

R44 II Aux Fuel Pump Assembly Upgrade Installation Kit Instructions

Applicable to helicopter S/N 13158 and prior equipped with D743-1, D743-2, or D743-4 Aux Fuel Pump. D743-1, D743-2, and D743-4 pumps are no longer available. Previous compliance with R44 Service Bulletin SB-69 required (helicopter S/N 10001 thru 12222), or installation of A666-1 Gascolator Rev. Q or subsequent. This kit is included in R44 II 2200-Hour Inspection Kit.

NOTE

Visit www.robinsonheli.com to verify kit instructions are current revision. Review instructions before installation; contact RHC Technical Support with questions. Verify kit contents match list; contact RHC Customer Service if parts are missing or damaged.

ITEM	PART NUMBER	KIT CONTENTS	QTY
1	KI-206-3 Instr.	Kit Instructions	1
2	A454-1	Support	1
3	A457-11	Adapter	1
4	A729-33	Tube	1
5	B330-25	Palnut	2
6	C744-1	Damper	1
7	D210-4	Nut	1
8	D277-6	Clamp	2
9	D454-6	Retainer	2
10	D743-3	Pump Assembly – Fuel	1
11	AN833-6	Elbow (steel)	1
12	AN833-6D	Elbow (aluminum)	1
13	MS29512-06	Packing	2
14	MS3367-5-9+	Ty-rap (Note: “+” in contents part number indicates 20-qty pack)	1
15	NAS1149F0463P	Washer	1

Consumables

Refer to R44 Maintenance Manual (MM) § 1.400 for approved materials list.

- A257-6 Grease
- B270-6 Sealant

Kit Instructions

1. Verify gascolator bowl is secured with threaded collar. Replace gascolator as required.
2. Remove ignition key. Pull AUX FUEL PUMP circuit breaker. Turn master switch and fuel shut-off valve OFF. Remove engine right cowling and drain gascolator.

Kit Instructions (continued)

3. Refer to R44 Illustrated Parts Catalog (IPC) Figure 28-1. Clean exterior of A666-1 gascolator assembly, D743-1 or D743-2 electric aux fuel pump assembly, attached fittings, C741-1 line assembly, and B283-3 hose assembly.
4. Refer to R44 IPC Figures 28-15 and 28-17 (or 28-21, as applicable). Remove ty-raps as required, and label & disconnect D745-1 vacuum switch and aux fuel pump wiring from airframe electrical harness at connectors. Label and disconnect wiring from B426-2 fuel pressure switch.
5. Disconnect B283-3 hose assembly from aux fuel pump tee and protect hose inlet. Disconnect C741-1 line assembly from gascolator inlet nipple.
6. Detach and retain aux fuel pump's drain tube clamp and attaching hardware from vertical firewall. Open HTM-300 clamp securing aux fuel pump to D742-1 support and D288-1 clip on firewall. Remove nut and washer securing gascolator to A454-1 support. Remove aux fuel pump and attached gascolator, discarding any shim washers from A455-1 plug. Protect outlet of C741-1 line assembly.
7. Separate gascolator from pump by disconnecting adapter from AN833 elbow. Remove and discard existing adapter from gascolator outlet; install new A457-11 adapter (supplied) wet with B270-6 sealant (do not apply sealant to first thread) into gascolator and standard torque to 85 in.-lb. Protect gascolator inlet and outlet.

NOTE

Install D277-6 clamps (provided) onto A729-8 tube of gascolator if no safety wire is present (earlier helicopters). Alternately, replacement of safety wire with clamps is optional.

8. Remove elbow(s) and tee (if installed) with attaching hardware from D743-1 or D743-2 aux fuel pump assembly, retaining two D452-6 nuts only. Remove and retain B426-2 fuel pressure switch. Clean retained parts and verify no obvious damage.
9. Refer to Figure 1. In new D743-3 aux fuel pump assembly, install new AN833-6 steel elbow in inlet and new AN833-6D aluminum elbow in outlet (marked "OUT") as follows:
 - a. Refer to Figure 2A. Lubricate MS29512-06 packing using A257-6 grease and assemble parts as shown. Install retainer into counterbore of nut; install packing against retainer. Turn nut down by hand until packing is against the lower threaded section of elbow.
 - b. Refer to Figure 2B. Ensuring D452 nut turns with elbow, screw elbow into pump by hand until packing contacts pump. Hold nuts with wrench and screw elbow in one-half turn, plus one turn maximum to align elbow relative to pump per Figure 1 (inlet elbow parallel to motor axis and outlet elbow per Detail A).
 - c. Refer to Figure 2C. Hold elbow with wrench and special torque D452-6 nut to 150 in.-lb, special torque palnut to 75 in.-lb, and torque stripe per MM Figure 2-1; repeat for remaining elbow.

Kit Instructions (continued)

10. Apply light coat B270-6 sealant to C744-1 damper threads (do not apply sealant to first thread), install damper in D743-3 aux fuel pump assembly, and standard torque C744-1 damper to 60 in.-lb. Apply light coat B270-6 sealant to B426-2 fuel pressure switch (do not apply sealant to first thread), install switch on C744-1 damper, and standard torque switch to 60 in.-lb. Tighten switch further as required to orient "NC" terminal within 10° per Figure 1.
11. Verify A454-1 support is Rev E or subsequent (holes are slotted). If support is Rev D or prior (holes are round), remove and discard support and install new A454-1 support (supplied) using existing hardware. Leave installation hardware slightly loose.
12. Connect A457-11 adapter installed on gascolator to the pump's lower AN833-6 steel elbow. Align gascolator so installed A455-1 plug points up and parallel with pump body, special torque adapter nut to 285 in.-lb, and torque stripe per MM Figure 2-1.
13. Refer to Figure 1. Install pump assembly ensuring A455-1 plug fits in hole of A454-1 support, and HTM-300 clamp goes through clip on vertical firewall and slot in D742-1 support. Connect clamp around pump motor and torque to 100 in.-lb. Install new NAS1149F0463P washer and new D210-4 nut on plug, special torque nut to 70 in.-lb, and torque stripe per MM Figure 2-1. Tighten screws securing A454-1 support. Install new A729-33 drain tube on pump fitting and secure tube to firewall with (retained and oriented as shown) clamp. Route end of tube thru hole in belly.
14. Connect C741-1 line assembly to gascolator inlet nipple, special torque nut to 285 in.-lb, and torque stripe per MM Figure 2-1. Connect B283-3 hose assembly to aux fuel pump elbow, special torque nut to 120 in.-lb, and torque stripe per MM Figure 2-1.
15. Connect vacuum switch and pump motor wiring to appropriate airframe electrical harness connectors. Attach wiring to fuel pressure switch. Reroute spirap and install MS3367-5-9 ty-raps as required to accommodate pressure switch relocation.
16. Turn fuel shut-off valve ON. Verify no fuel leaks.
17. Push in AUX FUEL PUMP circuit breaker. With mixture control OFF and master switch ON, verify AUX FUEL PUMP caution light is illuminated. Turn ignition switch to PRIME for one minute and verify AUX FUEL PUMP light extinguishes and pump operates with a continuous, steady tone. Turn master switch OFF. Verify no fuel leaks.
18. Have a qualified person run-up and shutdown helicopter per Pilot's Operating Handbook. Verify no fuel leaks.
19. Install engine right cowling assembly.
20. Make appropriate maintenance record entries. No change to Weight and Balance Record is required.

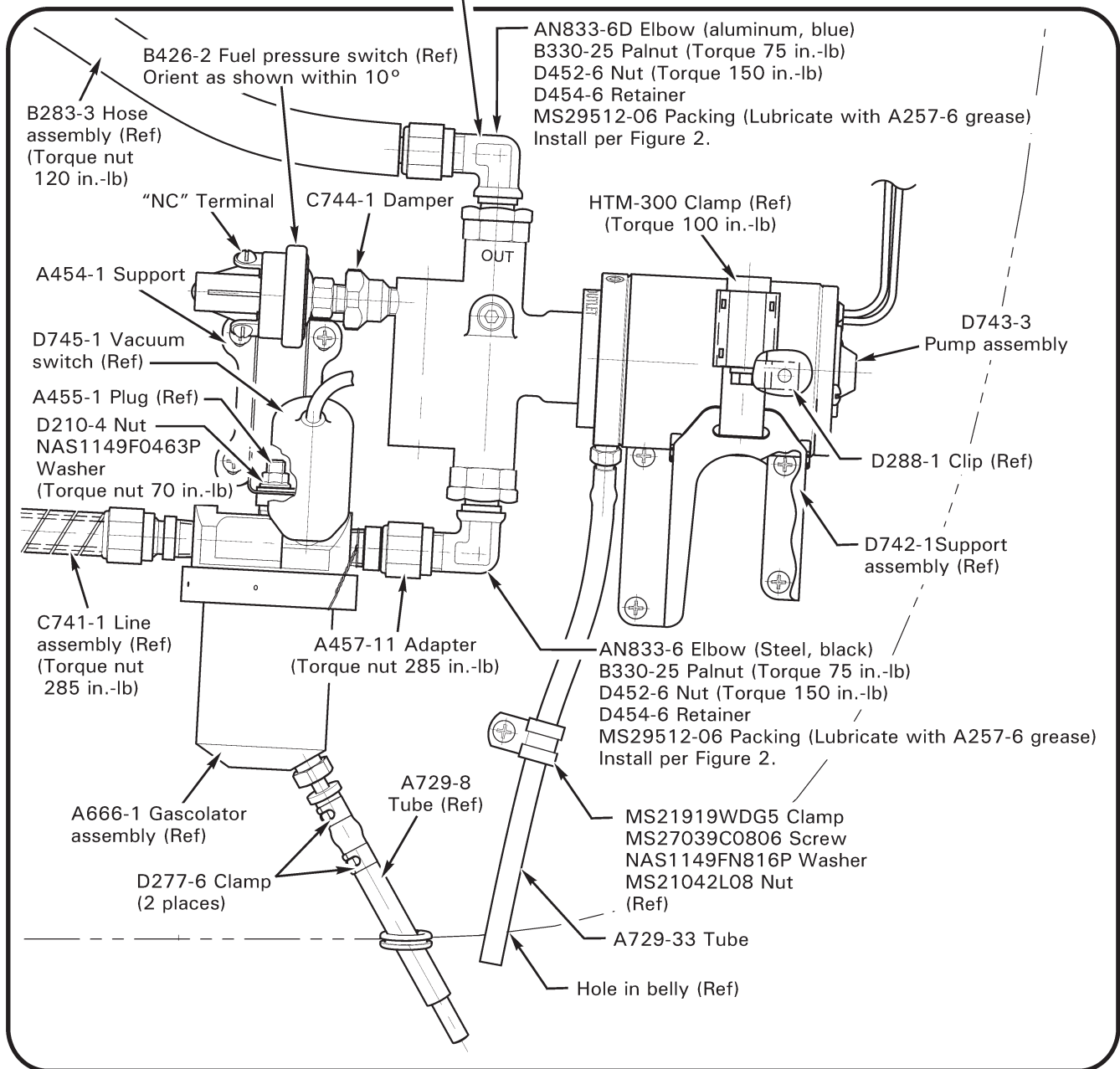
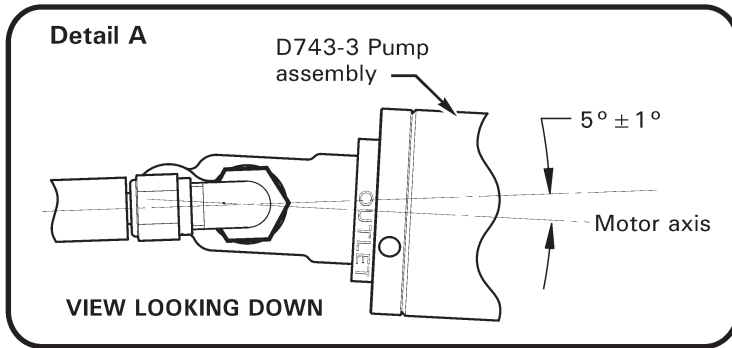


FIGURE 1
(view looking forward)

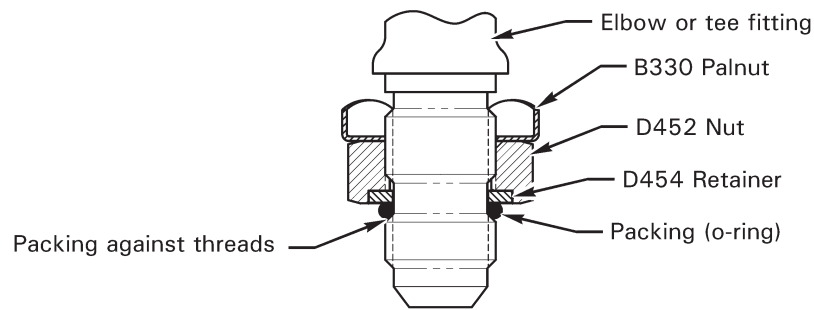


Figure 2A

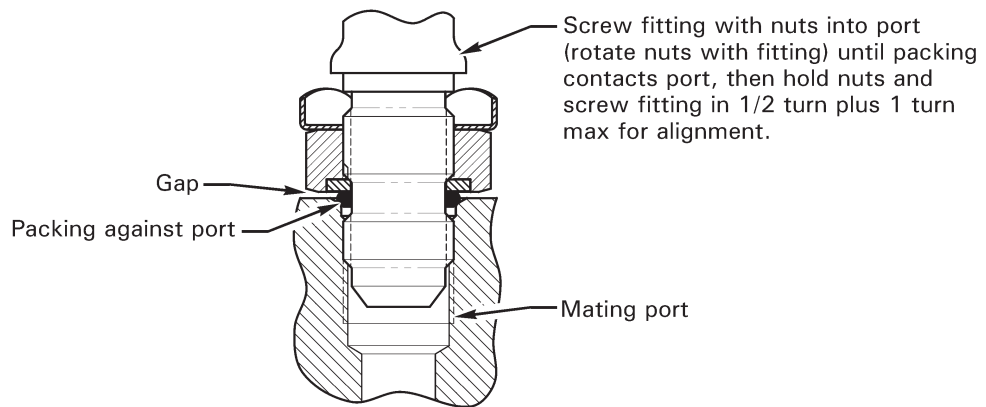


Figure 2B

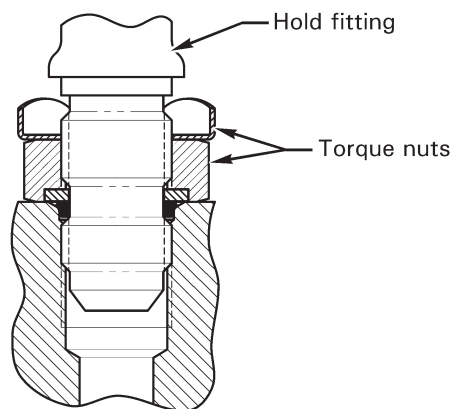


Figure 2C

FIGURE 2