



SERVICE BULLETIN

No. 354B

Piper Aircraft Corporation

Lock Haven, Pennsylvania, U.S.A.

Modification FAA Approved

May 19, 1982

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(Voids and supersedes Service Bulletin No. 141 dated October 4, 1955.)
(Voids and supersedes Service Letter No. 351 dated December 23, 1960.)
(Voids and supersedes Service Bulletin No. 354 dated June 5, 1972.)
(Voids and supersedes Service Bulletin No. 354A dated April 19, 1982.)

Subject: Fuel Selector Valve Lubrication

Reason for Revision: Revise Serial Numbers, announce replacement parts.

<u>Models Affected:</u>	<u>Serial Numbers Affected:</u>
PA-18 Super Cub Series	18-1 to 18-7909039 Inclusive
PA-20 Pacer Series	20-1 to 20-1121 Inclusive
PA-22 Tri-Pacer	22-1 to 22-9393 Inclusive
PA-24-180 Comanche	24-1 and Up.
PA-24-250 Comanche	24-1 to 24-2174 Inclusive
	24-2176 to 24-2298 Inclusive

NOTE: This Bulletin applies to only those aircraft equipped with metal plug fuel selector valve with Part No. 11383-00, -02, -03, or -04. If original installation has been replaced with Plastic Plug Fuel Selector Valve with Piper Part Number 77413-02 refer to Piper Service Letter No. 944.

Compliance Time:

1. Within the next ten (10) hours of operation from Effectivity Date, below, check fuel selector valve for ease of rotation. Repeat at 100 hour intervals.
 - a. If selector is difficult to rotate, comply with provisions of Instructions on Page 2.
 - b. If selector rotates easily, no further action is required at this time (See Compliance Time, section 2, below.).
2. Aircraft with 400 hours or more time in operation; within the next one hundred (100) hours of operation or at one year's time from Effectivity Date, below, whichever occurs first. Comply with Instructions on Page 2.

Aircraft with less than 400 hours time in operation; at 400 hours of operation or one year's time from Effectivity Date, below, whichever occurs first. Comply with Instructions on Page 2.

(over)

Compliance Time: (continued)

2. continued

The inspection/maintenance provisions of this Service Bulletin are to be repeated at every 400 hours of operation or annually, whichever occurs first.

This inspection/maintenance procedure must also be conducted whenever the Fuel Selector Valve is difficult to operate.

Purpose:

The fuel selector valve installed in the above referenced aircraft models is a three position type valve Piper Part Numbers 11383-00, -02, -03 and -04 (depending on aircraft model application). An integral part of the above valves is the tapered plug which is the focal point of this Service Bulletin in the area of proper maintenance procedures.

The tapered plug unless properly lubricated, is subject to binding or "freezing", caused by (1) fuel coming in contact with the plug and gradually dissolving the film of lubricant, (2) presence of foreign material, and (3) hardened or congealed lubricants (usually caused by improper lubricant).

The primary objective of this Service Bulletin is to insure that these valves are periodically and properly inspected and lubricated, in accordance with Instructions, below.

Instructions:

1. With the valve removed from the aircraft, remove the valve cap and interior parts (see attached sketch for an exploded view of valve components).
2. Inspect position washer inner perimeter surface for indications of extreme wear; should this be evident, replace position washer. (See Material Required, below.)
3. Check condition of plug and valve body for scored surfaces. The surfaces, if not badly scored, may be conditioned by lapping with a fine grinding compound. Clean away all compound after lapping. If plug will not seat properly or if scoring remains evident, replace valve with Valve Replacement Kit 764 295.
4. Check condition of valve stem in the area where the "O" ring seats. Should the stem be worn or damaged so that the "O" Ring will not seal, replace valve with Valve Replacement Kit 764 295.
5. With a 10x magnifying glass, inspect valve ports for cracks; if cracks are visible, replace valve with Valve Replacement Kit 764 295.

NOTE: Valve Replacement Kit 764 295 contains Valve, Piper Part No. 77413-02.
Refer to Piper Service Letter No. 944 if Part No. 77413-02 is installed.

6. Clean valve of all foreign matter, lubricate plug with a light film of MIL-G-6032 (Type I) grease, turn the plug several times in its seat and wipe off any excess, especially in the valve ports. Also, lubricate position washer with a light film of MIL-G-6032 (Type I) grease. Reassemble valve with a new "O" ring, Piper Part Number 752 822.

Instructions: (continued)

7. Rotate fuel selector to check for smooth operation and to insure proper seating in detent positions.
8. Before reinstalling valve, it may be checked by attaching an air hose and determining that it will withstand 50 PSI of air pressure without leaking.
9. After reinstallation of valve, check operation and check for fuel leaks.
10. Make appropriate logbook entry of compliance with this Service Release.

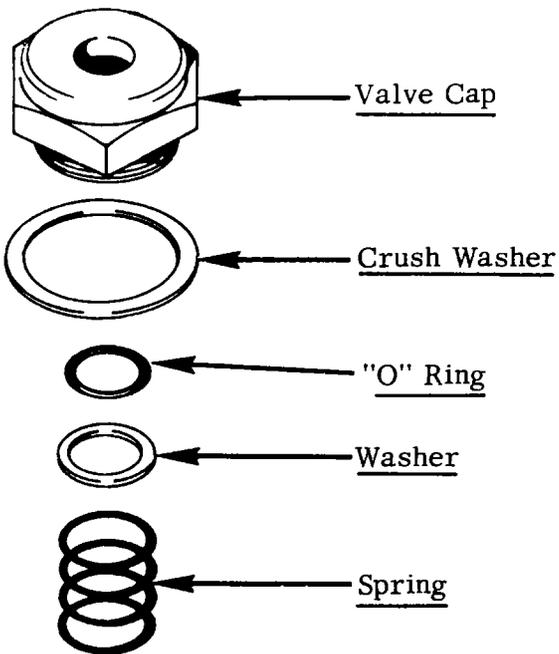
Material Required:

1. MIL-G-6032 Grease, Plug Valve (Type I) which may be procured locally under the brand names specified on the Qualified Products List (of products qualified under military specification MIL-G-6032) reproduced on pages 5 and 6.
2. One (1) each per aircraft Position Washer, Piper Part Number 756 645.
3. One (1) each per aircraft "O" Ring, Piper Part Number 752 822.
4. Only if required per Instruction 3, 4 or 5, Valve Replacement Kit 764 295.

Availability of Parts: Your Piper Field Service Facility.

Effectivity Date: This Service Bulletin in effective upon receipt.

Summary: Please contact your Piper Field Service Facility to make arrangements for compliance with this Service Release, which is submitted in the interest of helping you maintain your fuel system in proper operating condition.



Valve Cap

Crush Washer

"O" Ring

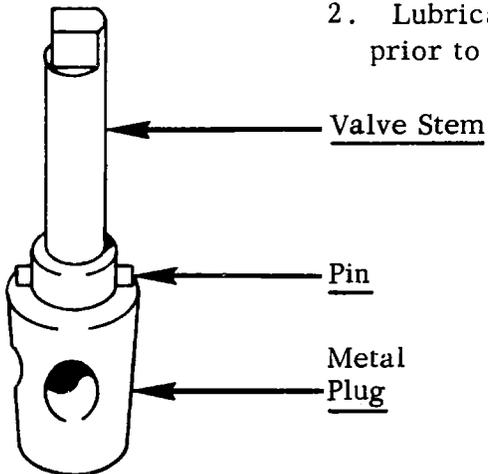
Washer

Spring

Brass Washer - counterbored; to reinstall properly, counterbored surface must face the position washer.

Position Washer

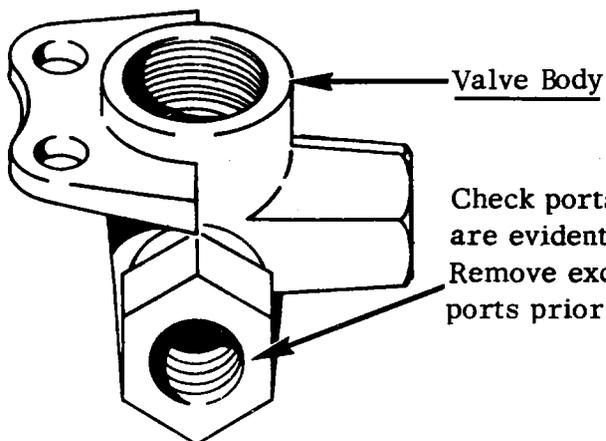
1. Check inside perimeter for indication of extreme wear; if wear is readily apparent, replace position washer.
2. Lubricate with MIL-G-6032 (Type I) prior to reinstallation.



Valve Stem

Pin

Metal Plug



Valve Body

Check ports for cracks; if cracks are evident, replace valve. Remove excess grease from ports prior to reinstallation.

Fuel Selector Valve

QPL-6032-10
2 December 1968
Superseding
QPL-6032-9
29 March 1968

QUALIFIED PRODUCTS LIST
OF
PRODUCTS QUALIFIED UNDER MILITARY SPECIFICATION

MIL-G-6032

FSC 9150

GREASE, PLUG VALVE, GASOLINE AND OIL RESISTANT

This list has been prepared for use by or for the Government in the procurement of products covered by the subject specification and such listing of a product is not intended to and does not connote indorsement of the product by the Department of Defense. All products listed herein have been qualified under the requirements for the product as specified in the latest effective issue of the applicable specification. This list is subject to change without notice; revision or amendment of this list will be issued as necessary. The listing of a product does not release the supplier from compliance with the specification requirements. Use of the information shown hereon for advertising or publicity purposes is expressly forbidden.

The activity responsible for this Qualified Products List is the Naval Air Systems Command.

GOVERNMENT DESIGNATION	MANUFACTURER'S DESIGNATION	TEST OR QUALIFICATION REFERENCE	MANUFACTURER'S NAME AND ADDRESS
BP Aero Grease 32 Type I	BP Aero Grease 32	Report No. AMD MA 768751 of 13 Dec 1967	BP Trading Limited Britannic House Moore Lane London, E. C. 2, England Plant: O. J. Schindler 315 Peine Hamburg, Germany
Type I (Code 16125)	Braycote No. 632B	AML Report No. 78487-66 of 20 Dec 1966	Distributed by: Bray Oil Company 1925 N. Marianna Ave. Los Angeles, Calif. 90032 Manufactured by: Southwest Grease & Oil Co., Inc. 220 West Waterman Wichita, Kansas 67202 Plant: Southwest Grease & Oil Co., Inc. Battenfeld Division 3148 Roanoke Road Kansas City, Mo. 64111
Type I (Royco 32)	Castrolase PV	Report No. NAEC- AML-1890 of 13 Feb 1964	Distributed by: Castrol Oils Inc. Castrol Limited 254-266 Doremus Ave. Newark, N.J. 07105 Manufactured by: Royal Lubricants Co. River Road Hanover, N. J. 07936 Plant: Same address

QPL-6032-10
2 December 1968

GOVERNMENT DESIGNATION	MANUFACTURER'S DESIGNATION	TEST OR QUALIFICATION REFERENCE	MANUFACTURER'S NAME AND ADDRESS
Type I (L 237)	L-237	Report No. NAEC-AML-1889 of 13 Feb 1964	Tenneco Chemicals, Inc. Nuodex Division P. O. Box 2 Piscataway, N.J. 08854 Plant: Chestertown, Md. 21620
Type I (Rockwell 950)	Rockwell 950 (Bulk)	Report No. NAEC-AML-1891 of 13 Feb 1964	Rockwell Mfg. Company 400 North Lexington Ave. Pittsburgh, Pa. 15208 Plant: Same address
Type II (Rockwell 950)	Rockwell 950 (Stick)		
Type I (Royco 32)	Royco 32	Report No. NAEC-AML-1890 of 13 Feb 1964	Royal Lubricants Company River Road Hanover, New Jersey 07936 Plant: Same address
Type I (Code 16125)	Ultra-Seal 125	AML Report No. 78487-66 of 20 Dec 1966	Southwest Grease and Oil Company, Inc. 220 West Waterman Wichita, Kansas 67202 Plant:
Type II (Code 16822)	Ultra-Seal 822	AMD Report No. 769352 of 10 Sep 1968	Southwest Grease and Oil Company, Inc. Battenfeld Division 3148 Roanoke Road Kansas City, Mo. 64111
Type I (E-Z Tum Lubricant)	E-Z Tum Lubricant	Report No. NAEC-AML-1887 of 13 Feb 1964	United Oil Mfg. Company Erie, Pennsylvania Plant: P. O. Box 1246 Erie, Pennsylvania