

R22 SERVICE BULLETIN SB-105

(supersedes R22 Service Bulletin SB-17 and R22 Service Letter SL-44)

DATE: 07 September 2011

TO: R22 owners, operators, and maintenance personnel

SUBJECT: Fuel Shut-Off Valve Replacement

ROTORCRAFT AFFECTED: R22-series helicopters S/N 0002 thru 4271.

TIME OF COMPLIANCE: Within next 500 flight hours or by 31 August 2012, whichever occurs first.

BACKGROUND: An accident occurred when a passenger moved a lever-handle fuel valve to the OFF position just before takeoff. New fuel valves are spring loaded to the ON position and have a small actuating handle to prevent inadvertent fuel shut-off. This bulletin requires replacing lever-handle valves with A670-1 revision I (or subsequent) valves.

COMPLIANCE PROCEDURE:

CAUTION

Temporarily cap fuel fittings when opened.

1. Refer to Figure 1. If A670-1 revision I (or subsequent) fuel valve is installed, the requirements of this bulletin have been met and no further action is required.
2. Order one A670-1 revision I (or subsequent) fuel valve; order B270-6 sealant and one MS27039C1-06 screw as required.
3. Defuel helicopter per R22 Maintenance Manual (MM) § 1.150.
4. Remove left side skirt and panel. Remove left seat back.
5. Refer to IPC Figure 12-1. If applicable, remove sealant from 2700-06-06 bulkhead union and where it may be sealed at the top of the firewall. Vacuum debris and thoroughly clean firewall.
6. Inside engine compartment, loosen B-nut securing A726-1 line assembly to bulkhead union. Remove bulkhead union's nut and washer.

(OVER)

7. Inside cabin, place a clean, absorbent rag beneath A726-2 line assembly to catch residual fuel from tank, and remove line assembly. Discard rag appropriately.
8. Remove fuel valve with attached elbows, A657-1 nut, A656-1 sleeve (inside nut), bulkhead union, and washer(s). Note orientation of elbows prior to removal, then remove elbows, nut, sleeve, bulkhead union, and washer from fuel valve. Discard fuel valve and handle, 90272A240 screw, AN520-10R30 screw, and A130-16 spacer.
9. Remove old sealant from elbows and bulkhead union threads. Solvent-clean retained parts.
10. Install bulkhead union, A657-1 nut, and A656-1 sleeve on top side of bulkhead union, then install flared-fitting side of one AN822-6D elbow in A657-1 nut. Clamp elbow flats in padded vise (do not damage elbow threads) and special torque bulkhead union to 100 in.-lb. Remove assembly from vise.
11. Apply B270-6 sealant sparingly to tapered pipe threads of elbow (do not apply sealant to first thread). Clamp A670-1 revision I (or subsequent) fuel valve in padded vise and install elbow with attached bulkhead union in valve outlet (arrow on handle points to outlet when in OFF position). Standard torque elbow per MM § 1.320 and align fitting as required.
12. Apply B270-6 sealant sparingly to tapered pipe threads of other elbow (do not apply sealant to first thread). Install tapered-thread side of elbow in fuel valve inlet. Standard torque elbow per MM § 1.320 and align fitting as required.
13. Position assembled valve and bulkhead union with NAS1149F0932P washer through firewall, and position seat back for installation. As required, install NAS1149F0932P washers between bulkhead union nut and the top of the firewall to position valve at correct height.
14. Inside engine compartment, install washer and nut on bulkhead union and special torque nut to 100 in.-lb. Connect A726-1 line assembly, special torque B-nut to 285 in.-lb, and torque stripe per MM Figure 2-1.
15. Install A726-2 line assembly. Special torque B-nuts to 120 in.-lb and torque stripe per MM Figure 2-1.
16. Install seat back and valve plates using additional MS27039C1-06 screw. Special torque screws to 16 in.-lb.
17. Perform fuel flow check per MM § 12.260. Ensure fuel flows when handle arrow points to ON and flow ceases when arrow points to OFF. Make appropriate maintenance record entries.

Approximate Cost:

Parts: \$260 for A670-1 valve if ordered by 31 August 2012.

Parts may be obtained from any R22 Dealer or Service Center, or ordered directly from RHC Customer Service via www.robinsonheli.com, fax, or phone.

Labor: 2.0 man-hours.

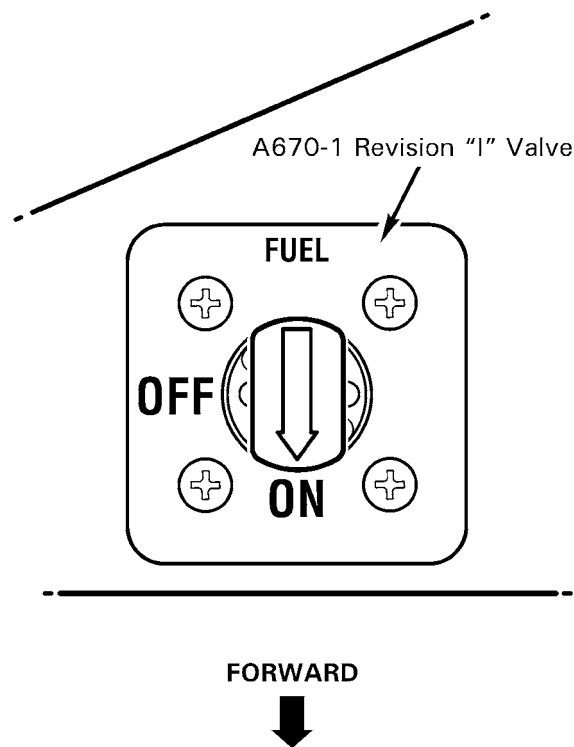


FIGURE 1

THE DESIGN ENGINEERING ASPECTS OF THIS BULLETIN HAVE BEEN SHOWN TO COMPLY WITH APPLICABLE FEDERAL AVIATION REGULATIONS AND ARE FAA APPROVED.