VDO fuel quantity indicator/probe	0.7	UMA fuel quantity indicator/Westach probe/harness	1.0
VDO EGT indicator	0.4	UMA EGT indicator/ harness	0.75
VDO voltmeter	0.4	UMA voltmeter/ harness	0.75

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Items Removed		Items Installed	
Description	**Weight (lbs)**	**Description**	**Weight (lbs)**
VDO ammeter	0.4	UMA ammeter/shunt/ harness	0.95
CHT indicator	0.3	UMA CHT indicator	0.82
		UMA lighting inverter	0.20

I.11 Electrical Load Data

Items Removed		Items Installed	
Description	**Current (A)**	**Description**	**Current (A)**
VDO oil pressure indicator/transducer	0.016	UMA oil pressure indicator/transducer/ harness	0.10 (+0.01 with lighting)
VDO fuel pressure indicator/transducer	0.016	UMA fuel pressure indicator/transducer/ harness	0.10 (+0.01 with lighting)
VDO oil temperate indicator/probe	0.016	UMA oil temperature indicator/probe/ harness	0.10 (+0.01 with lighting)
VDO fuel quantity indicator/probe	0.016	UMA fuel quantity indicator/Westach probe/harness	0.10 (+0.01 with lighting)
CHT indicator	N/A	UMA CHT indicator	0.10 (+0.01 with lighting)
		UMA lighting inverter	0.05

II PLANNING INFORMATION

II.1 Material and Availability

Option A: Oil Pressure Indicator		
Quantity	**Part Number**	**Description**
1	22-7930-04-00	Oil pressure indicator
1	22-7930-05-00	Oil pressure transducer
4	MS35214-29	Screw, Phillips

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Option A: Oil Pressure Indicator		
Quantity	**Part Number**	**Description**
4	MS21042-06	Nut, self-locking, ring base
1	22-7930-01-00SB	Oil pressure service bulletin harness
1	M83519/2-8	Solder sleeve
10	MS3367-5-9	Cable tie
50 mm	RNF100-1/16 WHT	Heat shrink, 1/16”

Material may be ordered as kit DAC1-77-01AMK0.

Option B: Fuel Pressure Indicator		
Quantity	**Part Number**	**Description**
1	22-7330-03-00	Fuel pressure indicator
1	22-7330-04-00	Fuel pressure transducer
4	MS35214-29	Screw, Phillips
4	MS21042-06	Nut, self-locking, ring base
1	22-7330-03-00SB	Fuel pressure service bulletin harness
1	M83519/2-8	Solder sleeve
10	MS3367-5-9	Cable tie
50 mm	RNF100-1/16 WHT	Heat shrink, 1/16”

Material may be ordered as kit DAC1-77-02AMK0.

Option C: Oil Temperature Indicator		
Quantity	**Part Number**	**Description**
1	22-7931-02-00	Oil temperature indicator
1	22-7931-01-00	Oil temperature probe
4	MS35214-29	Screw, Phillips
4	MS21042-06	Nut, self-locking, ring base
1	22-7931-02-00SB	Oil temperature service bulletin harness
10	MS3367-5-9	Cable tie

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Option C: Oil Temperature Indicator		
Quantity	**Part Number**	**Description**
50 mm	RNF100-1/16 WHT	Heat shrink, 1/16”
50 mm	RNF100-1/8 WHT	Heat shrink, 1/8”

Material may be ordered as kit DAC1-77-03AMK0.

Option D: Fuel Quantity Indicator		
Quantity	**Part Number**	**Description**
1	22-2840-01-00	Fuel quantity indicator
1	22-2840-02-00	Fuel quantity probe
4	MS35214-29	Screw, Phillips
4	MS21042-06	Nut, self-locking, ring base
1	22-1131-00-13	Placard, fuel quantity
1	22-2840-01-00SB	Fuel quantity service bulletin harness
5	AN525-10R20	Screw
5	NAS1149F0332P	Washer
5	BAS1149F0363P	Washer
1	EMS-A-CO	Cable tie base
10	MS3367-5-9	Cable tie
50 mm	RNF100-1/16 WHT	Heat shrink, 1/16”
1	22-2550-13-00SB	Baggage floor recess

Material may be ordered as kit DAC1-77-04AMK0.

Option E: CHT Indicator		
Quantity	**Part Number**	**Description**
1	22-7720-03-00	CHT indicator
1	035-707	Thermocouple wire, J-type
4	MS35214-29	Screw, Phillips
4	MS21042-06	Nut, self-locking, ring base
1	22-7720-03-00SB	CHT service bulletin harness

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Option E: CHT Indicator		
Quantity	**Part Number**	**Description**
10	MS3367-5-9	Cable tie
50 mm	RNF100-1/16 WHT	Heat shrink, 1/16”
50 mm	RNF100-1/8 WHT	Heat shrink, 1/8”

Material may be ordered as kit DAC1-77-05AMK0.

Option F: Voltmeter		
Quantity	**Part Number**	**Description**
1	22-2430-01-00	Voltmeter
4	MS35214-29	Screw, Phillips
4	MS21042-06	Nut, self-locking, ring base
1	22-2430-03-00SB	Voltmeter service bulletin harness
10	MS3367-5-9	Cable tie
50 mm	RNF100-1/16 WHT	Heat shrink, 1/16”
50 mm	RNF100-1/8 WHT	Heat shrink, 1/8”

Option G: EGT Indicator		
Quantity	**Part Number**	**Description**
1	22-7720-04-00	EGT indicator
1	035-004SP	Thermocouple wire, K-type
2	60617-1	Crimp, socket
4	MS35214-29	Screw, Phillips
4	MS21042-06	Nut, self-locking, ring base
1	22-7720-05-00SB	EGT service bulletin harness
10	MS3367-5-9	Cable tie
50 mm	RNF100-1/16 WHT	Heat shrink, 1/16”
50 mm	RNF100-1/8 WHT	Heat shrink, 1/8”

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Option H: Ammeter		
Quantity	**Part Number**	**Description**
1	22-2430-02-00	Ammeter with shunt
1	22-2430-04-00SB	Ammeter service bulletin harness
1	22-2430-05-00SB	8 awg service bulletin jumper wire
4	MS35214-29	Screw, Phillips
4	MS21042-06	Nut, self-locking, ring base
1	BU2-05-08-200C	Bushing
3	MS21044N3	10/32 locknut
1	AN3-12A	Bolt
2	AN3-6A	Bolt
2	MS25171-1S	Insulation boot
1	33461	Ring terminal
10	MS3367-5-9	Cable tie
50 mm	RNF100-1/16 WHT	Heat shrink, 1/16”
50 mm	RNF100-1/8 WHT	Heat shrink, 1/8”

Template		
Quantity	**Part Number**	**Description**
1	22-7700-13-00SB	Template

This template is required for modifying the instrument panel for the installation of the new indicators.

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Additional Parts for Reverse Panel Installations		
Quantity	**Part Number**	**Description**
1	22-3935-80-02SB	Encoder mounting plate
3	MS24693C24	Screw, countersink
4	MS35206-216	Screw, pan head

The parts above are required for reverse panel installations with the SSD120-30A encoder mounted on the support bracket.

Additional Parts for Optional Lightning Inverter		
Quantity	**Part Number**	**Description**
1	10-700-14	Inverter
2	MS35206-228	Screw
2	MS21042-06	Nut, self-locking
2	NAS1149DN616H	Washer
1	D-436-37	Splice, blue
1	22-7700-11-00SB	Voltage divider assembly
1	1-480318-0	Connector, 2 socket
4	60618-1	Contacts, pins
1	1-480426-0	Connector, 4 position
1	MB4A10	Cable tie base

An optional lighting inverter may be ordered for indicator lightning. One inverter is required for the installation of one or all of the options. *Instrument lighting is a requirement for night VFR operation (Refer to AFM Section 2.13).*

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Additional Parts for Panels with Shock Mount Isolators		
Quantity	**Part Number**	**Description**
1	SMB003-0200-9	Shock mount
1	MS21042-08	Nut, self-locking, ring base
1	NAS1149CN832R	8/32” stainless flat washer

For instrument panels equipped with a shock mount isolator between the panel and the instrument panel cover, the parts above are required to modify the installation for clearance.

II.2 Special Tools

Template, P/N 22-7700-13-00SB.

3/16” nut driver, P/N 5964A1.

II.3 Labour Effort

Number of Options Installed	Hours Required (Including Lightning)
1	7
2	9
3	11
4	13
5	15

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.

II.4 Credit

None.

II.5 Reference Documents

DA 20-C1 Airplane Maintenance Manual, Doc. No. DA201-C1, latest effective issue.

DA 20-C1 Airplane Flight Manual, Doc. No. DA202-C1, latest effective issue.

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III REMARKS

1. All work must be done by a certified aircraft service station, or a certified aircraft maintenance mechanic.
2. All work, in particular that which is not especially described in this service bulletin, must be done in accordance with the referenced Maintenance Manual.
3. Completion of all work must be recorded in the logbook.
4. In case of doubt, contact Diamond Aircraft Industries.

To obtain satisfactory results, procedures specified in this service bulletin must be accomplished in accordance with accepted methods and current government regulations. Diamond Aircraft 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 at the address below.

Diamond Aircraft Industries Inc.
1560 Crumlin Sideroad, London, Ontario, Canada
N5V 1S2

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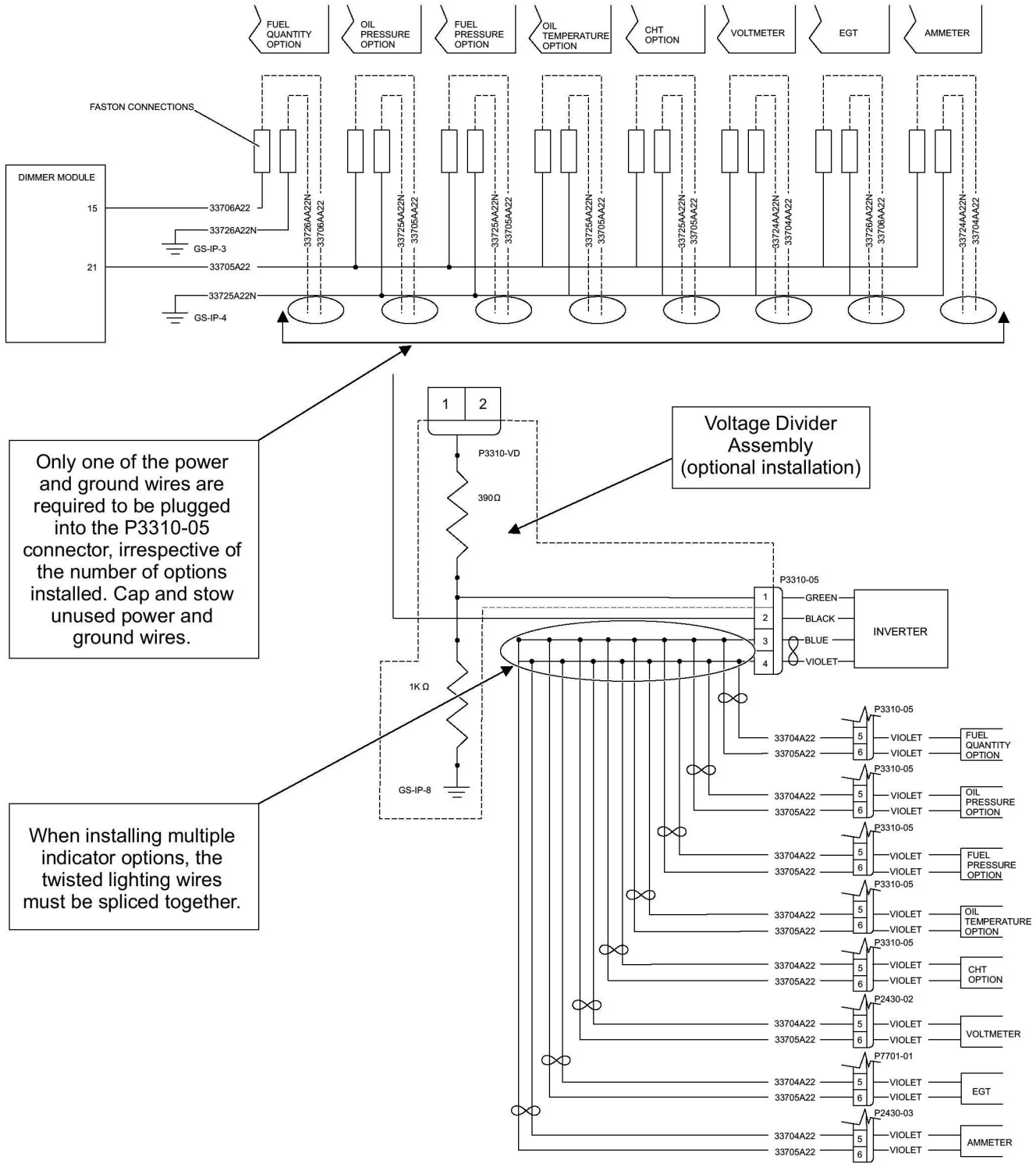

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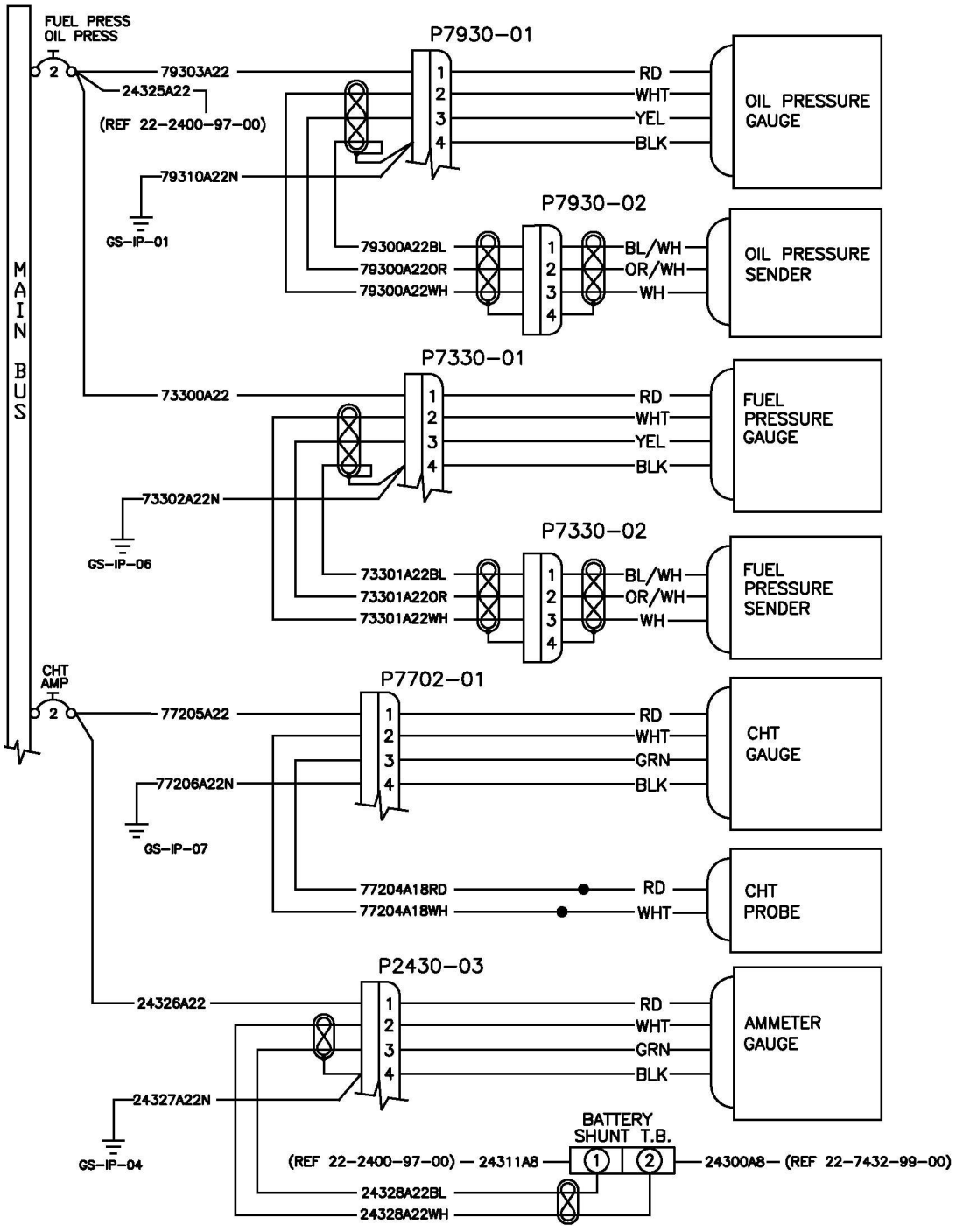

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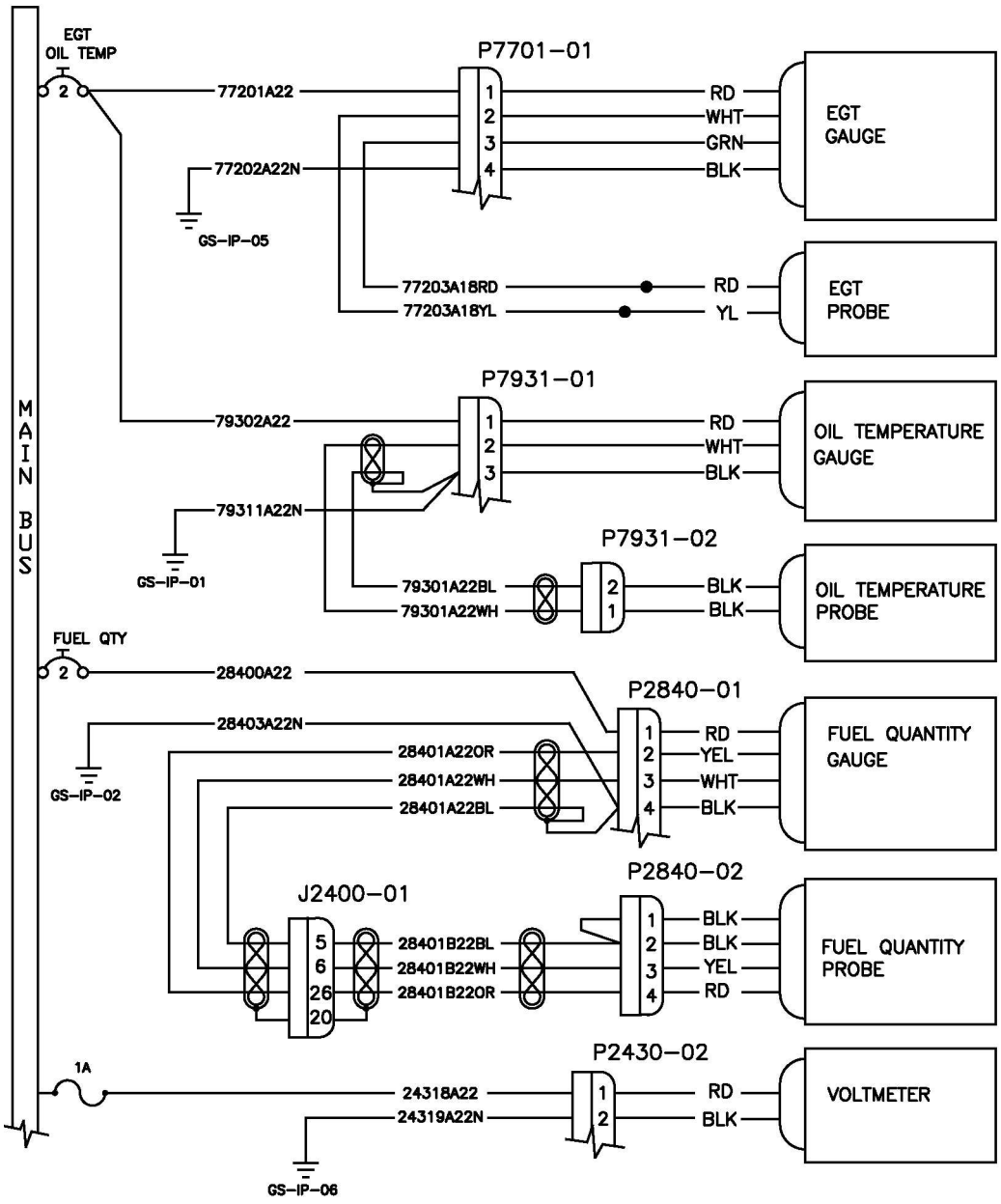

EXECUTION REPORT TO SERVICE BULLETIN DAC1-77-01 REV. 5

AIRPLANE DATA

Airplane Serial Number _____

Airplane Registration _____

Airplane Operator _____

Hours of Operation Airplane (TSN) _____

Typical operation of airplane private, club, training, other: _____

MAINTENANCE DATA:

Date of work _____

Work carried out by _____

_____

Date _____

_____

Name Signature

Please e-mail the completed form to techpubs@diamondaircraft.com

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