Bendix Energy Controls Division
South Bend, Indiana 46620, U.S.A.

Service Bulletin

Fuel Systems

Bulletin No.: RS-65

Date: 1-30-80

Revised: _____

Subject: MODIFICATION OF MIXTURE CONTROL SHAFT ASSEMBLY ON ALL RSA-5 AND RSA-10 FUEL INJECTORS.

1. PLANNING INFORMATION:

A. EFFECTIVITY:

Model No.	Parts List No.	
RSA-5AB1	2524199-9	2524216-8
	2524254-7	2524262-6
	2524378-7	2524712-5
RSA-5AD1	2524054-7	2524145-8
	2524147-9	2524171-7
	2524189-7	2524213-7
	2524242-6	2524243-7
	2524291-7	2524297-6
	2524307-6	2524328-6
	2524335-6	2524341-6
	2524348-7	2524359-6
	2524450-5	2524459-5
	2524475-4	2524550-4
	2524575-4	2524590-4
	2524592-4	2524623-4
	2524634-4	2524640-4
	2524673-4	2524682-4
	2524688-4	2524723-4
	2524742-4	2524752-3
RSA-10AD1	2524030-7	2524152-6
	2524163-10	2524175-6
	2524255-6	2524256-8
	2524311-6	2524757-3
RSA-10DB1	2524267-6	2524275-11
	2524276-7	2524423-8
	2524593-4	2524649-6
	2524799-1	
RSA-10DB2	2524501-5	2524708-4

1. PLANNING INFORMATION: (Continued)

RSA-10ED1	2524273-8	2524298-8
	2524366-6	2524420-7
	2524422-5	2524477-7
	2524491-5	2524492-4
	2524500-5	2524556-5
	2524582-4	2524601-4
	2524693-5	2524709-3
	2524733-3	2524811-1
RSA-10ED2	2524791-1	

B. REASON:

To provide detailed instructions for installation of a modified mixture control sleeve bushing. Incorporation of an external seal on mixture control shaft. Installation of sleeve bushing plate.

C. DESCRIPTION:

Refer to latest applicable overhaul manuals for disassembly instructions of mixture control shaft assembly only. Replace/rework mixture control shaft sleeve bushing. Add mixture control shaft seal. Add mixture control sleeve bushing plate.

D. COMPLIANCE:

Operating Activities:

Not applicable.

Overhaul Activities:

Comply at overhaul.

E. APPROVAL:

F. MANPOWER:

Modification requires an additional 0.75 man-hours.

G. MATERIAL AVAILABILITY:

Part No.	Nomenclature	Availability
2540576	Bushing, sleeve	Bendix Products Support Centers
2540577	Seal	Bendix Products Support Centers
2540578	Plate, bushing	Bendix Products Support Centers
911242	Washer	Bendix Products Support Centers
90932K35	Pin, spring	Bendix Products Support Centers
953516-10	Packing, preformed	Bendix Products Support Centers
951401	Packing, preformed	Bendix Products Support Centers

1. PLANNING INFORMATION: (Continued)

H. TOOLING:

Tool No.	Nomenclature	Availability
2550975	Installation Tool	Local manufacture or purchased from Bendix.
2550978	Bullet Nose	Local manufacture or purchased from Bendix.

I. WEIGHT AND BALANCE:

Not affected.

J. REFERENCES:

K. PUBLICATIONS AFFECTED:

Overhaul manuals for following Model Fuel Injectors:

Model No.	
RSA-5AB1	Form No. 15-419.
RSA-5AD1	Form No. 15-381.
RSA-10AD1	Form No. 15-533.
RSA-10DB1	Form No. 15-471.
RSA-10DB2	Form No. 15-542.
RSA-10ED1	Form No. 15-458.
RSA-10ED2	Manual not published. Refer to 15-458 in the interim.

2. ACCOMPLISHMENT INSTRUCTIONS:

A. Refer to latest applicable overhaul manual for exploded view of fuel injector. See Figure 1 this Bulletin for exploded view of mixture control shaft assembly.

B. Remove mixture control shaft assembly from fuel injector as follows:

(1) Remove screws (1 and 5, Figure 1), washers (2 and 6), spacers (3) and washer (4). Discard washers (4 and 6).

(2) Disassemble mixture control shaft assembly as follows:

WARNING: USE EXTREME CAUTION DURING DISASSEMBLY OF MIXTURE CONTROL SHAFT ASSEMBLY. SPRING (13) IS UNDER COMPRESSION. REMOVAL OF C-WASHER (10) WILL RELEASE SPRING COMPRESSION.

a. Remove spring pin (7) and discard.

NOTE: Remove burrs from spring pin (7) hole to prevent damage to seals and packings during disassembly and assembly.

2. ACCOMPLISHMENT INSTRUCTIONS: (Continued)

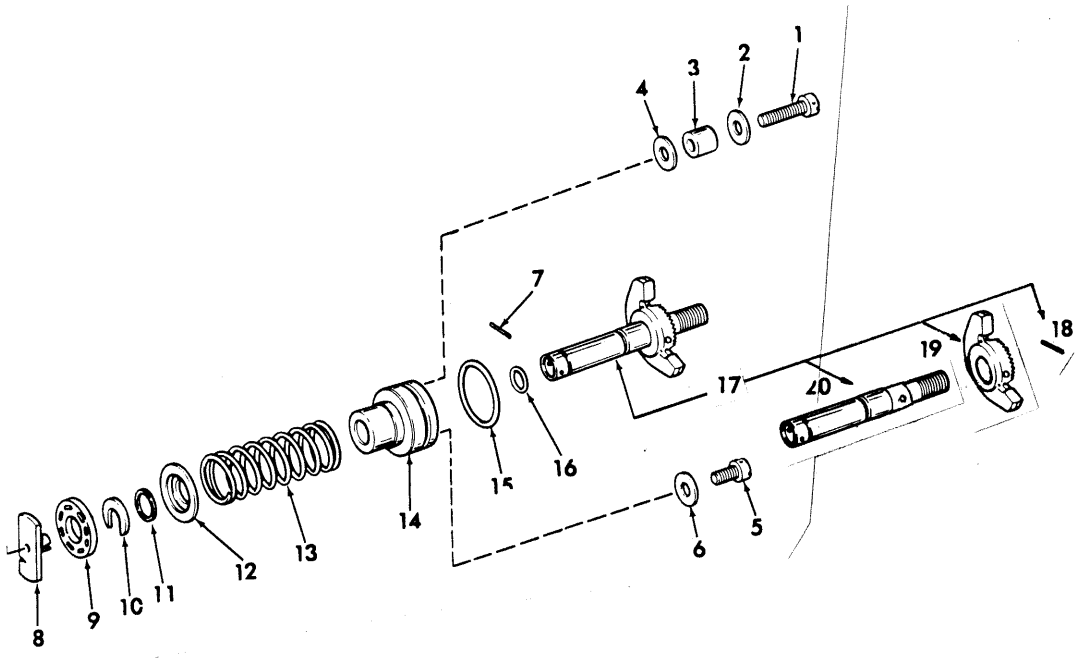

Figure 1. Mixture Control Shaft Assembly

Key to Figure 1

1. Screw
2. Washer
3. Spacer
4. Washer
5. Screw
6. Washer
7. Spring Pin
8. Mixture Control Plate
9. Mixture Control Bushing
10. C-Washer
11. Non-metallic Washer
12. Spring Holder
13. Spring
14. Sleeve Bushing
15. Preformed Packing
16. Preformed Packing
17. Mixture Control Shaft Assembly
18. Spring Pin
19. Mixture Control Stop
20. Mixture Control Shaft

b. Remove mixture control plate (8, figure 1).

c. Remove mixture control bushing (9).

d. Remove C-washer (10).

e. Remove non-metallic washer (11).

f. Remove spring holder (12).

g. Remove spring (13).

2. ACCOMPLISHMENT INSTRUCTIONS: (Continued)

h. Remove mixture control sleeve bushing (14, figure 1) and discard.

NOTE: 2540576 bushing may be reworked, at overhaul facilities, option. Replacement of bushing is more economical than rework of bushing.

i. Remove preformed packings (15 and 16) and discard.

C. After disassembly and before cleaning mixture control shaft assembly, perform the following:

(1) Break sharp edge on end of shaft and one edge of C-washer groove. See Figure 2.

NOTE: These edges are broken to ease installation and prevent damage to seal (15, figure 6).

(2) Rework stop (19, figure 1) per following:

a. Remove 0.015 inch material from back face of stop. See Figure 3.

(3) Rework mixture control shaft sleeve bushing per following:

CAUTION: USE CAUTION WHEN INSTALLING 2540576 BUSHING INTO HOLDING DEVICE, TO PREVENT DAMAGE TO BUSHING SURFACE.

a. Use standard shop practice.

b. Machine seal seat into bore at large end of bushing. See Figure 4, for dimensions.

c. Use small paint brush and apply Alodine to reworked area.

d. Allow Alodine to set on reworked surface for 5 minutes.

e. Apply water bath to bushing to neutralize Alodine, air dry.

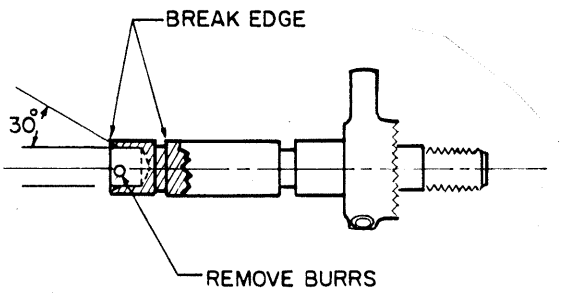

Figure 2. Mixture Control Shaft Assembly

2. ACCOMPLISHMENT INSTRUCTIONS: (Continued)

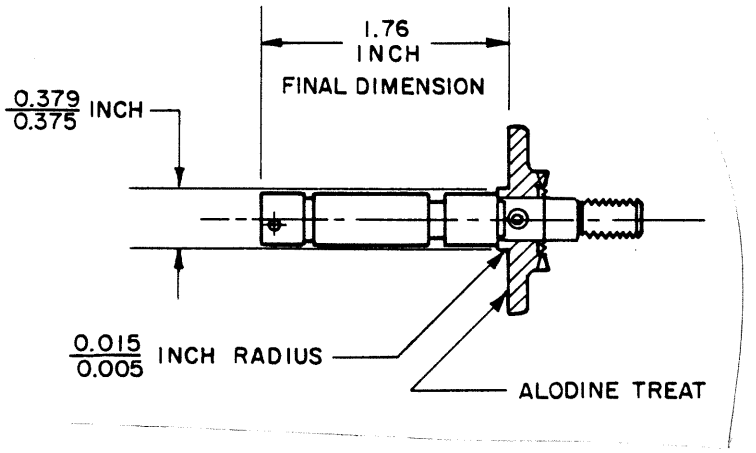

Figure 3. Mixture Control Shaft Rework

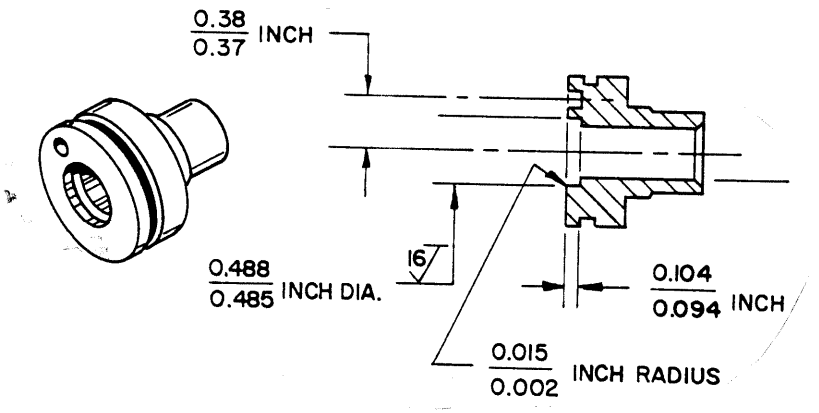

Figure 4. Mixture Control Bushing Rework

D. Clean and inspect mixture control shaft assembly parts per latest applicable overhaul manual.

E. Assemble mixture control shaft assembly as follows:

(1) Install mixture control shaft seal (15, figure 6) in sleeve bushing (14) per figure 7 and following:

a. Remove pusher of 2550975 installation tool. (Reference figure 5). See figure 7.

b. Lubricate bore of tool bushing. Use rubber lubricant.

NOTE: Use a light coat of ASTM No. 1 oil. ASTM No. 1 oil is procurable from Enjay Company, N.Y., NY.

2. ACCOMPLISHMENT INSTRUCTIONS: (Continued

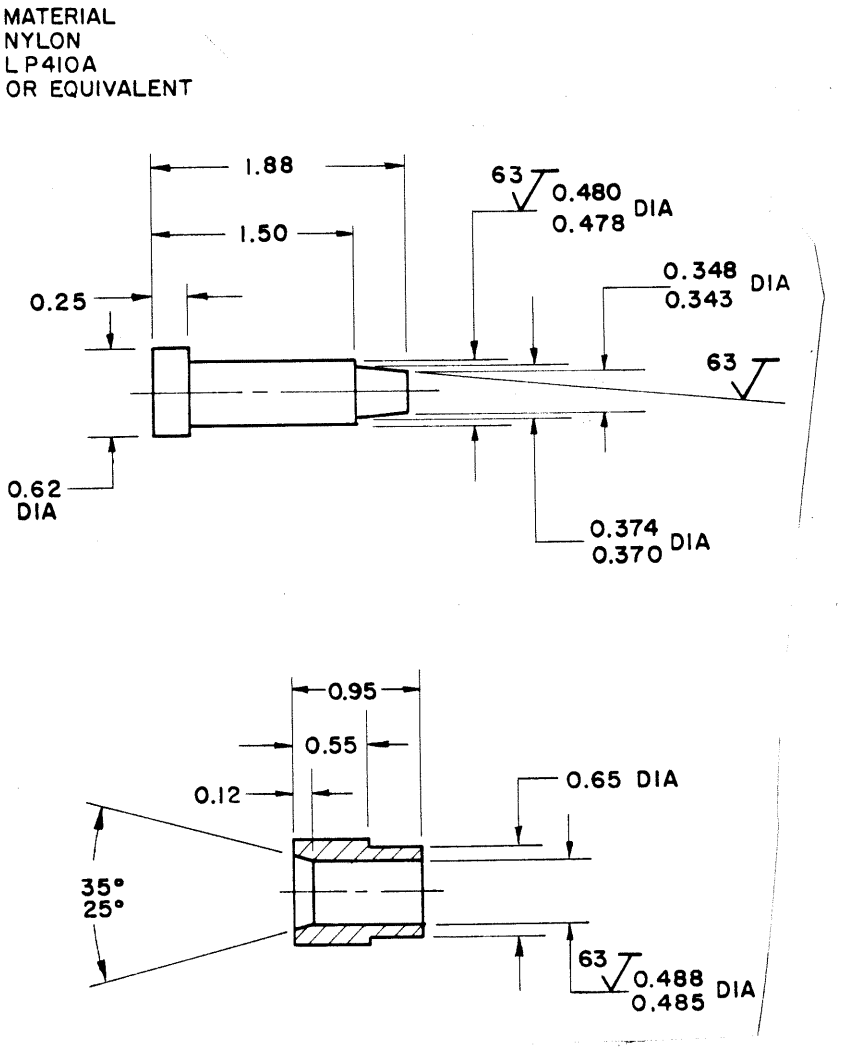

Figure 5. 2550975 Installation Tool (Locally Manufactured or Purchased from Bendix)

c. Insert seal, open end first into large end of bushing bore. See figure 7.

NOTE: Mixture control shaft seal has a vee-shaped cross section. Position seal so open end of vee will be installed toward interior of control. Seal design is such that fluid pressure applied against open end of vee aids sealing.

d. Seat assembled parts (step c.) positively and evenly over seat in sleeve bushing.

e. Insert pusher into bushing. Push seal through bushing and into sleeve bushing seat. Tapered end of pusher will pilot into bushing bore to aid alignment.

2. ACCOMPLISHMENT INSTRUCTIONS: (Continued)

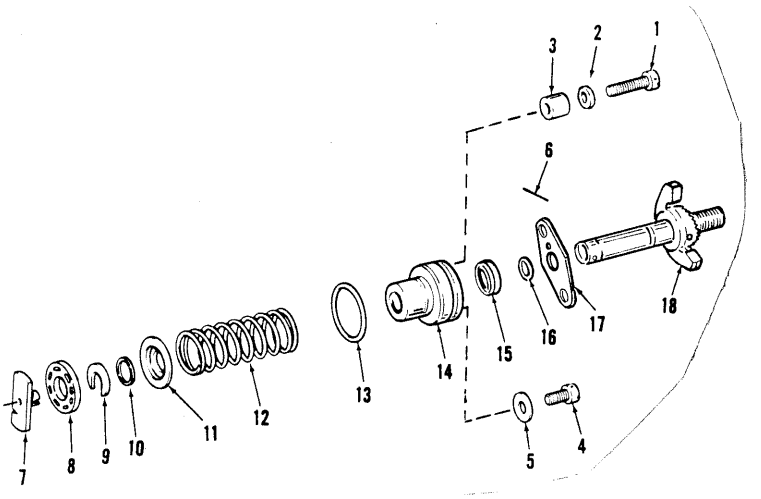

Figure 6.

Key to Figure 6

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

f. Remove 2550975 installation tool.

g. Verify mixture control shaft seal is evenly seated in sleeve bushing seat. Use installation tool plunger to aid obtaining needed alignment if necessary.

(2) Prepare sleeve bushing for installation as follows:

a. Assemble lubricated packing (13, figure 6) on sleeve bushing.

2. ACCOMPLISHMENT INSTRUCTIONS: (Continued)

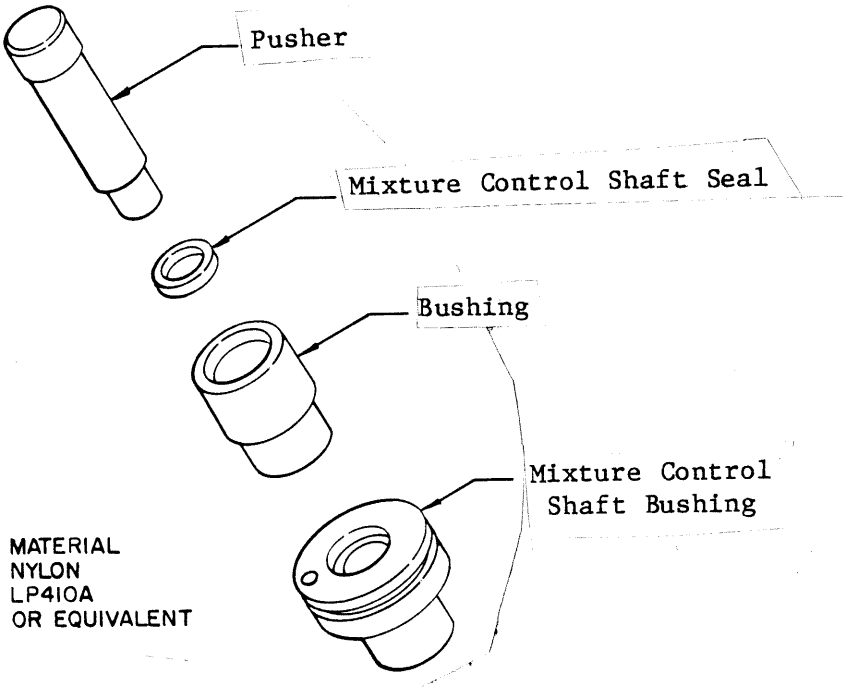

Figure 7. Seal Installation Reference

b. Lubricate surfaces of 2550978 bullet nose tool. (Reference figure 8). Use rubber lubricant.

c. Insert tapered end of lubricated bullet nose tool through seal installed in sleeve bushing. Continue inserting bullet nose until tip extends from small end of sleeve bushing.

d. Temporarily lay assembled parts aside.

(3) Continue with assembly of mixture control shaft assembly as follows:

a. Assemble bushing plate (17, figure 6) to mixture control shaft (18).

NOTE: Protruding detent of bushing plate (17) must be faced toward sleeve bushing (14).

b. Lubricate and assemble preformed packing (16) to mixture control shaft.

2. ACCOMPLISHMENT INSTRUCTIONS: (Continued)

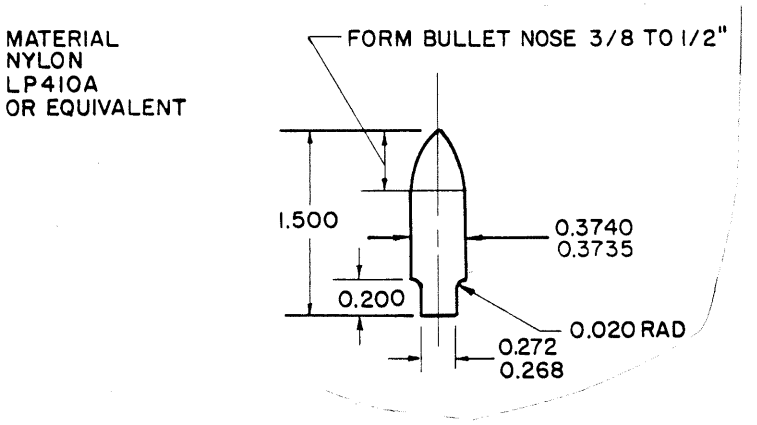

Figure 8. 2550978 Bullet Nose (Locally Manufactured or Purchased from Bendix)

c. Assemble sleeve bushing (13, 14, and 15, figure 6) to mixture control shaft.

NOTE: Assemble sleeve bushing to mixture control shaft by inserting small shank diameter of bullet nose into cavity of mixture control shaft. Give a quick push and slide bushing onto shaft.

d. Remove 2550976 bullet nose tool.

e. Turn sleeve bushing until protruding detent of bushing plate (17) is engaged in index hole of sleeve bushing (14).

(4) Assemble spring (12), spring holder (11) and washer (10) onto mixture control shaft.

a. Compress spring and install C-washer (9) into groove on mixture control shaft.

NOTE: Verify that concave side of C-washer (9) is installed over washer (10).

b. Release compression on spring (12).

c. Assemble mixture control bushing (8), mixture control plate (7) onto mixture control shaft.

d. Install spring pin (6).

e. Spread ends of spring pin (6) a minimum of 0.010" to secure in place.

2. ACCOMPLISHMENT INSTRUCTIONS: (Continued)

(5) Install mixture control shaft assembly in main body per following:

a. Align holes in bushing plate (17, figure 6) with holes in main body.

b. Install spacer (3), washer (2) and screw (1).

c. Install new washer (5), screw (4).

d. Tighten screws to torque value specified in latest applicable overhaul manual.

NOTE: Verify that a minimum 0.010" clearance exists between lever stop (18, figure 4) and bushing plate (17, figure 6). If not, remove mixture control shaft assembly and rework per paragraph 2-C-2.

F. IDENTIFICATION:

(1) Reidentify modified fuel injectors per following:

a. Install new identification plate.

b. Transfer exact model number from old identification plate.

c. Reidentify fuel injector with new applicable parts list number, less issue changes not incorporated during this and/or previous overhauls. i.e. P/L 2524199-9.

d. Reidentify fuel injector with new applicable basic number, less any changes not incorporated during this and/or previous overhauls. i.e. Basic number 2524524.

e. Leave I.C. block blank.

f. Transfer exact serial number from old identification plate.

(2)

Model No.	Old Parts List No.	New Parts List No.
RSA-5AB1	2524199-9	2524199-10
	2524216-8	2524216-9
	2524254-7	2524254-8
	2524262-6	2524262-7
	2524378-7	2524378-8
	2524712-5	2524712-6
RSA-5AD1	2524054-7	2524054-8
	2524145-8	2524145-9
	2524147-9	2524147-10
	2524171-7	2524171-8
	2524189-7	2524189-8

2. ACCOMPLISHMENT INSTRUCTIONS: (Continued)

(2) Model No.	Old Parts List No.	New Parts List No.
RSA-5AD1 (Cont.)	2524213-7	2524213-8
	2524242-6	2524242-7
	2524243-7	2524243-8
	2524291-7	2524291-8
	2524297-6	2524297-7
	2524307-6	2524307-7
	2524328-6	2524328-7
	2524335-6	2524335-7
	2524341-6	2524341-7
	2524348-7	2524348-8
	2524359-6	2524359-7
	2524450-5	2524450-6
	2524459-5	2524459-6
	2524475-4	2524475-5
	2524550-4	2524550-5
	2524575-4	2524575-5
	2524590-4	2524590-5
	2524592-4	2524592-5
	2524623-4	2524623-5
	2524634-4	2524634-5
	2524640-4	2524640-5
	2524673-4	2524673-5
	2524682-4	2524682-5
	2524688-4	2524688-5
	2524723-4	2524723-5
	2524742-4	2524742-5
	2524752-3	2524752-4
RSA-10AD1	2524030-7	2524030-8
	2524152-6	2524152-7
	2524163-10	2524163-11
	2524175-6	2524175-7
	2524255-6	2524255-7
	2524256-8	2524256-9
	2524311-6	2524311-7
	2524757-3	2524757-4
RSA-10DB1	2524267-6	2524267-7
	2524275-11	2524275-12
	2524276-7	2524276-8
	2524423-8	2524423-9
	2524593-4	2524593-5
	2524649-6	2524649-7
	2524799-1	2524799-2
RSA-10DB2	2524501-5	2524501-6
	2524708-4	2524708-5
RSA-10ED1	2524273-8	2524273-9
	2524298-8	2524298-9

2. ACCOMPLISHMENT INSTRUCTIONS: (Continued)

(2)

Model No.	Old Parts List No.	New Parts List No.
RSA-10ED1 (Cont.)	2524366-6	2524366-7
	2524420-7	2524420-8
	2524422-5	2524422-6
	2524477-7	2524477-8
	2524491-5	2524491-6
	2524492-4	2524492-5
	2524500-5	2524500-6
	2524556-5	2524556-6
	2524582-4	2524582-5
	2524601-4	2524601-5
	2524693-5	2524693-6
	2524709-3	2524709-4
	2524733-3	2524733-4
	2524811-1	2524811-2
RSA-10ED2	2524791-1	2524791-2

Model No.	Old Basic No.	New Basic No.
RSA-5AB1	2524522-F	2524522-G
	2524523-G	2524523-H
	2524524-G	2524524-H
	2524716-F	2524716-G
RSA-5AD1	2524469-F	2524469-G
	2524472-F	2524472-G
	2524474-F	2524474-G
	2524476-F	2524476-G
	2524521-F	2524521-G
	2524542-F	2524542-G
	2524645-F	2524645-G
	2524724-E	2524724-F
	2524650-F	2524650-G
	2524741-D	2524741-E
RSA-10AD1	2524510-G	2524510-H
	2524511-F	2524511-G
	2524512-F	2524512-G
	2524513-G	2524513-H
	2524514-F	2524514-G
	2524515-F	2524515-G
RSA-10DB1	2524505-J	2524505-K
	2524507-F	2524507-G
	2524638-G	2524638-H
	2524689-G	2524689-H
RSA-10DB2	2524509-G	2524509-H
	2524713-E	2524713-F

2. ACCOMPLISHMENT INSTRUCTIONS: (Continued)

Model	Old Basic No.	New Basic No.
RSA-10ED1	2524516-G	2524516-H
	2524519-F	2524519-G
	2524520-F	2524520-G
	2524572-G	2524572-H
	2524619-F	2524619-G
	2524625-E	2524625-F
	2524648-F	2524648-G
	2524714-D	2524714-E
	2524792-A	2524792-B
	2524816-B	2524816-C
RSA-10ED2	2524790-A	2524790-B

3. MATERIAL INFORMATION:

A.

New P/N	Qty.	Nomenclature	Old P/N	Disposition
2540576	1	Bushing, sleeve	2520878	Scrap
2540577	1	Seal	---	---
2540578	1	Plate, bushing	---	---
953516-10	1	Packing, preformed	953516-10	Scrap
951401	1	Packing, preformed	951401	Scrap
---	2	Washer	188595	Scrap
911242	1	Washer	---	---
909290K35	1	Pin, Spring	909290K35	Scrap
367756	1	Plate, identification	367756	Scrap
186739	2	Screw, self-tapping	186739	Scrap

K. R. Dettweiler
Manager of Service