

SERVICE BULLETIN



Service Bulletin No.: DAC1-73-04 Rev 4

Date Issued: 29 September 2008

Title: Engine Fuel System Conversion
IO-240-B17B to IO-240-B3B

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1. **ATA Code:** 7300
2. **Effectivity:** DA20-C1 S/N C0380 to C0456 or earlier aircraft on which SB DAC1-73-01 has been accomplished (aircraft equipped with IO-240-B17B engine). Requires removal of altitude compensating fuel system (TCM Service Information Letter SIL 07-7).
3. **General:** This service bulletin addresses operational issues with the IO-240-B17B engine. The associated engine fuel system changes are addressed in the referenced TCM Service Information Letter.
4. **Compliance:** Optional/Recommended.
5. **Approval:** Engineering data referenced or contained in this service bulletin is approved as part of the type design.
6. **Labour:** Approximately 10-12 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
	22-2824-02-00	Fuel Pump	1
	22-7301-00-01	Duct Collar, Induction	1
	22-7310-62-00	Splash Shield, Fuel Lines	1
	22-7330-00-01	Gauge, Fuel Pressure	1
	22-7522-90-07	Forward baffle	1
	22-7612-63-00	Bracket, Mixture Cable	1
	AE3660001B0084	Hose, Fuel Pressure Transducer	1
	MS21919WCG24	P-Clamp	1
	MS21044N3	Nut	1
	MS28778-6	O-Ring, Fuel Pump	2
	AN3-4A	Bolt, Hex	1
	AN816-3	Adapter, Straight, Pipe to Tube	1
	AN910-1D	Coupling, Pipe	1
	AN929-4J	Cap, Flare (stainless)	1
	AN929-4	Cap, Flare (aluminum)	1
	AN960-4	Washer, Flat	10
	AN960-10	Washer	2
	BSPQ-43	Rivet	10
	2-520184-2	Faston crimp	2
	825-350	Rubber Channel	4"
	ORO375	Gascolator O-Ring	1

The above material may be ordered as kit DAC1-73-04-AMK1.
(See also referenced documents)

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Special Tools: Clean fuel hose for flushing fuel system components
Approved fuel container
Paper filters (e.g. paint or coffee filters)

8. References: DA20-C1 Maintenance Manual (AMM), Document number DA201-C1.
TCM Service Information Directive SID 97-3, Revision C or higher
TCM Service Information Letter SIL 07-7, latest approved revision

9. Accomplishment Instructions:

Part 1 – Electric Fuel Pump

- | | | |
|---------|--|--|
| 10.1.1 | Remove the engine cowlings. | |
| 10.1.2 | Disconnect the battery. Refer to AMM, Chapter 24-31. | |
| 10.1.3 | Ground the aircraft. | |
| 10.1.4 | Remove the fuel-tank access-panels from the bottom of the fuselage. | |
| 10.1.5 | Close the maintenance shut off valve. | |
| 10.1.6 | Clean the gascolator filter AMM Chapter 28-20-00. If contamination is found, flush the fuel tank. Replace the Gascolator O-ring if necessary. | |
| 10.1.7 | Remove existing electric fuel pump in accordance with AMM, Chapter 28-20. | |
| 10.1.8 | Put the end of the fuel feed hose into an approved container through a paper filter. Open the maintenance shut off valve and allow approximately 1qt (1ℓ) of fuel to flow into the filter. If contamination is found in filter, flush the fuel tank. | |
| 10.1.9 | Install the electric fuel pump 22-2824-02-00. Refer to AMM, Chapter 28-20. Do not connect the fuel hose to the pump outlet. | |
| 10.1.10 | Connect a clean fuel line to the outlet of the pump and put the end of the hose into an approved container through a paper filter. | |
| 10.1.11 | Connect the battery. Refer to AMM, Chapter 24-31. | |
| 10.1.12 | Open the maintenance shut off valve and operate the electric fuel pump on PRIME until a steady stream of fuel is seen out of the line and allow approximately 1qt (1ℓ) of fuel to flow into the filter. If | |

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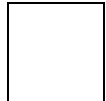
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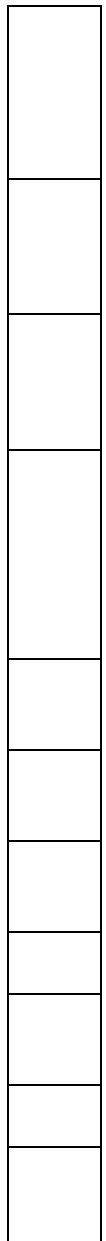
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- 10.3.12** Connect the SCAT duct and induction duct collar 22-7301-00-01 to the throttle body with the retained hose clamp.



Part 4 – Fuel and Drain Lines

- 10.4.1** For aircraft with fuel return line AE7010001E0593, remove the T-fitting from the firewall bulkhead fitting and connect the fuel return line to bulkhead fitting. Install splash shield 22-7310-62-00 using retained hardware.
- 10.4.2** For aircraft with fuel return line AE7010001E0567, install cap AN929-4J on the T-fitting at the firewall. Re-install splash shield 22-7313-62-00 using retained hardware.
- 10.4.3** Install the fuel hose AE3660001B0084 on the 90° fitting on the front of the manifold valve and route through existing hole on the right side of the aft baffle.
- 10.4.4** Install the fuel pressure transducer on the fuel hose AE3660001B0084 with AN816-3 Adapter and AN910-1D coupling then install pressure transducer on engine mount with P-clamp MS21919WCG24, AN3-4A bolt, AN960-10 washers and MS21044N3 nut. Refer to Figure 3.
- 10.4.5** Cut off Faston crimps from fuel pressure transducer wires 73301A20 and 73303A20N and remove spiral wrap for wires.
- 10.4.6** Re-route the wires to exit the wire bundle with starter relay wires (80100A20 and 80109A20N).
- 10.4.7** Re-spiral wrap wires from breakout point to transducer and re-crimp new Faston crimps (2-520184-2).
- 10.4.8** Connect Faston crimps to fuel pressure transducer.
- 10.4.9** Disconnect the drain line 22-7173-62-00 from T-fitting under fuel pump.
- 10.4.10** Install cap AN929-4 on the T-fitting in the drain assembly.
- 10.4.11** Fabricate aluminum blanking plate and plug transducer hole on the left side of the aft baffle as shown in Figure 2.



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Part 5 – Instrument Panel

- 10.5.1 Remove instrument panel cover in accordance with AMM Chapter 25-10.
- 10.5.2 Remove fuel pressure gauge 22-7330-02-00.
- 10.5.3 Install fuel pressure gauge 22-7330-00-01.
- 10.5.4 Do a check for foreign objects then install the instrument panel cover. Refer to AMM, Chapter 25-10.
- 10.5.5 Remove placard 22-1130-00-33 (“*This aircraft is equipped with an altitude compensating fuel system...*”) from instrument panel. If necessary, remove any adhesive residue with solvent.

Part 6 – Final Tasks

- 10.6.1 Connect the battery. Refer to AMM Chapter 24-31.
- 10.6.2 Open the maintenance fuel shut off valve.
- 10.6.3 Do a check for fuel leaks.
- 10.6.4 Install the fuel-tank access-panels in the bottom of the fuselage.
- 10.6.5 Do the engine ground test. Refer to AMM, Chapter 05-20.
- 10.6.6 Install the engine cowlings.

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11. Figures:

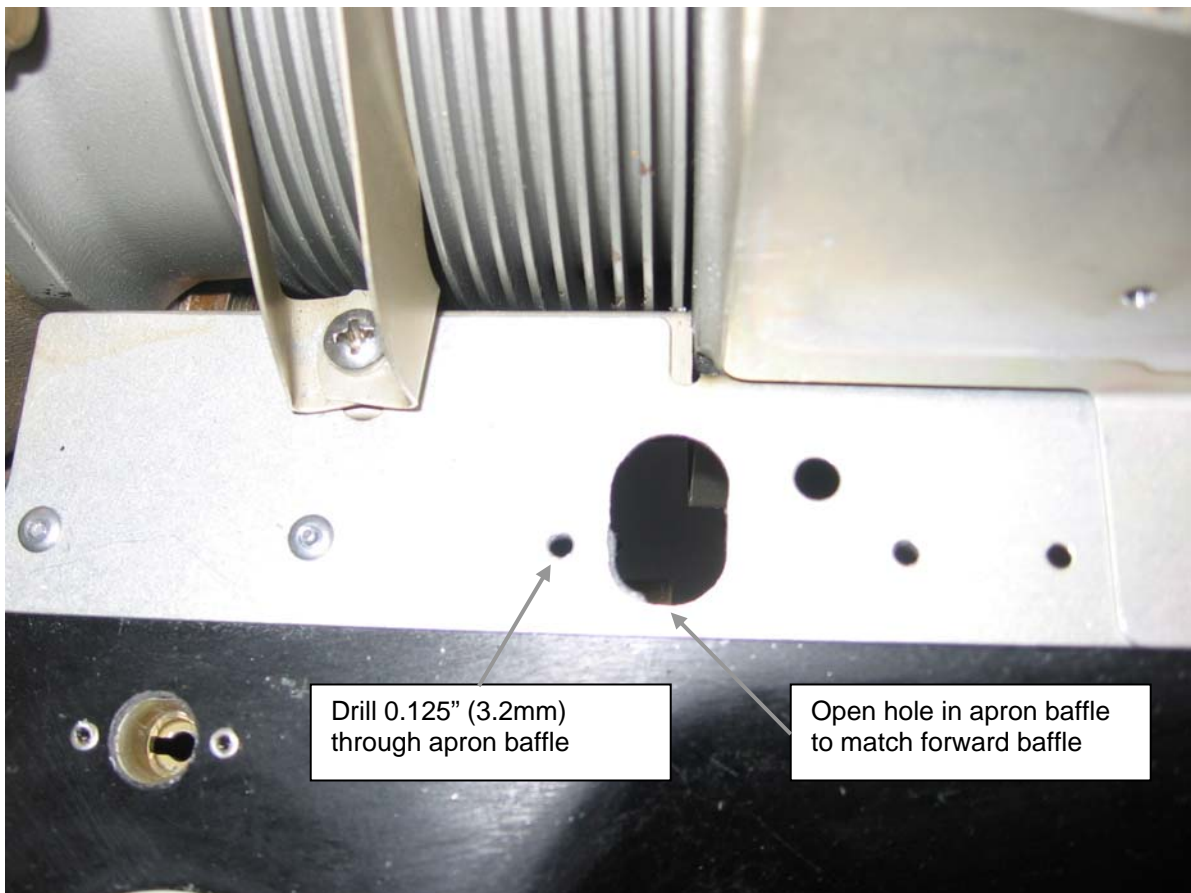


Figure 1 – Mixture Cable Holes in Apron Baffle

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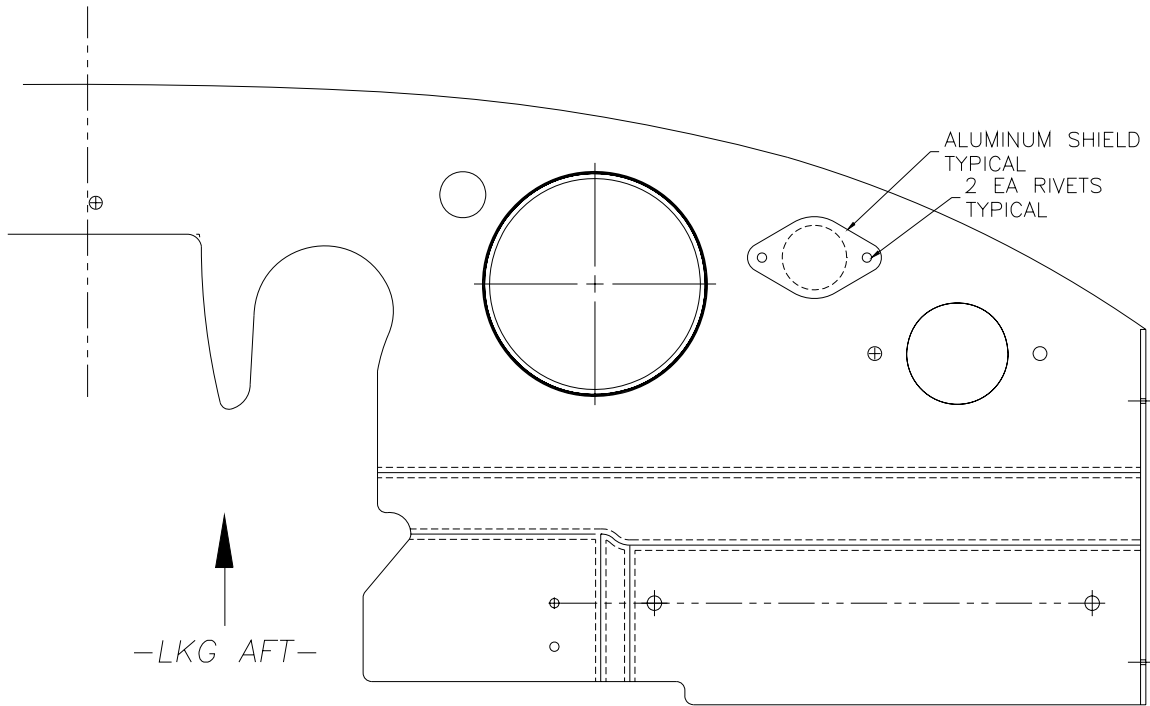


Figure 2 – Plug Mixture Cable Hole in Aft Baffle

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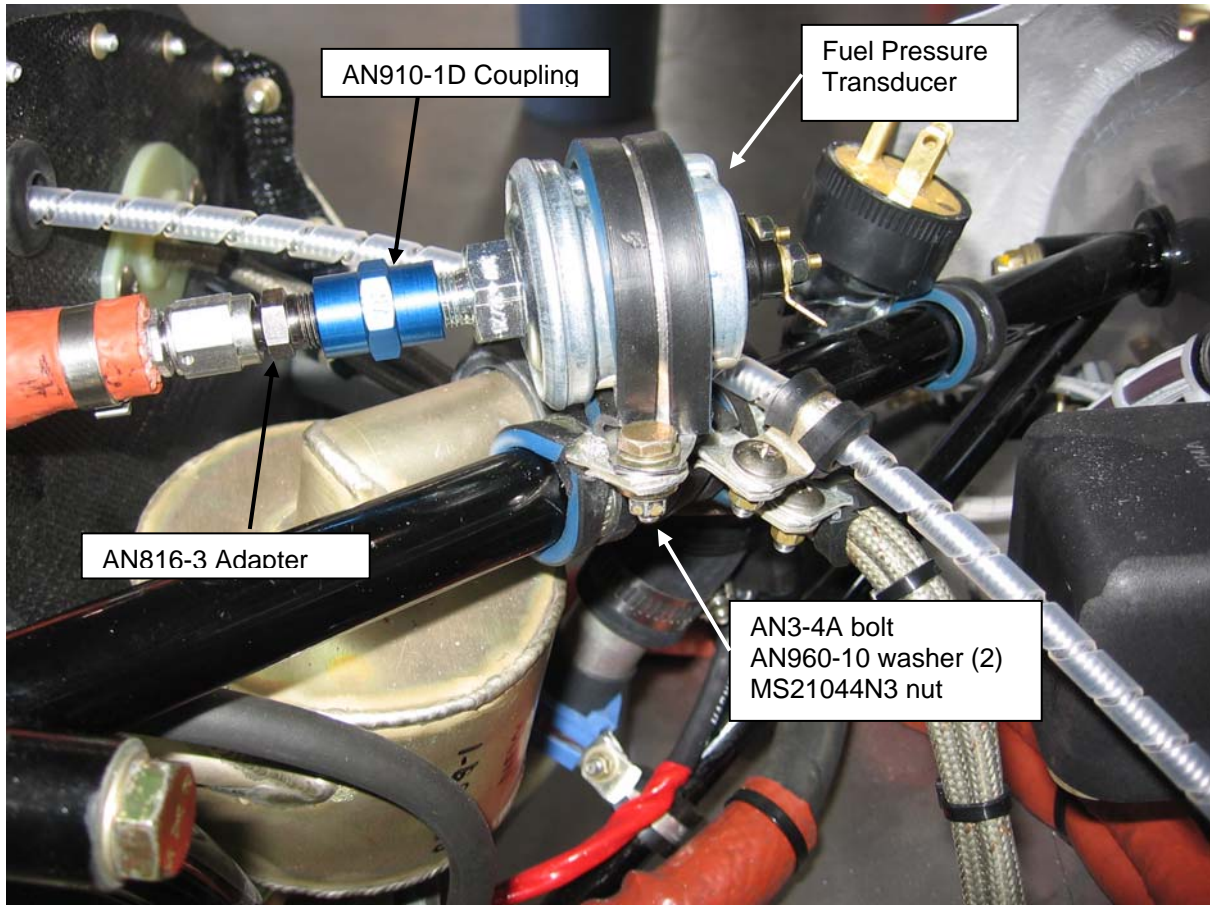


Figure 3 – Fuel Pressure Transducer Installation

12. Weight and Balance:

The weight and balance is not affected by this Service Bulletin.

13. Labor Credit:

Contact Diamond Aircraft

14. Availability:

Contact Diamond Aircraft.

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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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