

SERVICE BULLETIN



Service Bulletin No.: DAC1-24-07 Rev 0

Date Issued: 08 Nov. 2012

Title: Replacement of Battery/EPU Relay Contactor

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1. **ATA Code:** 2430
2. **Effectively:** DA20-C1 aircraft, Serial Numbers C0001 through C0625.
3. **General:** This Service Bulletin addresses the installation of the LAMAR relay contactor for the Battery and/or EPU relay in the DA20-C1.
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** For aircraft serial numbers C0001 to C0148 and C0150 approximately 2 hours will be required to accomplish the replacement of either battery or EPU relay contactor.

For aircraft serial numbers C0149 and C0151 and up, approximately 1 hour will be required to accomplish the replacement of either battery or EPU relay contactor.

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
	X61-0028	Contactor, 12v, 100A	1
	31895	Ring Terminal	1
	36154	Ring Terminal	2
	MS3367-5-9	Cable ties	10
	M22759/16-20-9	Wire, 20 AWG	100mm
	MS21044N4	Locknut	2
	NAS1149F0463P	Washer	2
	AN4-6A	Bolt	2
	AN4-4A	Bolt	2
	1N4007	Diode	1
	RNF100-1/8 CLEAR	Heatshrink	50mm

The above Materials may be ordered as kit **DAC1-24-07-AML0**.

NOTE: The above listed material is required for either battery relay installation or EPU relay installation. If both relay contactors are being replaced two kits must be ordered.

22-2442-64-00	EPU Jumper Cable	1
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NOTE: For aircraft serial numbers C0149 and C0151 and up the above EPU Jumper cable also must be ordered if the battery relay is being replaced.

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8. Special Tools: None

9. References: DA20-C1 Aircraft Maintenance Manual (AMM), Document DA201-C1.

10. Accomplishment Instructions:

10.1 Aircraft serial numbers C0001 to C0148 and C0150 (Aft location)

10.1.1 Remove the battery and/or EPU relay contactors in accordance with AMM DA201-C1, Chapters 24-31-00 and 24-40-00. See Figure 1 for relay locations.

NOTE: The battery relay must be removed if only the EPU relay is being replaced.

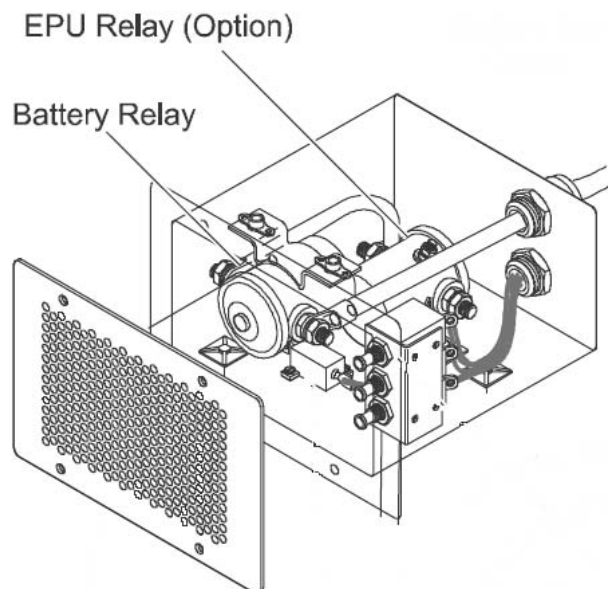


Figure 1: Relay Box

10.1.2 Rework the battery and/or EPU relay wires as shown in Figure 2.

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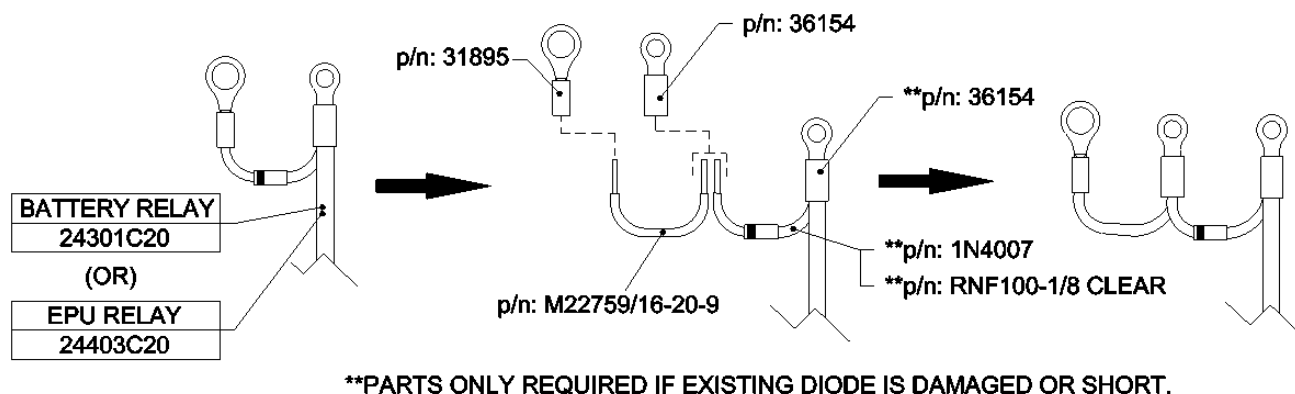


Figure 2: Relay Wire Modification

- 10.1.3** If only the battery relay is being replaced continue to step 10.1.6. If the EPU relay is being replaced continue to the next step.
- 10.1.4** Install the new EPU relay (P/N: X61-0028) using the supplied hardware (bolt P/N: AN4-4A, washer P/N: NAS1149F0463P) and cable ties (P/N: MS3367-4-9). Refer to AMM DA201-C1, Chapter 24-40-00 and Figure 3.

NOTE: Relay mounting tabs may need to be filed for proper fit. If filing was required apply suitable surface protection to all areas where filing has occurred (Nycote 7-11 or equivalent).

NOTE: Do not install the battery relay if the battery relay is being replaced

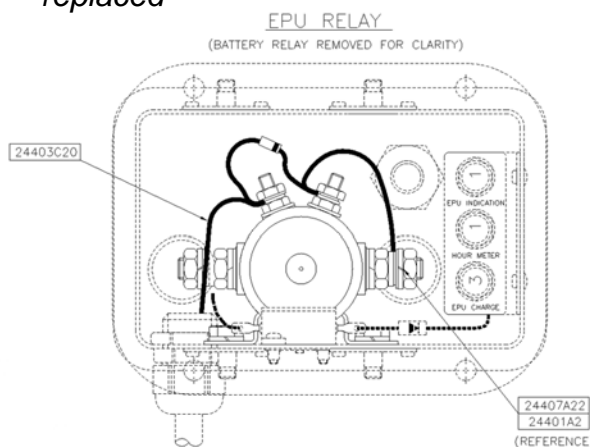


Figure 3: EPU Relay Installation

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- 10.1.5 If the battery relay is being replaced continue to the next step. If not, continue to step 10.1.7.
- 10.1.6 Install the new battery relay contactor (P/N: X61-0028) using the supplied hardware (bolt P/N: AN4-4A, washer P/N: NAS1149F0463P) and cable ties (P/N: MS3367-4-9). Refer to AMM DA201-C1, Chapter 24-31-00 and Figure 4.

NOTE: Relay mounting tabs may need to be filed for proper fit.

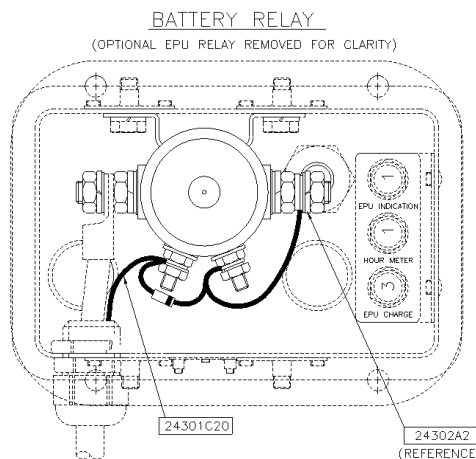


Figure 4: Battery Relay Installation

- 10.1.7 Inspect for FOD in all areas where work occurred.
- 10.1.8 Function test relay(s):
 - 10.1.8.1 If the battery relay contactor was replaced, perform the battery relay function test in accordance with AMM DA201-C1, Chapter 24-31-00.
 - 10.1.8.2 If the EPU relay contactor was replaced perform the function test in accordance with AMM DA201-C1, Chapter 24-40-00.
- 10.1.9 Make a log book entry that this Service Bulletin has been incorporated.

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10.2 Aircraft serial numbers C0149 and C0151 to C0625. (Forward location)

- 10.2.1 Remove the upper cowl in accordance with AMM DA201-C1, Chapter 71-10-00.
- 10.2.2 Disconnect the aircraft battery in accordance with AMM DA201-C1, Chapter 24-31-00.

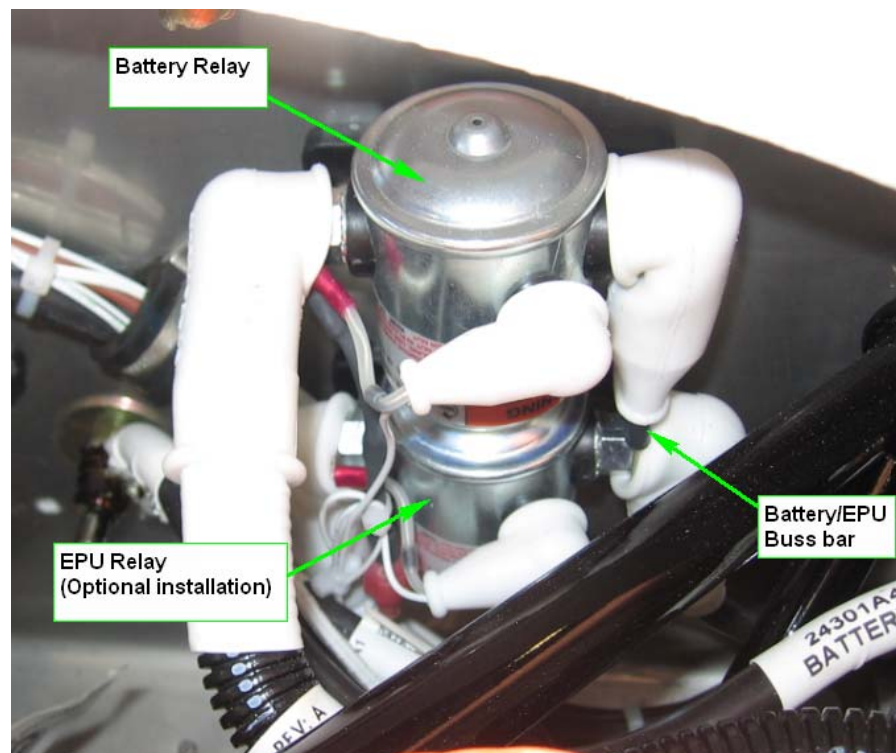


Figure 5: Relay Location (Firewall)

- 10.2.3 Disconnect the wires from the relay(s) being replaced. Remove the hardware and the relay(s) from the aircraft.
- 10.2.4 Rework the battery and/or EPU relay wires as shown in Figure 6.

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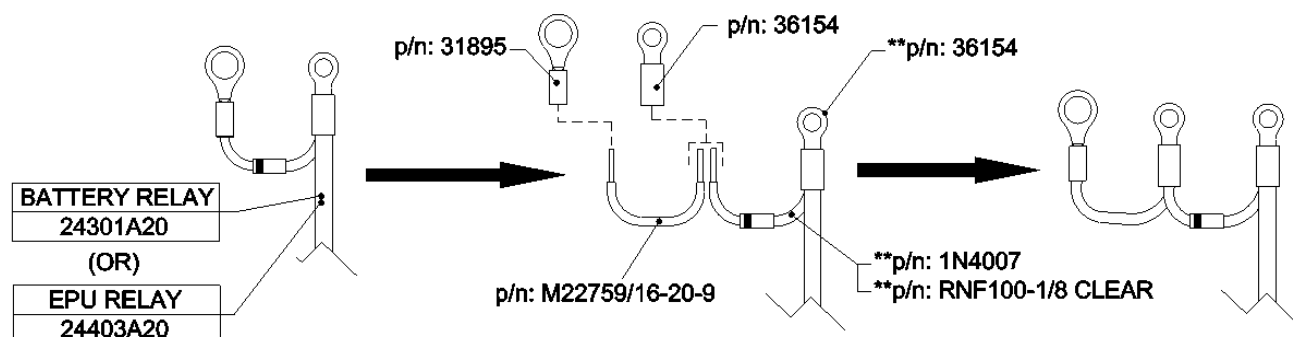


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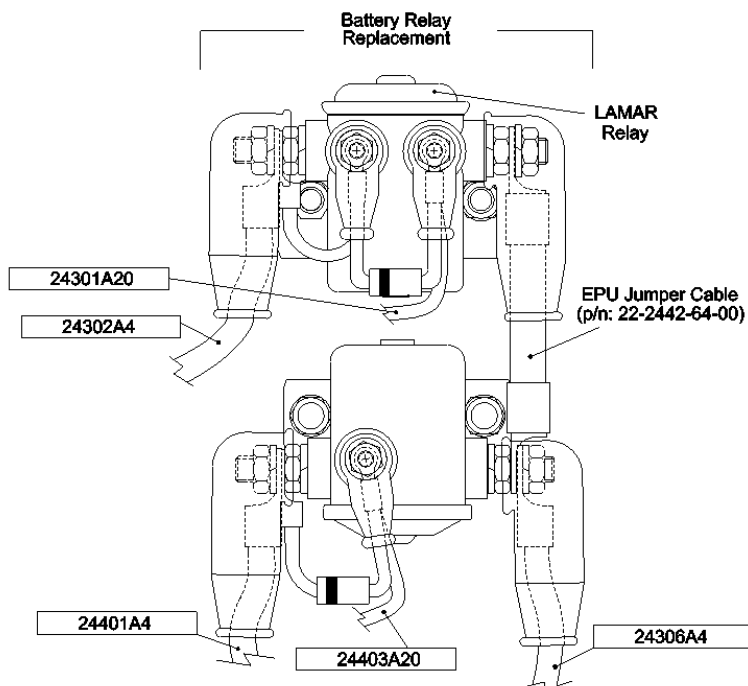


****PARTS ONLY REQUIRED IF EXISTING DIODE IS DAMAGED OR SHORT.**

Figure 6: Relay Wire Modification

10.2.5 Install the relay contactor(s) as shown below and secure with the supplied cable ties (P/N: MS3367-4-9) and hardware (bolt P/N: AN4-6A, washer P/N: NAS1149F0463P, locknut P/N: MS21044N4).

10.2.5.1 If only the battery relay is being replaced:



NOTE: Relay mounting tabs may need to be filed for proper fit. If filing was required apply suitable surface protection to all areas where filing has occurred (Nycote 7-11 or equivalent).

NOTE: EPU relay is to be oriented downward.

NOTE: New Jumper EPU Cable is installed in place of bus bar.

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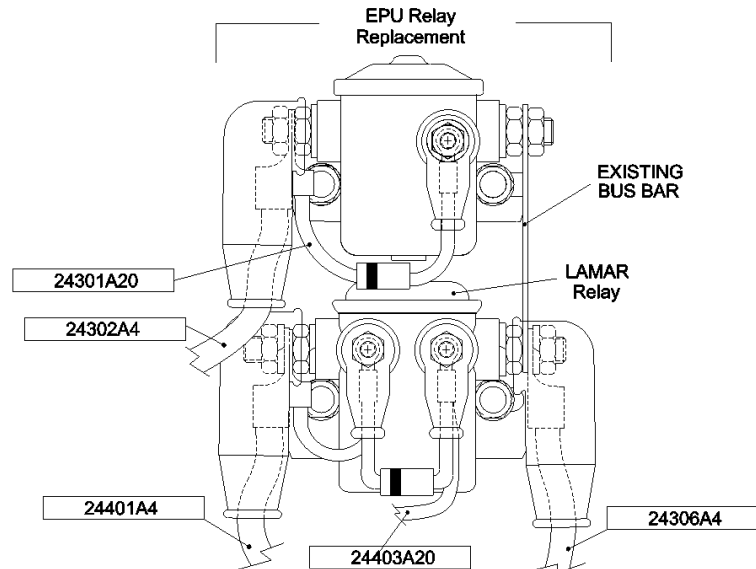
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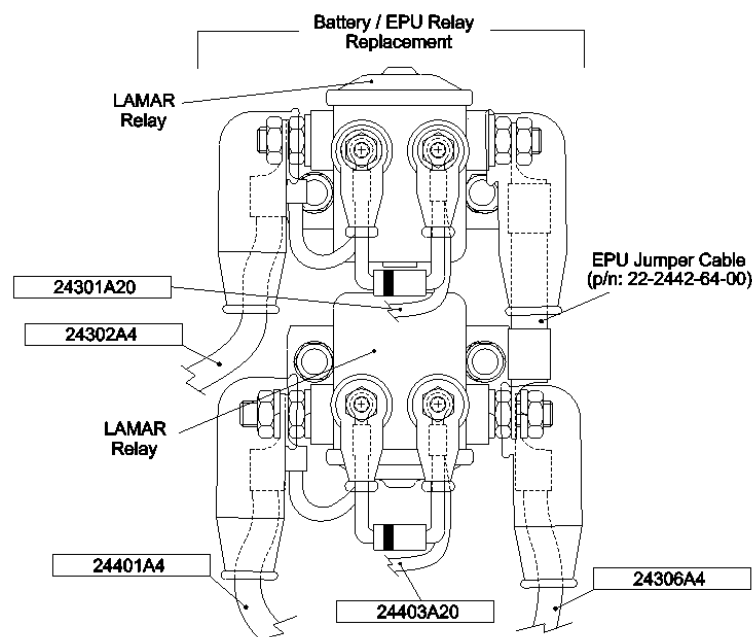
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10.2.5.2 If only the EPU relay is being replaced:



NOTE: Relay mounting tabs may need to be filed for proper fit. If filing was required apply suitable surface protection to all areas where filing has occurred (Nycote 7-11 or equivalent).

10.2.5.3 If both Battery and EPU relays are being replaced:



NOTE: Relay mounting tabs may need to be filed for proper fit. If filing was required apply suitable surface protection to all areas where filing has occurred (Nycote 7-11 or equivalent).

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NOTE: EPU relay is to be oriented downward.

NOTE: New Jumper EPU Cable is installed in place of bus bar.

- 10.2.6** Inspect for FOD in all areas where work occurred.
- 10.2.7** Connect the aircraft battery in accordance with AMM DA201-C1, Chapter 24-31-00.
- 10.2.8** If the battery relay contactor was replaced, carry out the battery relay function test in accordance with AMM DA201-C1, Chapter 24-31-00.
- 10.2.9** If the EPU relay contactor was replaced, carry out the EPU relay function test in accordance with AMM DA201-C1, Chapter 24-40-00.
- 10.2.10** Install the upper cowl in accordance with AMM DA201-C1, Chapter 71-10-00.
- 10.2.11** Make a log book entry that this Service Bulletin has been incorporated.

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

Removed:

Relay Contactor	Part Number	Weight kg (lbs)	Arm inch (m)
battery relay	111-140d	-0.31 (-0.68)	-31.5 (-0.8)
EPU relay	111-140d	-0.31 (-0.68)	-31.5 (-0.8)

Added:

Relay Contactor	Part Number	Weight kg (lbs)	Arm inch (m)
LAMAR battery relay	X61-0028	+0.45 (+0.99)	-31.5 (-0.8)
LAMAR EPU relay	X61-0028	+0.45 (+0.99)	-31.5 (-0.8)

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

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13. Electrical Load Data: 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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