

SERVICE BULLETIN



Service Bulletin No.: DAC1-33-02 Rev 0

Date Issued: 23 April, 2010

Title: Installation of Replacement EL Flood Light Page: 1 of 7

- 1. ATA Code:** 3300
- 2. Effectivity:** DA20-C1 aircraft serial numbers C0001 through C0508 (aircraft equipped with the Flood Light option).
- 3. General:** This Service Bulletin addresses replacing the UV250-1 Flood Inverter and Lamp, which are no longer available, with a better Electro Luminescent (EL) Flood Light Inverter and Lamp.
- 4. Compliance:** Compliance with this Service Bulletin is optional to the serial numbers provided above.
- 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
	22-3310-10-01	Flood EL Lamp	1
	1-480305-0	Connector	1
	60618-1	Contacts	2
	EMS-A-CO	Base, Cable Tie	1
	MS3367-4-9	Cable Tie	1
	RNF100-3-8-BK	Heat Shrink, Black	30mm
	PS-250-2WT-2	Label (P3370-09)	1
	APVL314-4-1-L-5QF	Inverter, Flood	1
	22-3910-95-00	Composite, Flood Lamp Bracket	1
	825-350	Channel, Extruded	1.7mm
	MS35206-230	Screw, Machine, Pan Head	2
	MS20365-632	Nut, Self Locking	2
	AN960D6L	Washer, Plain	4
	L160	Resin	AR
	L20	Resin, Alternate Part	AR
	H163	Hardener	AR
	H91	Hardener, Alternate Part	AR

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The above materials may be ordered as kit DAC1-33-02AMK0.

The dry paste kit may be ordered as a kit DA20CPK.

8. Special Tools: N/A

9. References: DA20-C1 Aircraft Maintenance Manual, Document Number DA201-C1.

10. Accomplishment Instructions:

- 10.1 Disconnect the aircraft battery as per ATA chapter 24-31-00 of the Aircraft Maintenance Manual (AMM).
- 10.2 Remove the instrument panel cover as per ATA chapter 25-10-00 of the AMM.
- 10.3 Open the START circuit breaker located on the left side of the instrument panel.
- 10.4 Remove existing extruded rubber channel around edge of the instrument panel cover.
- 10.5 Remove UV250-1 flood strip from instrument panel cover.
- 10.6 Cover the flood lamp attaching screw holes on the top surface of the instrument panel cover using masking tape. This step will make the clean up process easy to do later.

WARNING: USE CAUTION WHEN HANDLING AND MIXING RESIN AND HARDENER.
WEAR GLOVES AND WORK IN A WELL VENTILLATED AREA.

- 10.7 Prepare surface for bonding. Sand bonding surfaces with 120 grade sand paper. Remove all paint from bonding surfaces.

NOTE: Do not damage composite layers.

- 10.8 Wipe clean with isopropyl alcohol.

NOTE: Do not allow isopropyl alcohol to dry on surface, wipe dry.

- 10.9 Remove peel ply from composite flood lamp bracket.
- 10.10 Mix resin (reference NOTES located under Table 1), wet all bonding surfaces with mixed resin prior to paste application.
- 10.11 Mix paste as per Table 1. Apply paste to fill flood lamp attaching screw holes.
- 10.12 Apply paste to bonding surface on flood lamp bracket.

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- 10.13 Install bracket onto instrument panel cover (See Figure 1).
- 10.14 Clean excess paste and make sure that the flood lamp groove is free of paste.
- 10.15 Cure and post-cure. Pre-curing temperature: 20-25°C (68-77°F), Time: 24 hours
Post-curing temperature: 60°C (140°F), Time: 15 hours

NOTE: If L20 and H91 resin are used, post-cure 4 hours at 60°C.

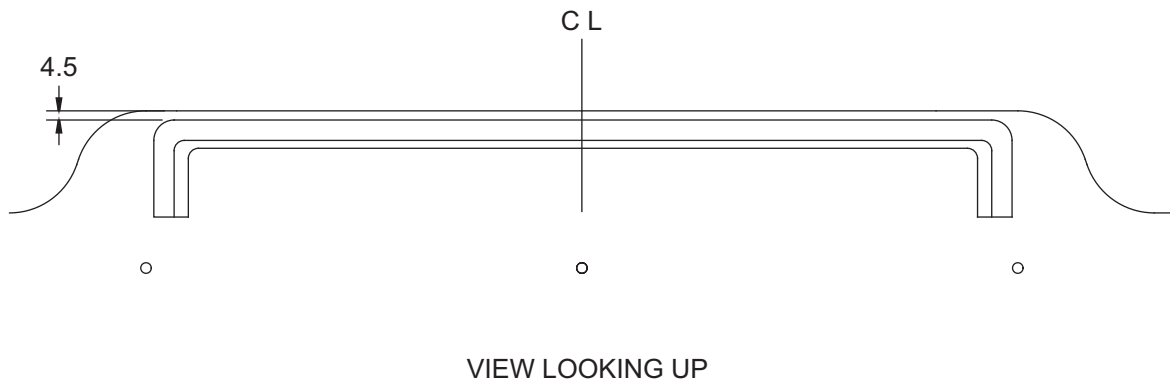


Figure 1 - Installation of Bracket to the Instrument Panel Cover

Table 1 - Mixed Resin Composition by Weight

Mixed Resin Weight (g)	100	200	300	400	500
Cotton Flox (g)	11.5	23.0	34.5	46.0	57.4
Aerosil (g)	2.8	5.5	8.3	11.1	13.8
Microballoons (g)	2.3	4.7	7.0	9.4	11.7

- NOTE: 1) Resin L160 (100 parts by weight) Hardener H163 (28 parts by weight)
2) DA20-C1 aircraft serial numbers C0186 through C0199 use Resin L285 (100 parts by weight), Hardener H286 (40 parts by weight)
3) Alternate, L20 (100 parts by weight) and H91 (27 parts by weight).

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- 10.16 Paint filled holes, and bonded bracket with color black. Let the paint set to dry before continuing to the next step.
- 10.17 Bond new extruded channel along edge of instrument panel cover using Loctite 495 or equivalent. Trim excess extruded channel off.
- 10.18 Remove clear backing from new flood lamp (PN 22-3310-10-01) exposing adhesive side. Gently slide into newly bonded bracket groove.
- 10.19 Press fit flood lamp to the instrument panel cover.
- 10.20 Install contacts, connector, label, and heat shrink as shown in Figure 2.
- 10.21 Bond cable tie base to underside of instrument panel cover using DP110 adhesive, or equivalent. Attach with cable tie. See Figure 2 for approximate bonding location.
- 10.22 Remove UV250-1 flood inverter from left side of instrument panel.
- 10.23 Drill holes for new flood inverter per template provided (see Figure 3) and clean all debris before continuing to the next step.

NOTE: Make sure the instrument panel harness is clear of new inverter hole locations prior to drilling.
- 10.24 Install the new flood inverter with hardware provided into the new inverter location.
- 10.25 Connect flood inverter connector J3370-1 to the instrument panel harness connector P3370-1 and connect the ground wire (black wire) to ground stud location #18. Safely attach using acceptable aircraft practices.

NOTE: Connector J3370-09 is for the Flood lamp.

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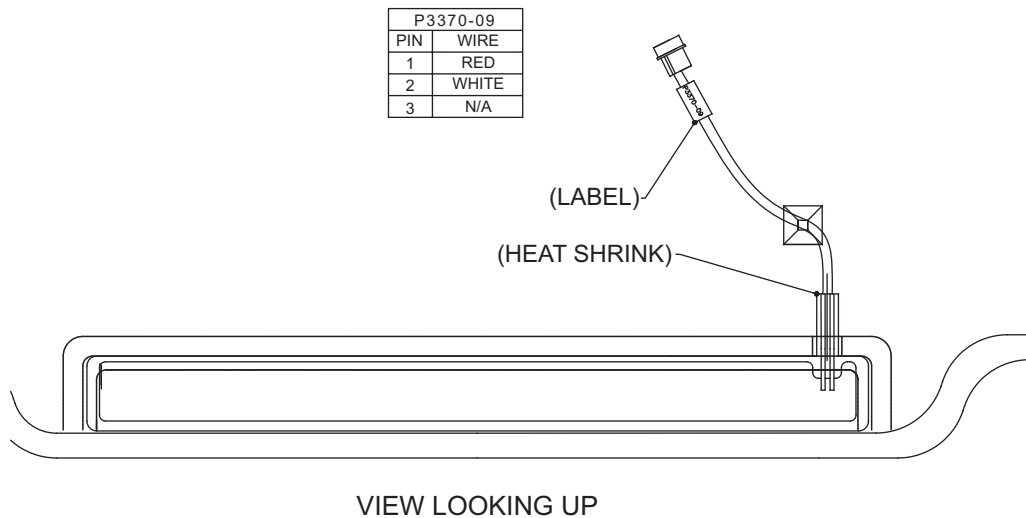


Figure 2 - Installation of Replacement EL Flood light

10.26 Clean the work area and inspect for foreign objects.

10.27 Install the instrument panel cover as per ATA chapter 25-10-00 of the AMM.

NOTE: Make sure to plug in the flood lamp connector.

10.28 Connect the aircraft battery as per ATA chapter 24-31-00 of the AMM.

10.29 Do a function check of the flood light system as follows:

10.29.1 Open battery circuit breaker and turn on Electrical Master switch.

10.29.2 Turn flood switch on and continue to adjust clockwise. Make sure that the flood lamp turns on, and continues to get brighter.

10.30 Remove aircraft power and make a log book entry that this Service Bulletin has been incorporated.

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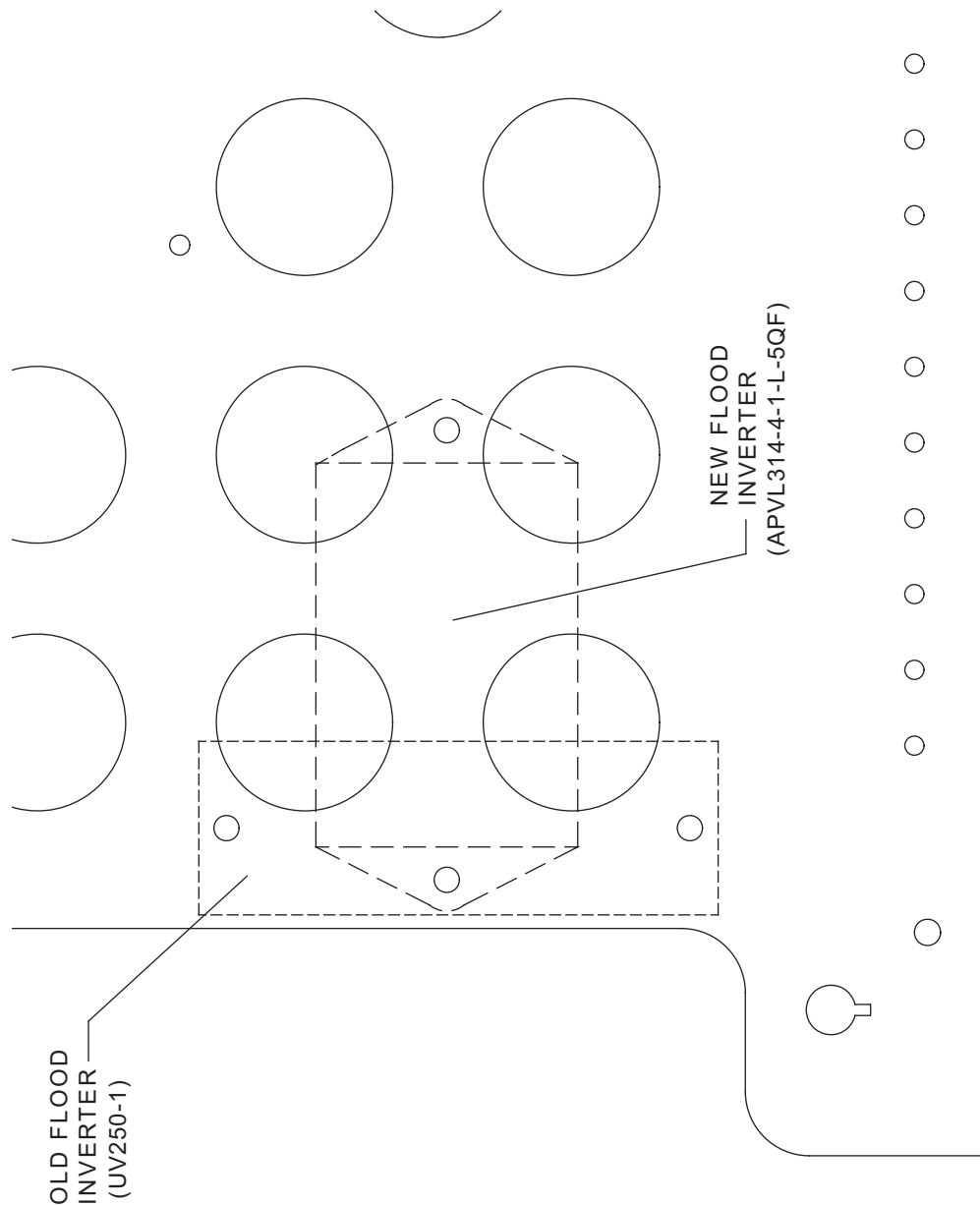


Figure 3 - New Flood Inverter Template

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- 11. Weight and Balance:** There is no impact to the weight and balance.
- 12. Availability:** Contact Diamond Aircraft.
- 13. Electrical Load Data:** There is no impact to the electrical load.
- 14. Credit:** None.

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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