



South Bend, Indiana 46620, U.S.A.

Service Bulletin

Fuel Systems

Bulletin No.: RS-62 Rev. 2

Date: 8/15/79

Revised: 4/15/81

Subject: MODIFICATION OF MIXTURE CONTROL SHAFT ASSEMBLY ON MODEL RS-10FB1, RS-10ED1, RS-10ED2, RS-10B1 AND RS-10B2 FUEL INJECTORS.

NOTE: Revision 2 supersedes all previous revisions and amendments to Service Bulletin RS-62.

1. PLANNING INFORMATION:

A. EFFECTIVITY:

<u>Model No.</u>	<u>Parts List No.</u>	<u>Issue No.</u>
RS-10FB1	2524014	1 thru 7
	2524367	1 and 2
	2524665	1
	2524696	1
RS-10ED1	391821	1 thru 4
	2524031	1 thru 3
	2524470	1 thru 3
RS-10ED2	391825	1 thru 3
RS-10B1	391787	1 and 2
RS-10B2	391783	1 and 2

B. REASON:

To provide detailed instructions for the installation of a modified mixture control sleeve bushing, the incorporation of an external seal on the mixture control shaft and sleeve bushing plate. Modification provides an improved seal on the mixture control shaft assembly.

Corrects Effectivity, Material Availability, Accomplishment Instructions, Figure 2, Figure 3, and Material Information.

C. DESCRIPTION:

Refer to the latest applicable overhaul manual for disassembly instructions of the mixture control shaft assembly only. Replace mixture control sleeve bushing, add mixture control shaft seal and mixture control sleeve bushing plate.

1. PLANNING INFORMATION: (Continued)

D. COMPLIANCE:

Operating Activities: At owner's discretion.

Overhaul Activities: Conform at overhaul.

E. APPROVAL:

Lycoming Division AVCO Corporation.

F. MANPOWER:

An additional 0.75 man-hour will be required during overhaul.

G. MATERIAL AVAILABILITY:

<u>Part No.</u>	<u>Nomenclature</u>	<u>Availability</u>
2540628	Sleeve Bushing	Bendix Product Support Centers
2540577	Seal	Bendix Product Support Centers
2540578	Bushing Plate	Bendix Product Support Centers
951390	Preformed Packing	Bendix Product Support Centers
951400	Preformed Packing	Bendix Product Support Centers
2539738	Spring Pin	Bendix Product Support Centers
911242	Washer	Bendix Product Support Centers

H. TOOLING:

<u>Tool No.</u>	<u>Nomenclature</u>	<u>Availability</u>
2550976	Bullet Nose	Locally Manufactured
2550975	Installation Tool	Locally Manufactured
2550977	Holding Fixture	Locally Manufactured

I. WEIGHT AND BALANCE:

Not Affected.

J. REFERENCE:

None.

K. PUBLICATIONS AFFECTED:

Overhaul Manual for RS-10FB1, Form No. 15-368.

Overhaul Manual for RS-10ED1, Form No. 15-362.

Overhaul Manual for RS-10B1 and RS-10ED2, Form No. 15-318.

2. ACCOMPLISHMENT INSTRUCTIONS:

- A. Refer to the latest applicable overhaul manual for the exploded view of the fuel injector and Figure 1 this bulletin for the exploded view of the mixture control shaft assembly.
- B. Remove the mixture control shaft assembly from the fuel injector as follows:

Key to Figure 1

1. Screw
2. Washer
3. Screw
4. Washer
5. Spacer
6. Washer
7. Mixture Control Assembly
8. Nut
9. Lever
10. Spring Pin
11. Stop
12. Washer
13. Sleeve Bushing
14. Spring
15. Preformed Packing
16. Mixture Control Bushing
17. Mixture Control Shaft
18. Preformed Packing

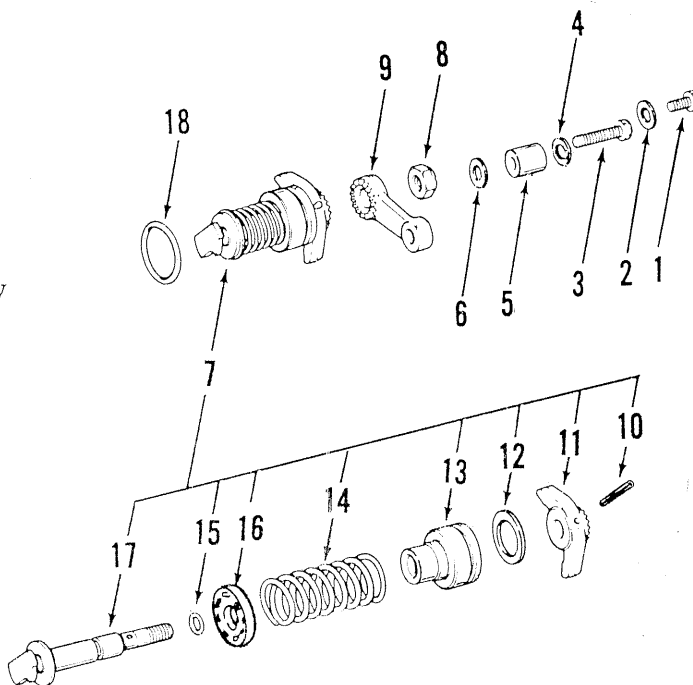


Figure 1. Mixture Control Shaft Assembly

- (1) Loosen and remove screws (1 and 3, Figure 1) washers (2 and 4). Remove spacer (5) and washer (6). Discard washers (2 and 6).
- (2) Remove nut (8) and lever (9), discard nut (8).
- (3) Disassemble mixture control shaft assembly (7) as follows:

WARNING: THE SPRING (14, FIGURE 1) IS COMPRESSED WHILE THE MIXTURE CONTROL SHAFT IS FULLY ASSEMBLED. EXERCISE EXTREME CAUTION DURING THE REMOVAL OF THE STOP (11). THE REMOVAL OF THE STOP WILL RELEASE THE COMPRESSION ON THE SPRING.

Note: Before removing the stop (11) from the mixture control shaft (17), mark the stop and the end of the shaft with a scriber. The scribe marks will facilitate proper and correct reassembly.

2. ACCOMPLISHMENT INSTRUCTIONS: (Continued)

a. Remove spring pin (10) and discard. Remove stop (11), washer (12), sleeve bushing (13), and preformed packing (18). Discard washer (12) and preformed packing (18). Remove spring (14), preformed packing (15) and mixture control bushing (16), from the mixture control shaft (17). Discard preformed packing (15).

C. Clean and inspect component parts of the mixture control shaft assembly by following cleaning and inspection instructions in the latest applicable overhaul manual.

D. Assemble the mixture control shaft assembly as follows:

NOTE: Use installation tool no. 2550975 (Figure 2) to install mixture control shaft seal (12, Figure 3) in the new sleeve bushing (13).

(1) Install mixture control shaft seal (12) in the new sleeve bushing (13) as follows:

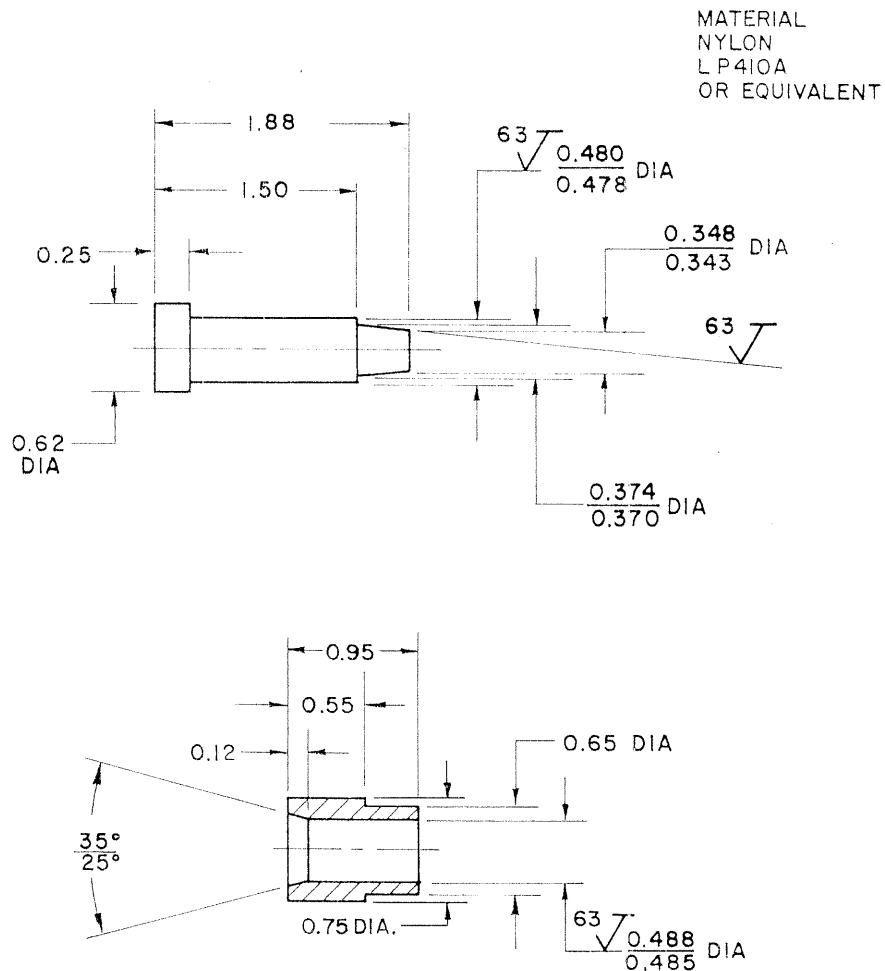


Figure 2. Installation Tool No. 2550975 (Locally Manufactured)

2. ACCOMPLISHMENT INSTRUCTIONS: (Continued)

CAUTION: INSTALLATION TOOL NO. 2550975 MUST BE USED. THE BUSHING OF THE INSTALLATION TOOL COMPRESSES THE OUTSIDE DIAMETER OF THE MIXTURE CONTROL SHAFT SEAL (12, FIGURE 3) FOR CORRECT AND UNDAMAGED INSTALLATION OF THE SEAL IN THE MIXTURE CONTROL SLEEVE BUSHING.

- a. Remove punch from the bushing of installation tool no. 2550975 (Figure 2). Place covered surface of the mixture control shaft seal (12, Figure 3) on the small diameter of the punch and against the shoulder of the punch point.
- b. Press the punch of the installation tool no. 2550975 (Figure 2) through the top of the installation tool's bushing until 0.25 inch of the punch is protruding through the bottom of the bushing (For reference see Figure 4).
- c. Align the installation tool no. 2550975 (Figure 2) vertically over the bore of the new sleeve bushing (13, Figure 3). Hold the tool aligned in this position and press down on the punch of the tool until it stops. Remove the tool gently from the sleeve bushing.

CAUTION: MAKE SURE THE MIXTURE CONTROL SHAFT SEAL (12, FIGURE 3) IS PROPERLY AND EVENLY SEATED IN THE RECESS OF THE SLEEVE BUSHING (13).

Key to Figure 3

1. Screw
2. Washer
3. Screw
4. Washer
5. Spacer
- 5A. Washer
6. Nut
7. Lever
8. Mixture Control Shaft Assembly
9. Spring Pin
10. Stop
11. Bushing Plate
12. Seal
13. Sleeve Bushing
14. Preformed Packing
15. Spring
16. Preformed Packing
17. Mixture Control Bushing
18. Mixture Control Shaft

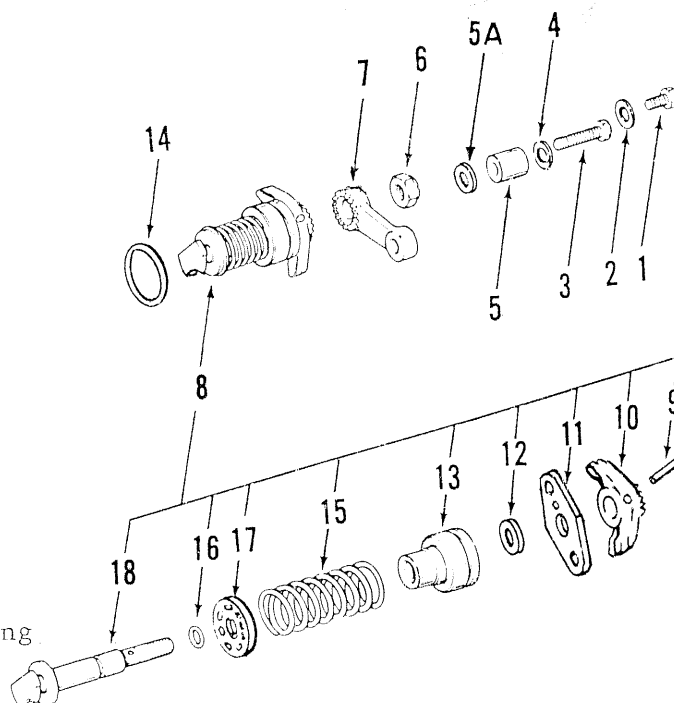


Figure 3. Modified Mixture Control Shaft Assembly

2. ACCOMPLISHMENT INSTRUCTIONS: (Continued)

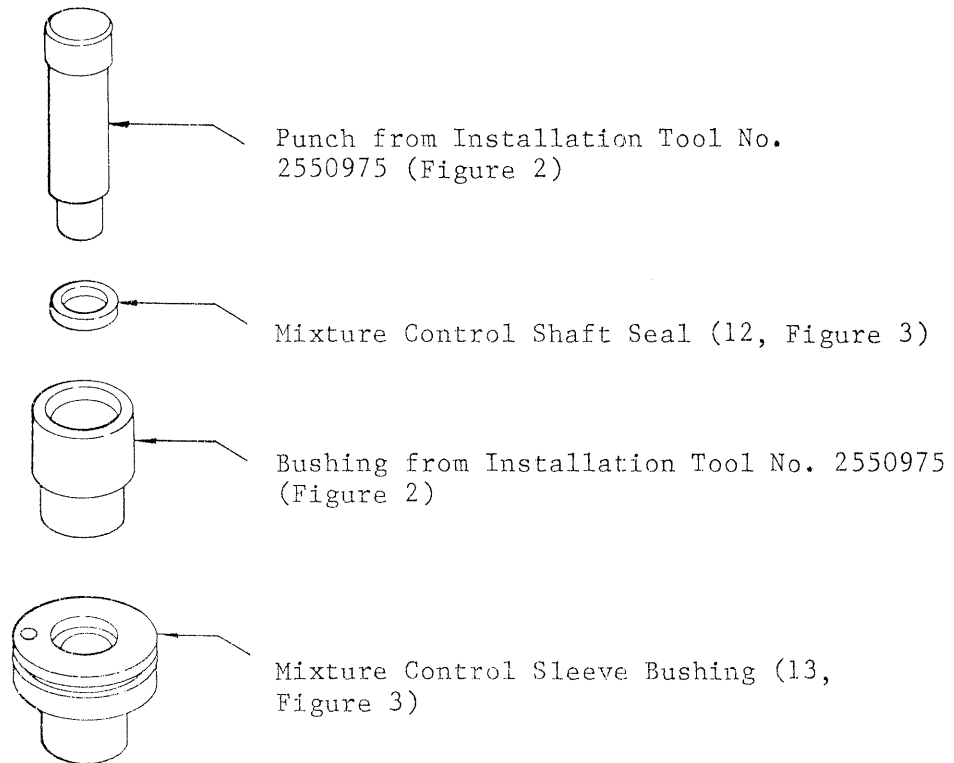


Figure 4. Installation of Mixture Control Shaft Seal in Mixture Control Sleeve Bushing. (For Reference Only)

- d. Lubricate preformed packing (14, Figure 3) and assemble to the sleeve bushing (13). Insert bullet nose tool no. 2550976 (Figure 5) from the bottom of the sleeve bushing (13, Figure 3) until the tapered portion of the bullet nose tool is protruding through the top of the sleeve bushing (13). Set assembly aside.

WARNING: DUPONT KRYTOX[®] GREASE IS USED AS A LUBRICANT. WHEN HANDLING THIS GREASE, IT SHOULD NOT BE EXPOSED TO TEMPERATURES IN EXCESS OF 400°F (204.4°C). TOXIC GASES MAY RESULT. PROVIDE ADEQUATE VENTILATION WHEN HEATED AT OR ABOVE THESE TEMPERATURES. WASH HANDS THOROUGHLY AFTER EACH CONTACT. DO NOT CONTAMINATE SMOKING MATERIALS. IF INFLUENZA-LIKE SYMPTOMS APPEAR, CALL A PHYSICIAN.

NOTE: Before assembling the mixture control shaft assembly (8), apply a light film of KRYTOX 240AB to the shaft outboard of preformed packing (16). KRYTOX 240AB is procurable from E.I. DuPont de Nemours & Co., Petroleum Chemicals Division, Wilmington, Delaware 19898.

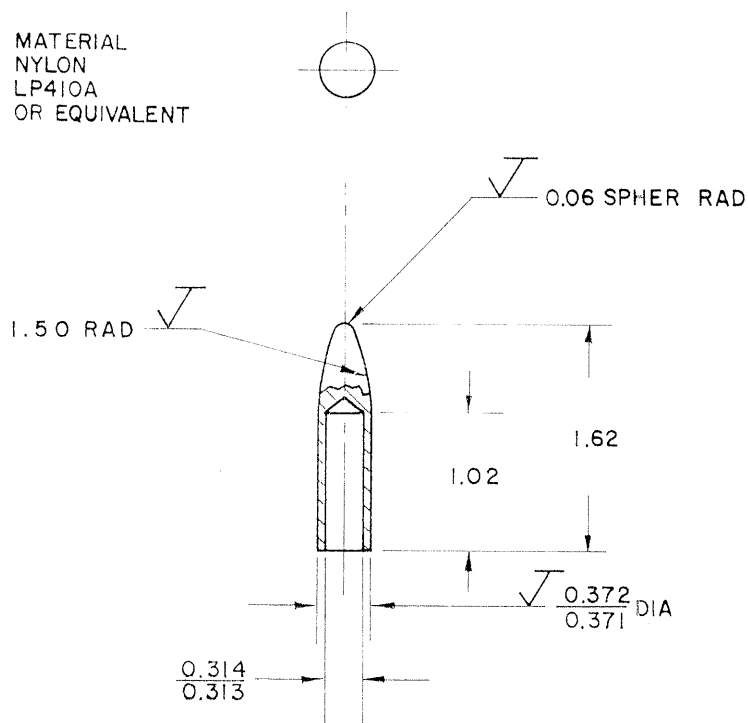
2. ACCOMPLISHMENT INSTRUCTIONS: (Continued)

Figure 5. Bullet Nose, Tool No. 2550976 (Locally Manufactured)

- (2) Assemble the mixture control bushing (17, Figure 3) to the mixture control shaft (18). Assemble preformed packing (16) and compression spring (15). Assemble the sleeve bushing assembly (12, 13 and 14) by inserting mixture control shaft (17) into the bullet nose, assembled to the sleeve bushing in paragraph D, (1), a through c. Assemble the bushing plate (11, Figure 3) by aligning the small detent on the bushing plate with the hold in the shoulder surface of the sleeve bushing (13). Engage the detent of the bushing plate in the hole of the sleeve bushing.
- (3) Assemble the stop (10, Figure 3) as follows:
 - a. Compress spring (15) by pressing down on the bushing plate (11). Attach holding fixture tool no. 2550977 (Figure 6) over the bushing plate (11) and under the flange of the mixture control shaft (18). Remove bullet nose tool no. 2550976 (Figure 5).
 - b. Align the markings on the mixture control shaft (18, Figure 3) and the stop (10) and with an arbor press, assemble the stop onto the mixture control shaft. Install spring pin (9) through the stop and mixture control shaft. Spread ends of the pin a minimum of 0.010 inch to secure in place.

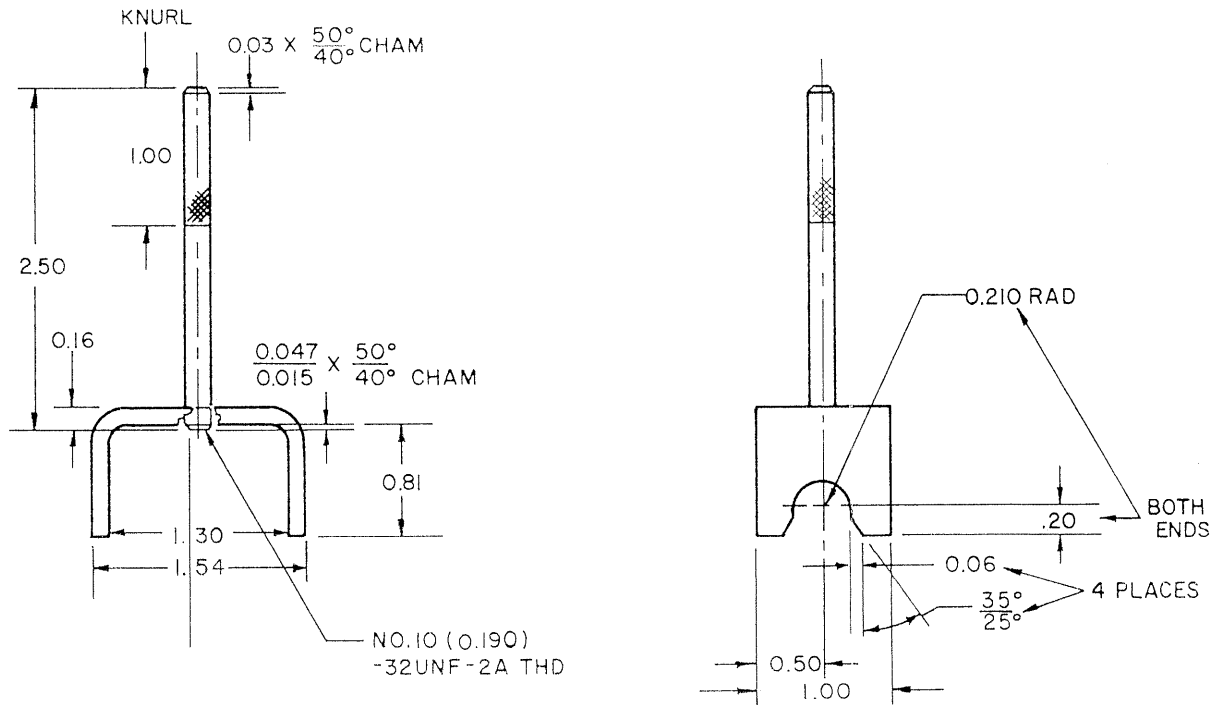
2. ACCOMPLISHMENT INSTRUCTIONS: (Continued)

Figure 6. Holding Fixture Tool No. 2550977 (Locally Manufactured)

- (4) Install the mixture control shaft assembly in the main body. Align the holes in the bushing plate with the holes in the main body. Secure the assembly with new washer (5A), spacer (5), washer (4), screw (3), new washer (2), and screw (1). Tighten screws to the torque value specified in the latest applicable overhaul manual. Assemble lever (7, Figure 3) and secure with new nut (6). Tighten nut to the torque value specified in the latest applicable overhaul manual.
- (5) Complete the assembly of the fuel injector by referring to the instructions in the latest applicable overhaul manual.

E. IDENTIFICATION:

- (1) All modified fuel injectors must be reidentified.
- (2) Reidentify each unit by installing a new identification plate and reidentifying as follows:
 - a. Transfer the exact model number from the old identification plate.

2. ACCOMPLISHMENT INSTRUCTIONS: (Continued)

- b. Reidentify the fuel injector with the new applicable parts list number and issue number.
- c. Transfer the exact serial number from the old identification plate.
- d. I.C. this block should be left blank.


(3)	<u>Model No.</u>	<u>Old Parts List No.</u>	<u>Issue No.</u>	<u>New Parts List No.</u>
	RS-10FB1	2524014	1 thru 7	2524014-8 less any issues
		2524367	1 and 2	2524367-3 less issue 2
		2524665	1	2524665-2
		2524696	1	2524696-2
	RS-10ED1	391821	1 thru 4	391821-5 less any issues
		2524031	1 thru 3	2524031-4 less any issues
		2524470	1 thru 3	2524470-4 less any issues
	RS-10ED2	391825	1 thru 3	391825-4 less any issues
	RS-10B1	391787	1 and 2	391787-3 less issue 2
	RS-10B2	391783	1 and 2	391783-3 less issue 2

3. MATERIAL INFORMATION:

A.	<u>New P/N</u>	<u>Qty.</u>	<u>Nomenclature</u>	<u>Old P/N</u>	<u>Disposition</u>
	2540628	1	Sleeve Bushing	2523888	Scrap
	2540577	1	Mixture Control Shaft Seal	-	-
	2540578	1	Mixture Control Sleeve Bushings Plate	-	-
	951390	1	Preformed Packing	315S5	Scrap
	951400	1	Preformed Packing	379S20	Scrap
	-	1	Flat Washer	2521927	Scrap
	-	2	Washer	188595	Scrap
	199596	1	Washer	199596	Reuse
	2525318	1	Spacer	2525318	Reuse
	911242	2	Washer	-	-
	2540121	1	Mixture Control Bushings	2524575	Scrap
	342617	1	Compression Spring	342617	Reuse
	367988	1	Lever	367988	Reuse
	2522590	1	Stop	2522590	Reuse
	187313	1	Self-Locking Nut	187313	Scrap
	2539738	1	Spring Pin	909329K35	Scrap
	363083	1	Screw	363083	Reuse
	79216	1	Screw	79216	Reuse

3. MATERIAL INFORMATION: (Continued)

A.	<u>New P/N</u>	<u>QTY.</u>	<u>Nomenclature</u>	<u>Old P/N</u>	<u>Disposition</u>
	367828	1	Identification Plate	367828	Scrap
	186739	2	Self-Tapping Screw	186739	Scrap



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