

VENDOR SERVICE PUBLICATION

TO: All affected owners/operators

SUBJECT: Distribution of: **Lear Romec Service Bulletin No. RG34720-73-001**

MODELS AFFECTED: PA-42-720, PA-42-720R, PA-42-1000, PA-31T

SERIAL NUMBERS: 42-8301001 and 42-8301002
42-5501003 & UP

42-5527004 & UP

31T-7400002 thru 31T-7400009
31T-7520001 thru 31T-7520043
31T-7620001 thru 31T-7620057
31T-7720001 thru 31T-7720069
31T-7820001 thru 31T-7820092
31T-7920001 thru 31T-7920094
31T-8020001 thru 31T-8020092
31T-8120001 thru 31T-8120059
31T-8120060 thru 31T-8120070
31T-8120101 thru 31T-8120104

COMPLIANCE TIME: As specified in Lear-Romec Service Bulletin No. RG34720-73-001.

PURPOSE: To distribute Lear Romec Service Bulletin No. **RG34720-73-001**
which affects Lear Romec Pump P/N RG34720D,
(Piper P/N 481-824)

ACTION: Comply with Lear Romec Service Bulletin No. **RG34720-73-001**

SERVICE BULLETIN

FUEL PUMP - Replacement of valve housing and related seals.

1. Planning Information

A. Effectivity

This bulletin applies to the following Lear Romec rotary fuel pump models:

<u>Lear Romec P/N</u>	<u>TC Holder P/N's</u>	<u>Eligibility</u>
RG34720D	The New Piper Aircraft Co. P/N 481-824	PA-31T, PA-42-720 PA-42-1000

B. Reason

To introduce pump design enhancements that provide improved relief valve sealing characteristics.

C. Description

This service bulletin provides modification instructions to incorporate new valve housings and associated parts to provide enhanced resistance to fuel leakage.

D. Compliance

The manufacturer recommends implementation of this bulletin at the next overhaul, earlier at owner's discretion.

E. Approval

This Service Bulletin has been reviewed by The New Piper Aircraft Co. The repairs and modifications herein comply with FAR Part 23 and are recorded at the supplier as FAA approved for installation on the aircraft models cited in paragraph 1.A.

F. Manpower

Approximately 3 man-hours and one person are necessary to do the modification of one pump.

G. Material

Material required to accomplish the Service Bulletin is available for shipment from the pump manufacturer. See paragraph 3.A. for listing of parts.

H. Tooling - Price and Availability

Only standard tools are required to accomplish this bulletin.

I. Weight and Balance

Not applicable.

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J. References

- (1) RG34720A/D Series dated Feb 07/80 with Rev 3 dated Sep 27/91.

2. Accomplishment Instructions

Note: The following modification shall be performed at an accessory repair station that is fully equipped and certified by the FAA to perform fuel accessory repair and modification.

A. Disassemble the regulator valve. See figure 1.

- (1) Cut and remove all safety wire from fasteners.
- (2) Remove screws and washers (items 2 and 3, figure 1).
- (3) Separate the regulator valve components (items 5 thru 22) as shown in figure 1.
- (4) Discard the following parts:
 - (a) Four (4) each screws (item 2, figure 1).
 - (b) Four (4) each washers (item 3, figure 1).
 - (c) One (1) each gasket (item 22, figure 1).
 - (d) One (1) each valve housing assembly (consisting of parts items 19 thru 21, figure 1).
 - (e) Two (2) each diaphragms (item 15, figure 1).
- (5) Remove nut (item 5, figure 1) and withdraw the adjusting screw assembly (item 7, figure 1) from the valve cover (item 11, figure 1). Remove and discard packing with retainer (item 6, figure 1).

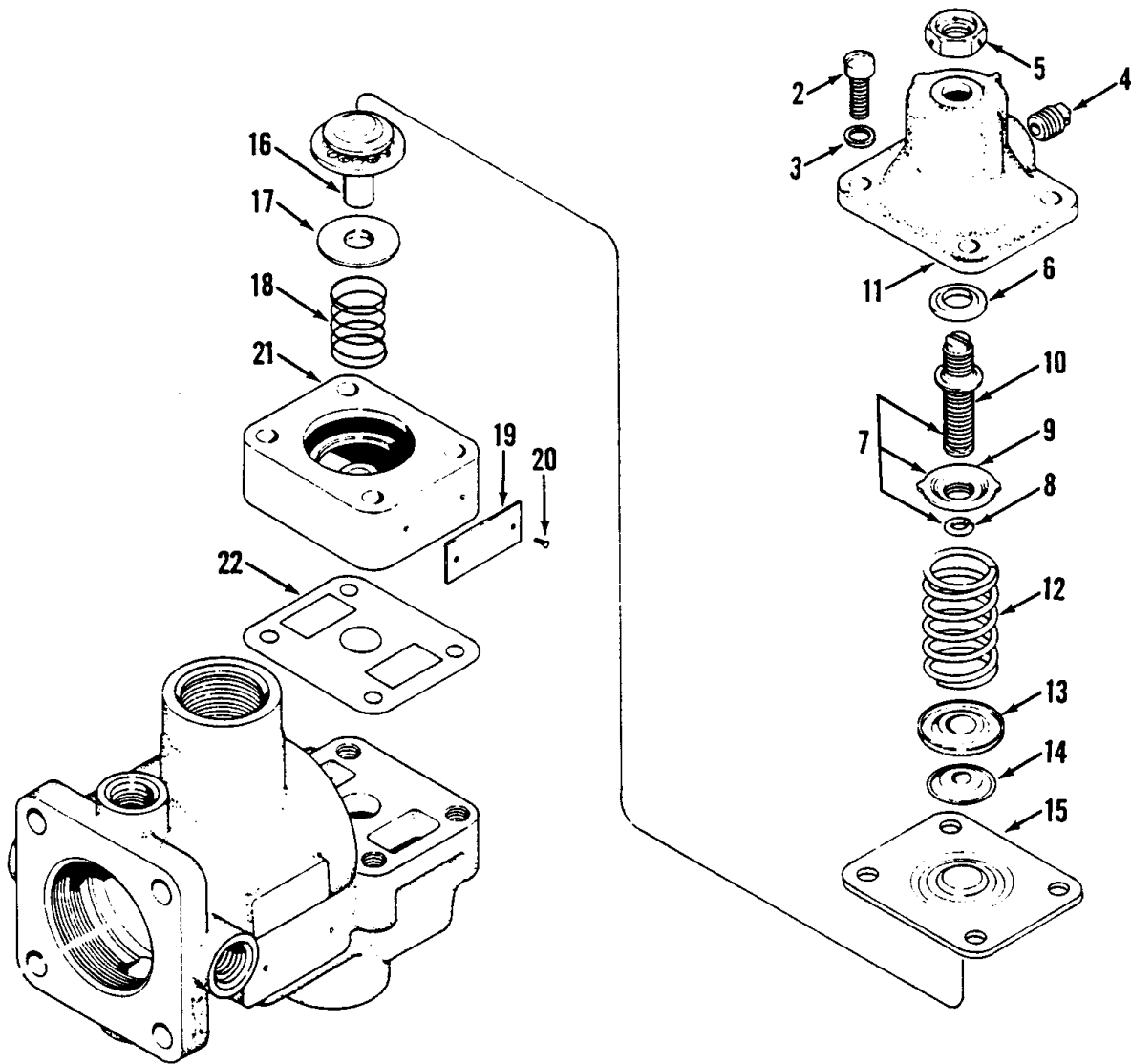
B. Reassemble the regulator valve. See figure 2.

- (1) Lubricate the packing (o-ring) portion of the packing with retainer (item 6, figure 2) with petrolatum (petroleum jelly) and install it over the screw slot end of the adjusting screw assembly (item 7, figure 2) and up against the screw flange. Exercise care that screw threads do not nick or cut the packing (o-ring).
- (2) Insert the adjusting screw assembly (item 7, figure 2) through the valve cover (item 11, figure 2) and thread on the locknut (item 5, figure 2). Valve adjustment will be made at test.
- (3) Lubricate the ladder seal (item 22, figure 2) with petrolatum (petroleum jelly) and install it in the groove cut in the surface of the valve housing (item 21, figure 2) that mates with the pump housing.

NOTE: Make certain ladder seal is completely seated in groove prior to assembly.

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FUEL PUMP - Replacement of valve housing and related seals.



NOTE: ITEM NUMBERS ARE THE SAME AS THOSE USED IN THE CMM

Regulator Valve Assembly Before Modification
Figure 1

SERVICE BULLETIN

FUEL PUMP - Replacement of valve housing and related seals.

- (4) Lubricate preformed packing (o-ring) (item 15A, figure 2) with petrolatum (petroleum jelly) and install it in the groove cut into the top of the valve housing assembly (item 21, figure 2).
- (5) Complete assembly according to the applicable component maintenance manual and secure the valve cover (item 11, figure 2) using screws (item 2, figure 2) and washers (item 3, figure 2). Tighten screws evenly and progressively in a crisscross pattern to 23-25 in-pounds torque in the sequence shown in figure 3.

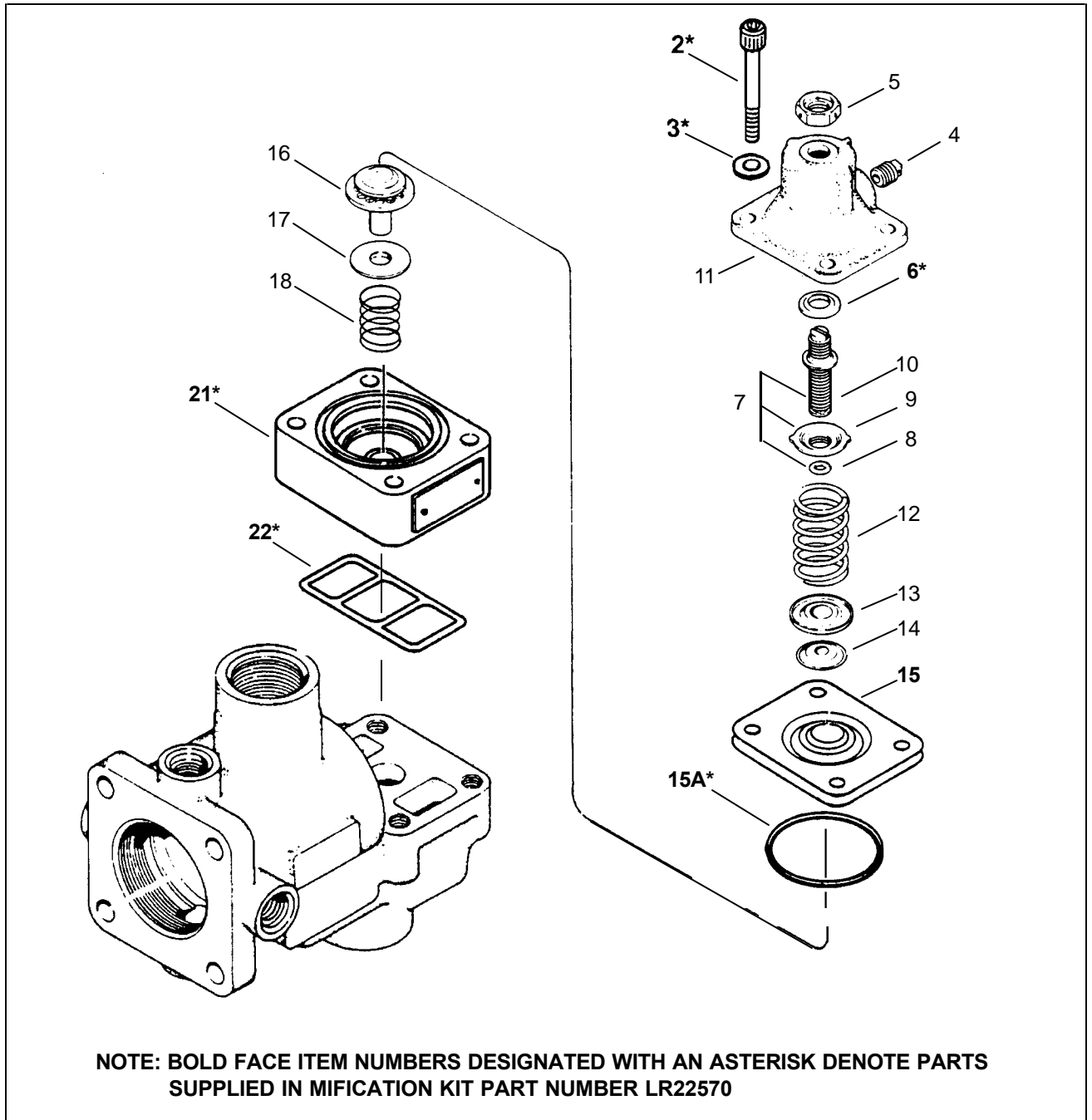
CAUTION: **SEAT THE COVER BY DRAWING DOWN THE SCREWS IN GRADUAL INCREMENTS, FOLLOWING A PROGRESSIVE CRISSCROSS PATTERN AS ILLUSTRATED IN FIGURE 3. UNTIL THE COVER IS FIRMLY SEATED. DRAW DOWN THE SCREWS EVENLY. DO NOT TIGHTEN SCREWS TO FINAL TORQUE DURING FIRST DRAW DOWN. UNEVEN TENSION CAN CAUSE DISTORTION OR OVER STRESSING OF PARTS. COMPLETE THE PROCEDURE BY TIGHTENING EACH SCREW GRADUALLY TO THE SPECIFIED TORQUE VALUE. DO NOT EXCEED THE MAXIMUM TORQUE SPECIFIED.**

C. Test

- (1) Test the pump and set the pressure regulating valve according to the applicable component maintenance manual.
- (2) Upon successful completion of testing, retorque valve cover screws (item 2, figure 2) to 23-25 inch-pounds torque.
- (3) Safety-wire regulator valve and valve cover screws (items 2 and 5, figure 2) according to applicable component maintenance manual.

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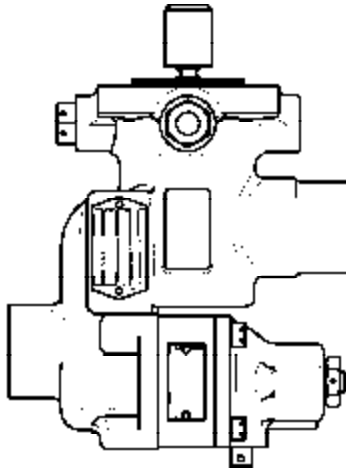
FUEL PUMP - Replacement of valve housing and related seals.



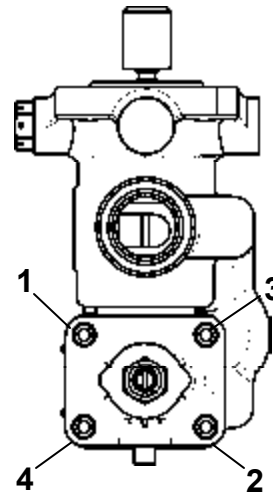
Regulator Valve Assembly After Modification
Figure 2

SERVICE BULLETIN

FUEL PUMP - Replacement of valve housing and related seals.



**TIGHTEN SCREWS EVENLY
AND PROGRESSIVELY IN THE
NUMBERED SEQUENCE SHOWN.**



VIEW A

Torquing Sequence - RG34720D
Figure 3

SERVICE BULLETIN

FUEL PUMP - Replacement of valve housing and related seals.

3. Material Information

A. Material Requirements

The following material is required, per engine, to accomplish this service bulletin and for spare part provisioning:

NOTE: Price information is available from Lear Romec PH: 440-284-5411 or 440-284-5460; FX: 440-284-0221.

<u>Part Number</u>	<u>Qty</u>	<u>Pkg Qty</u>	<u>Replenishment Lead Time (Days)</u>	<u>Description</u>
LR22570	(1)	1	Stock	Kit, Modification
- LR47109-1	(1)	1	—	Housing, Valve Assy
- NAS1352C3H22	(4)	4	—	Screw, Cap
- LR47108	(1)	1	—	Seal
- M83248/1-126	(1)	1	—	Packing, Preformed
- RA5326	(2)	2	—	Diaphragm, Relief Valve
- RA4105	(4)	4	—	Washer
- RB8358-515-5/16	(1)	1	—	Packing w/Retainer

B. Configuration Chart

<u>New P/N</u>	<u>Qty</u>	<u>Key Word</u>	<u>Old P/N</u>	<u>Qty</u>	<u>Disposition of Old Part</u>
LR47109-1*	(1)	Housing, Valve Assy			
—	—	Housing, Valve	RD9082	(1)	Scrap
—	—	Instruction Plate	RB34729	(1)	Scrap
—	—	Drive Screw	MS21318-1	(2)	Scrap
LR47108	(1)	Seal, Ladder	No Equiv	—	—
No Equiv.	—	Gasket	RA8987	(1)	Scrap
NAS1352C3H22	(4)	Screw	AN500A10-22	(4)	Scrap
M83248/1-126	(1)	Packing, Preformed	No Equiv.	—	—
RA5326	(2)	Diaphragm	Same	(2)	Scrap
RA4105	(4)	Washer, Flat	Same	(4)	Scrap
RB8358-515-5/16	(1)	Packing w/Retainer	Same	(1)	Scrap

* Includes (1 ea) valve housing LR47007, (1 ea) instruction plate RB34729 and (2 ea) drive screws RD55101.

4. Re-identification

Using a metal stamp or vibropeen, identify pumps modified according to this bulletin by adding the suffix: **/M** to the unit part number on the identification plate.