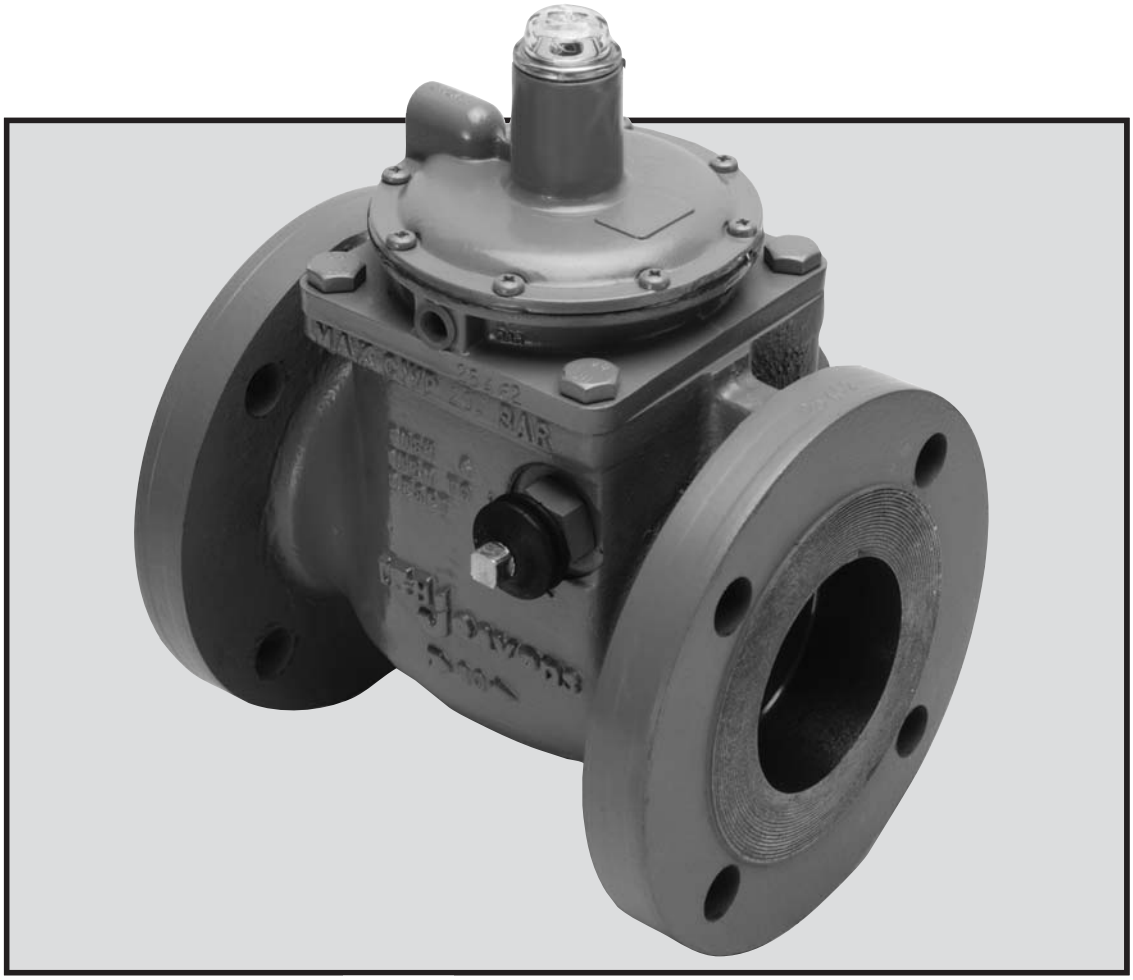
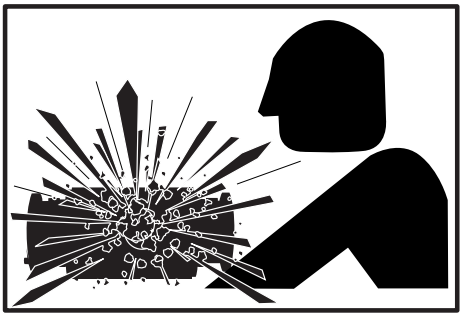
Series 100 Slam Shut Valve

Sizes 2", 3", 4"

Installation & Maintenance Instructions



AMERICAN METER COMPANY



WARNING
EXPLOSION HAZARD

Read carefully and follow all instructions shipped with this regulator. The incorrect installation of this equipment could result in escaping gas, and pose a potential explosion hazard.

CAUTION

"As a knowledgeable user of American Meter's products, we are sure that you are aware that parts in the Company's meters and regulators contain or are coated with heavy metals such as cadmium, zinc, lead and chromium. Obviously, therefore, repair or refurbishment of this equipment should take into account the presence of these materials and should comply with all state and federal requirements concerning worker protection, proper procedure, and proper disposal."

INSTALLATION, OPERATION AND MAINTENANCE

Installation Instructions See Fig. 1.

1. Remove the protective discs from flanges on both inlet and outlet ports.
2. Ensure installation piping is thoroughly clean.
3. Align the valve so that the direction of the gas flow is the same as the arrows on the slamshut body.
4. Install the slamshut valve into the piping using gaskets and bolting approved to National Standards.
5. Connect sense line to sense chamber tap using jointing compound approved to National Standards.

A vent line may be installed if required. To install a vent line:

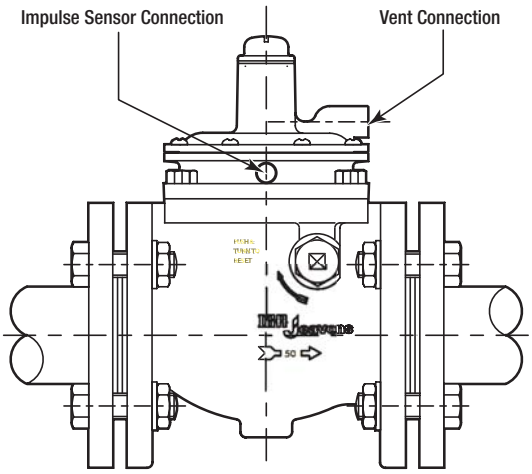


Fig. 1

⚠ Warning ⚠

Inside Installation will require a vent line of sufficient diameter to carry gas vented by the slamshut valve to a safe outside location away from any opening in the building. For all sizes of slamshut valves, a 1/4" NPT(F) vent connection is provided for the connection of a vent line.

Outside Installation will require that care be taken to prevent the vent opening from freezing closed or becoming blocked or permitting water to enter from any cause. Particular consideration should be given to sites where flooding, snow, or freezing rain may be experienced. The vent or vent line port should point vertically downward and overhead protection should be used where necessary."

Valve Operation See Fig. 2.

As the sense pressure rises to the desired shut-off point, it acts against the pressure sensing diaphragm and pressure setting spring.

A bearing cage is lifted, allowing ball bearings to move outwards in a radial direction against the bearing cage taper, to a point where the shoulder diameter on the spring loaded shaft is free to pass through the bearings (shut-off point).

As the shaft moves through the bearings, it releases the spring clip (a), allowing the valve seat assembly to swing to the closed position.

A valve position indicator (b) shows that the valve has moved to the closed position.

A valve position indicator (b) indicates that the valve has moved to the closed position.

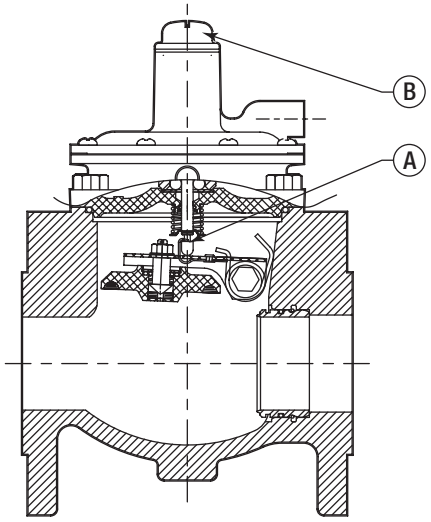


Fig. 2

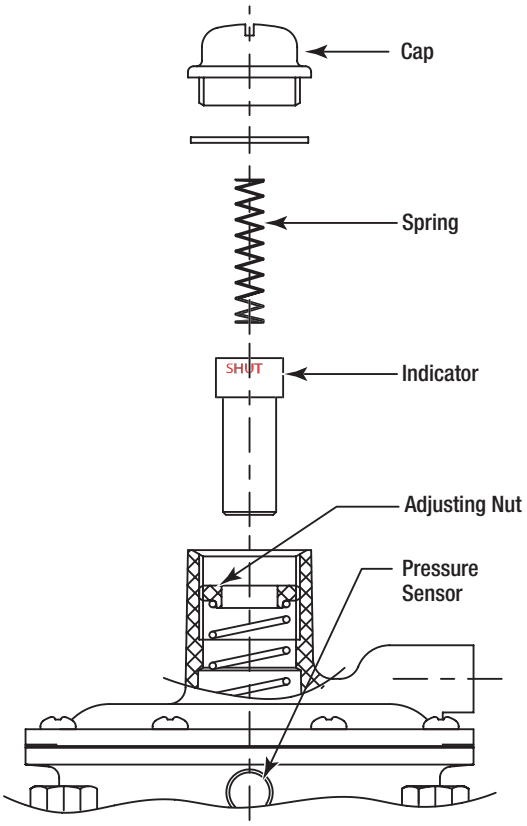


Fig. 3

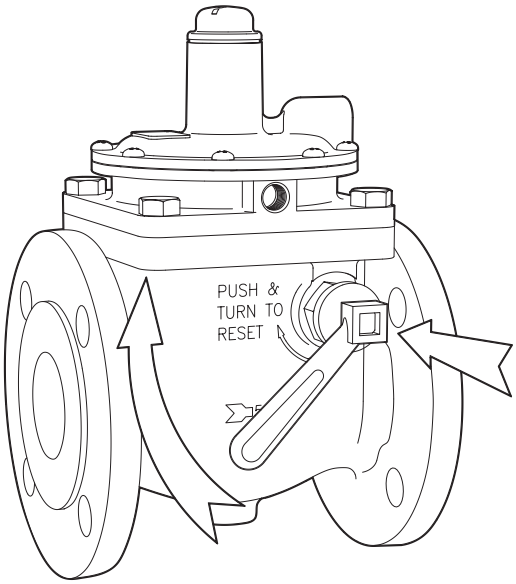


Fig. 4

Setting the Shut-Off Pressure See Fig. 3

1. Ensure the slamshut valve is depressurized.
2. Remove cap, spring and indicator.
3. Screw adjusting nut clockwise as far as it will turn. **Do not force.**
4. Induce the desired shut-off pressure at the pressure sense port.
5. Unwind (counter-clockwise) adjusting nut a half turn at a time until the slamshut valve trips.
6. Remove pressure and reset the slamshut valve (see section entitled Resetting the Slamshut Valve).
7. Slowly induce pressure at the sense port and check that the slamshut valve trips at the desired shut-off pressure. Make adjustments as necessary.
8. The slamshut valve is now set.
9. Reassemble the indicator, spring and cap.
10. NOTE: If correct shut-off pressure is not obtainable, choose the correct shut-off spring from the parts listing and return to step 3 above.

Re-Arming the Valve See Fig. 4.

Resetting the slamshut valve is accomplished manually. **Prior to resetting, the cause of operation should first be determined and rectified.** Isolate the slamshut valve and depressurize the downstream pressure.

1. Push and rotate the reset shaft (1) until you feel it engaging the latching assembly. Further rotation using light pressure allows the automatic equalizing valve to operate.
2. **Do not attempt to force the valve open.** Once pressure has equalized, the valve seat assembly will lift from the seat allowing the reset shaft to rotate easily to the latching position.
3. When the slamshut valve is reset, the valve position indicator will move from the window within the cap (See Figure 2, Item b).

MAINTENANCE INSTRUCTIONS FOR SLAM-SHUT ASSEMBLY

See Figures 5 and 6 for parts identification and Table 1 (page 13) for part numbers.

Dismantling Procedure for Slamshut Assembly

Removal of OPSO Assembly from Slamshut Body

1. Ensure all block valves are closed and line is fully depressurized.
2. Remove sense line to OPSO assembly (1) and mark its position relative to the slamshut body (4).

3. Remove four screws (2) holding OPSO assembly (2) to the slamshut body (4). If the slamshut is closed, the OPSO assembly can be lifted out vertically. If the slamshut is open, raise the OPSO assembly at the outlet side and slide towards the outlet. This will release the latch closing the slamshut allowing the OPSO assembly to be lifted clear of the slamshut body.

Disassembly of Slamshut Body

1. Remove o-ring (3) from slamshut body (4).
2. Using pliers, carefully disengage closing spring (17) by pulling the tail of the spring into the locking slot on the lever assembly (18). The seat disc assembly (8) and lever assembly will now be free to swing without resistance from the closing spring.
3. Remove the top cover (13) from shaft (12) and unscrew the reset bushing (14) from the slamshut body (4).
4. Hold the seat disc assembly (8) with the lever assembly (18) and withdraw shaft (12) from slamshut body (4). A slight rotation may be required to remove the shaft from the lever assembly.
5. The seat disc assembly (8) and lever assembly (18) can now be lifted clear of the slamshut assembly.

Warning: Do not disengage spring from the slot in the lever assembly.

6. Unscrew the reset bushing (14) from slamshut body (4) and remove spring (19) from inside reset bushing.
7. Inspect the face of the seat ring (11) for evidence of damage.
8. If seat ring (11) is damaged, remove as follows:
   a. Place a screwdriver in the seat ring slot. Using the screwdriver as a lever, slide seat ring towards the inlet, repositioning the screwdriver as far around both sides of seat ring as possible to ensure the seat ring slides out square to the slamshut body. *Note: The seat ring is a push fit into the slamshut body and is held in place by a retaining ring (10) and sealed by an o-ring (9).*
   b. O-ring (9) and retaining ring (10) can now be removed from slamshut body (4).
9. Unscrew valve stem nut (6) while using a screwdriver to prevent the stem (5) from rotating. Remove washer (7) from under valve stem nut. Remove seat disc assembly (8) from lever assembly (18).
10. Remove o-rings (15 & 16) from shaft (12) and bushings (14 & 20).
11. Discard all o-rings and seat disc assembly. Replace with new parts from spares kit.

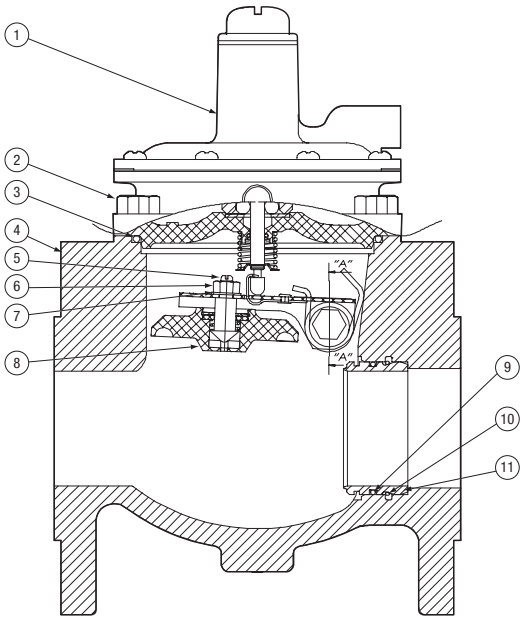


Fig. 5

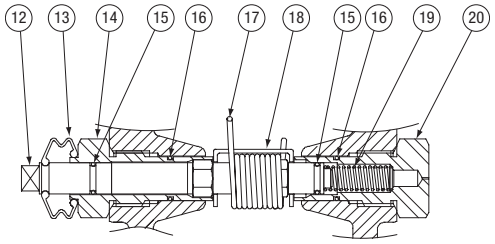


Fig. 6

Rebuilding Procedure for Slam-Shut Assembly

See Figure 5 and 6 for parts identification and Table 1 (page 13) for part numbers.

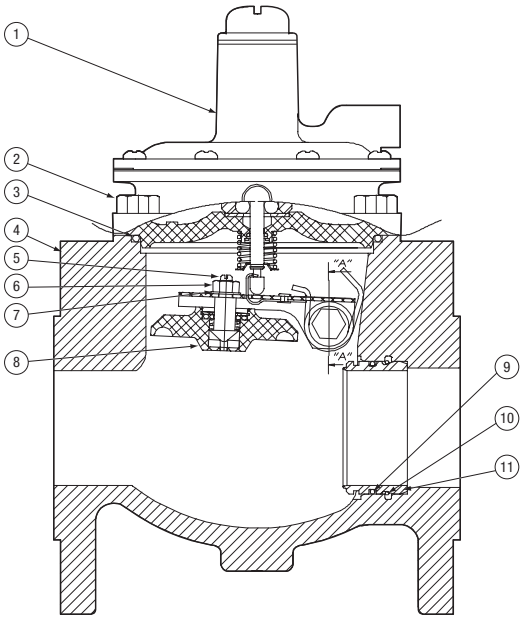


Fig. 5

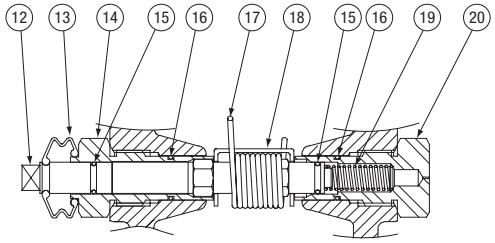


Fig. 6

Reassembly of Slamshut Body

Lightly lubricate all o-rings with Dow Corning Molycote 55M prior to assembly.

1. Replace seat-retaining ring (10) into slot in slamshut body (4).
2. Refit o-ring (9) onto seat ring (11) middle groove and lightly lubricate with silicon grease.
3. Fit seat ring into slamshut body (4) with chamfer on the inside of the seat ring facing inward. **Do not damage the seating surface.**
4. If removed earlier, the closing spring (17) should now be replaced into the lever assembly (18) using pliers. The short leg of the spring fits into the hole in the lever assembly; the long leg fits into the slot in the lever assembly.

Note: The reset shaft assembly is universal and can be refitted from either side of the slamshut valve.

5. Attach the seat disc assembly (8) to the lever assembly (18) by fitting the stem (5) of the valve disc assembly through the hole in the lever assembly. Secure in position using washer (7) and stem nut (6).
6. Fit o-rings (16) into grooves in reset busing (14) and spring reset shaft bushing (20).
7. Place spring (19) into spring reset shaft bushing (20) and screw reset shaft (12) into slamshut body (4) on the opposite side to recocking.
8. Refit two o-rings (15) into grooves in shaft (12).
9. Holding seat disc assembly (8) and lever assembly (18) in slamshut body (4), insert shaft though lever assembly so that spigot on the end of the shaft locates into the spring that is held in the slamshut body by the reset shaft bushing. A slight rotation of the shaft may be required to ensure the hexagon section of the shaft passes through the lever assembly.
10. While pushing the shaft (12) into the slamshut body (4), place the reset shaft bushing (20) over the end of the shaft and screw into the slamshut body.
11. Refit shaft cover (13) onto shaft (12).
12. Check that seat disc assembly (8) and lever assembly (18) are free to swing.
13. Using pliers, **carefully** release spring tail out of slot in the lever assembly (see label on lever assembly for direction to release spring).
14. Using a 9/16" spanner or reset tool on reset shaft (12), check the operation of assembly by pressing

shaft towards the slamshut body and rotating clockwise. A slight rotation may be required to locate shaft hexagon in lever assembly. Slamshut should freely open and close when pressure on reset shaft is released.

15. Lightly lubricate o-ring (3) and fit into groove in slamshut body.
16. Once OPSO assembly (1) has been assembled in **tripped** position (See section for OPSO Assembly Procedure), place OPSO assembly on top of slamshut body (4). Check orientation of OPSO assembly to slamshut body using alignment marking taken on dismantling.
17. Secure OPSO assembly (1) to slamshut body (4) using four screws (2).
18. Reset shutoff pressure (See section on Setting the Shutoff Pressure).

MAINTENANCE INSTRUCTIONS FOR LP/MP OPSO ASSEMBLIES

See Figures 7 and 8 for parts identification and Table 2 (page 15) for part numbers.

Dismantling Procedure for LP/MP OPSO Assemblies

1. Unscrew seal plug (1) and gasket (2) from spring tower of top cover (4). Lift out position indicator (23) with label (25) glued on side and spring (24).
2. Remove gasket (2) from seal plug (1).
3. Turn adjustment screw (3) counter-clockwise and remove. Then lift out spring (22).
4. Make note of the position of the vent in the top cover (4) relative to the horizontal tapped hole in the adaptor body (10).
5. Remove eight screws (19), holding top cover (4) onto the adaptor body (10).
6. **For MP only.** Remove the reducing ring (20) from the adaptor body (10).
7. **Carefully** lift off diaphragm assembly from adaptor body (10), taking care that all six balls (18) fall into adaptor body.
8. Remove all six balls (18) from adaptor body (10).
9. Unscrew diaphragm nut (6) from ball cage (11). Lift off diaphragm plate (7) and diaphragm (8).
10. Remove starlock washer (9) and o-ring (17) from ball cage (11).
11. Place adaptor body (10) in vice fitted with soft jaws with shutoff spring (16) facing upward, taking care not to over-tighten, which could result in damage to the adaptor body.

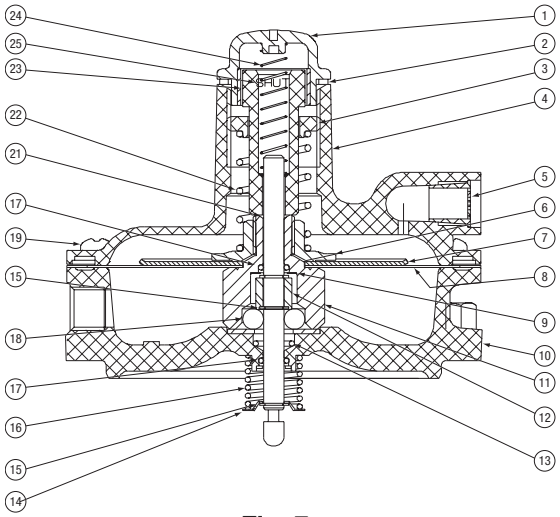


Fig. 7

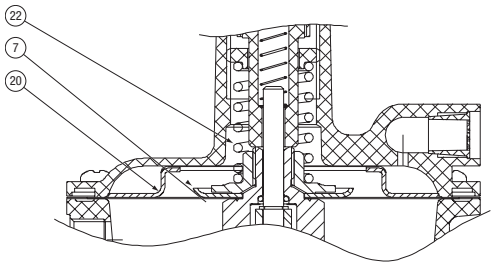


Fig. 8

12. Compress shutoff spring (16) with pliers, pushing down on retainer (14). Using needle-nose pliers, remove circlip (15). Take care not to misplace the circlip.
13. Shutoff spring (16) retainer (14) and shaft (21) can now be removed.
14. Remove adaptor body from vice and check that shock absorber o-ring (13) is either on shaft (21) or still in the adaptor body.
15. Carefully remove o-ring (17) from shaft (21) or adaptor body (10).
16. It is not necessary to remove collar (12) from shaft (21) unless damaged. This can be removed by carefully removing circlips (15) and sliding collar off of shaft.
17. Discard all o-rings and diaphragm (8) and replace with new parts from spares kit.

Rebuilding Procedure for LP/MP OPSO Assembly

See Figures 7 and 8 for parts identification and Table 2 (page 15) for part numbers.

Lightly grease all o-rings with Dow Corning Molycote 55M prior to assembly.

1. Fit o-ring (17) into adaptor body (10), taking care not to damage it in the process (use only blunt nose tools if needed).
2. Lightly lubricate shaft (21) with silicon grease and place through adaptor body. Fit shock absorber o-ring (13) into underside of adaptor body.
3. Place adaptor body assembly (10) in a vice fitted with soft jaws with o-ring (17) facing upwards. Take care not to over-tighten, which could result in damage to the body. Refit spring (16) and retainer (14) over shaft (21).
4. To allow the spring (16) to be compressed for refitting of circlips (15), it may be necessary to place packing below the shaft in the vice. Using tool, add circlip into the groove nearest round end of shaft (21) so spring and retainer (14) are held in position.
5. Remove adaptor body assembly (10) from vice and invert and re-clamp. If removed, place collar (12) over shaft (21) with counter bore of collar facing adaptor body (10). Retain collar in position on shaft by fitting two circlips (15) (using tool) into two grooves on shaft.
6. Fit o-ring ( ) into ball cage (11). Keep in position by fitting starlock washer (9) into ball cage.
7. Place diaphragm (8) with reinforcing material facing upwards over ball cage (11). Add diaphragm plate (7) on top of diaphragm.
8. Fasten diaphragm assembly together by threading diaphragm nut (6) over ball cage (11).

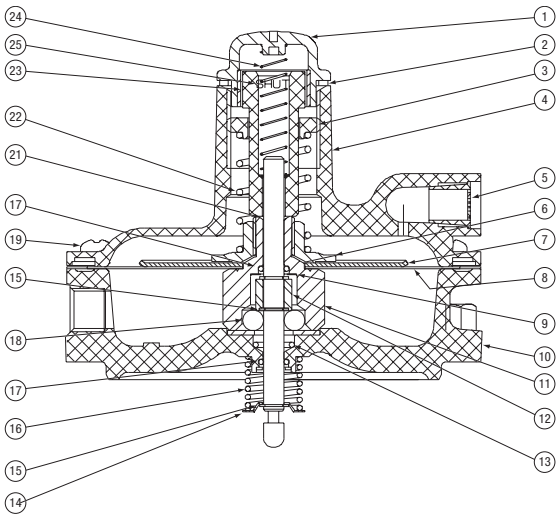


Fig. 7

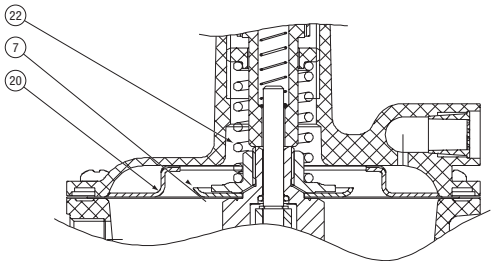


Fig. 8

9. Apply grease to six balls (18) and place around collar (12). The grease will hold the balls in position.
10. Place diaphragm assembly over shaft (21). Make sure six balls (18) are fitted inside the ball cage (11) and the eight holes in the diaphragm line up with the holes in the adaptor body (10).
11. **For MP only.** Place reducing ring (20) onto diaphragm assembly.
12. Place top cover (4) onto adaptor body assembly. Make sure holes in diaphragm (8), adaptor body (10) and cover line up with one another. Clamp top cover onto adaptor body assembly using eight screws (19).

Note: The position of the vent in the top cover, relative to the tapped hole in the inside of the adaptor body should be as noted in dismantling procedures.

13. Replace spring (22) in cover (4) over spigot of diaphragm nut (6).
14. Thread adjusting screw (3) into spring tower of top cover (4).
15. If removed, add vent screen (5) into vent of top cover (4).
16. Place position indicator (23) over shaft (21). Label (25) should be stuck on side of position indicator.
17. Place spring (24) over shaft (21) and into position indicator (23).
18. Add gasket (2) onto seal plug (1).
19. Screw seal plug (1) into spring tower of top cover (4).

Note: Prior to assembling OPSO unit into main slamshut body, ensure OPSO is in the "TRIPPED" position (i.e.: position indicator shows "SHUT").

Refer to section covering Reassembly of Slamshut Body. Place OPSO assembly back into the main slamshut assembly.

Maintenance Instructions for HP OPSO Assemblies

See Figure 9 for parts identification and Table 4 (page 17) for part numbers)

Dismantling Procedure for HP OPSO Assembly

1. Unscrew seal plug (1) and gasket (2) from spring tower of top cover (4). Lift out position indicator (25) with label (27) glued on side and spring (26).
2. Remove gasket (2) from seal plug (1).
3. Turn adjustment screw (3) counter-clockwise and remove. Then lift out spring (24).
4. Make note of the position of the vent in the top cover (4) relative to the horizontal tapped hole in the adaptor body (12).
5. Remove eight nuts (19) and screws (21) holding top cover (4) onto the adaptor body (11).

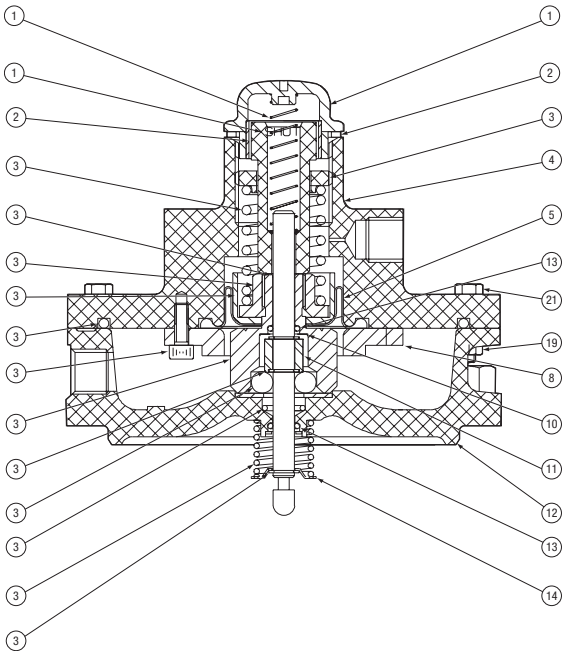


Fig. 9

6. **Carefully** lift off top cover 4) from adaptor body (11), taking care that all six balls (18) fall into adaptor body.
7. Remove all six balls (18) from adaptor body (12).
8. Remove o-ring (7) from top cover (4).
9. Unscrew four locking plate screws (9) and remove locking plate (8) and diaphragm assembly.
10. Unscrew diaphragm nut (6) from ball cage (20). Lift off diaphragm cup (22) and diaphragm (5).
11. Remove starlock washer (10) and o-ring (13) from ball cage (20).
12. Place adaptor body (10) in vice fitted with soft jaws with shutoff spring (16) facing upward, taking care not to over-tighten, which could result in damage to the adaptor body.
13. Compress shutoff spring (24) with pliers, pushing down on retainer (14). Using needle-nose pliers, remove circlip (15). Take care not to misplace the circlip.
14. Shutoff spring (24) retainer (14) and shaft (23) can now be removed.
15. Remove adaptor body from vice and check that shock absorber o-ring (17) is either on shaft (23) or still in the adaptor body (12).
16. Carefully remove o-ring (17) from shaft (23) or adaptor body (12).
17. It is not necessary to remove collar (11) from shaft (23) unless damaged. This can be removed by carefully removing circlips (15) and sliding collar off of shaft.
18. Discard all o-rings and diaphragm (8) and replace with new parts from spares kit.

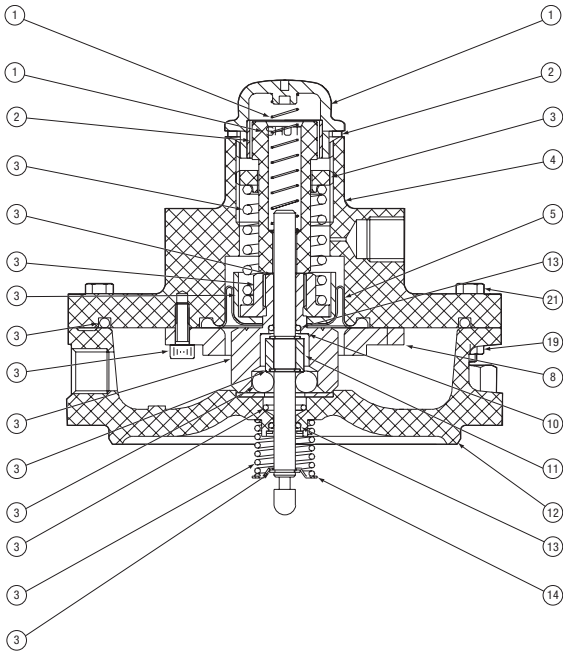


Fig. 9

Rebuilding Procedure for HP OPSO Assembly

See Figure 9 for parts identification and Table 4 (page 17) for part numbers.

Lightly grease all o-rings with Dow Corning Molycote 55M prior to assembly.

1. Fit o-ring (13) into adaptor body (12), taking care not to damage it in the process (use only blunt nose tools if needed).
2. Lightly lubricate shaft (23) with silicon grease and place through adaptor body. Fit shock absorber o-ring (13) into underside of adaptor body.
3. Place adaptor body assembly (12) in a vice fitted with soft jaws with o-ring (13) facing upwards. Take care not to over-tighten, which could result in damage to the body. Refit spring (16) and retainer (14) over shaft (23).

4. To allow the spring (16) to be compressed for refitting of circlips (15), it may be necessary to place packing below the shaft in the vice. Using tool, add circlip into the groove nearest round end of shaft (23) so spring and retainer (14) are held in position.
5. Remove adaptor body assembly (12) from vice and invert and re-clamp. If removed, place collar (11) over shaft (23) with counter bore of collar facing adaptor body (12). Retain collar in position on shaft by fitting two circlips (15) (using tool) into two grooves on shaft.
6. Fit o-ring (13) into ball cage (20). Keep in position by fitting starlock washer (10) into ball cage.
7. Place diaphragm (5) with reinforcing material facing upwards over ball cage (20). Add diaphragm cup (22) on top of diaphragm over spigot on ball cage.
8. Fasten diaphragm assembly together by threading diaphragm nut (6) over ball cage (20).
9. Apply grease to six balls (18) and place around collar (11). The grease will hold the balls in position.
10. Refit diaphragm assembly (5) into top cover (4). Make sure the diaphragm fits correctly into the groove in the top cover and around the diaphragm.
11. Using four screws (9), attach locking plate (8) to top cover (4), trapping diaphragm assembly (5) in position.
12. Fit o-ring (7) into groove into top cover (4).
13. Place diaphragm assembly (5) together by threading diaphragm nut (6) over ball cage (20).
14. Refit top cover (4) onto adaptor body (12) using eight nuts (19) and screws (21).

Note: The position of the vent in the top cover, relative to the tapped hole in the inside of the adaptor body should be shown as in Fig. 5, or as noted in dismantling procedures.

15. Replace spring (24) into top cover (4) over spigot of diaphragm nut (6).
16. Thread adjusting screw (3) into spring tower of top cover (4).
17. Place position indicator (25) over shaft (23). Label (27) should be stuck on side of position indicator.
18. Place spring (26) over shaft (23) and into position indicator (25).
19. Add gasket (2) onto seal plug (1).
20. Screw seal plug (1) into spring tower of top cover (4).

Note: Prior to assembling OPSO unit into main slamshut body, ensure OPSO is in the "TRIPPED" position (i.e.: position indicator shows "SHUT").

Refer to section covering Reassembly of Slamshut Body place OPSO assembly back into the main slamshut assembly.

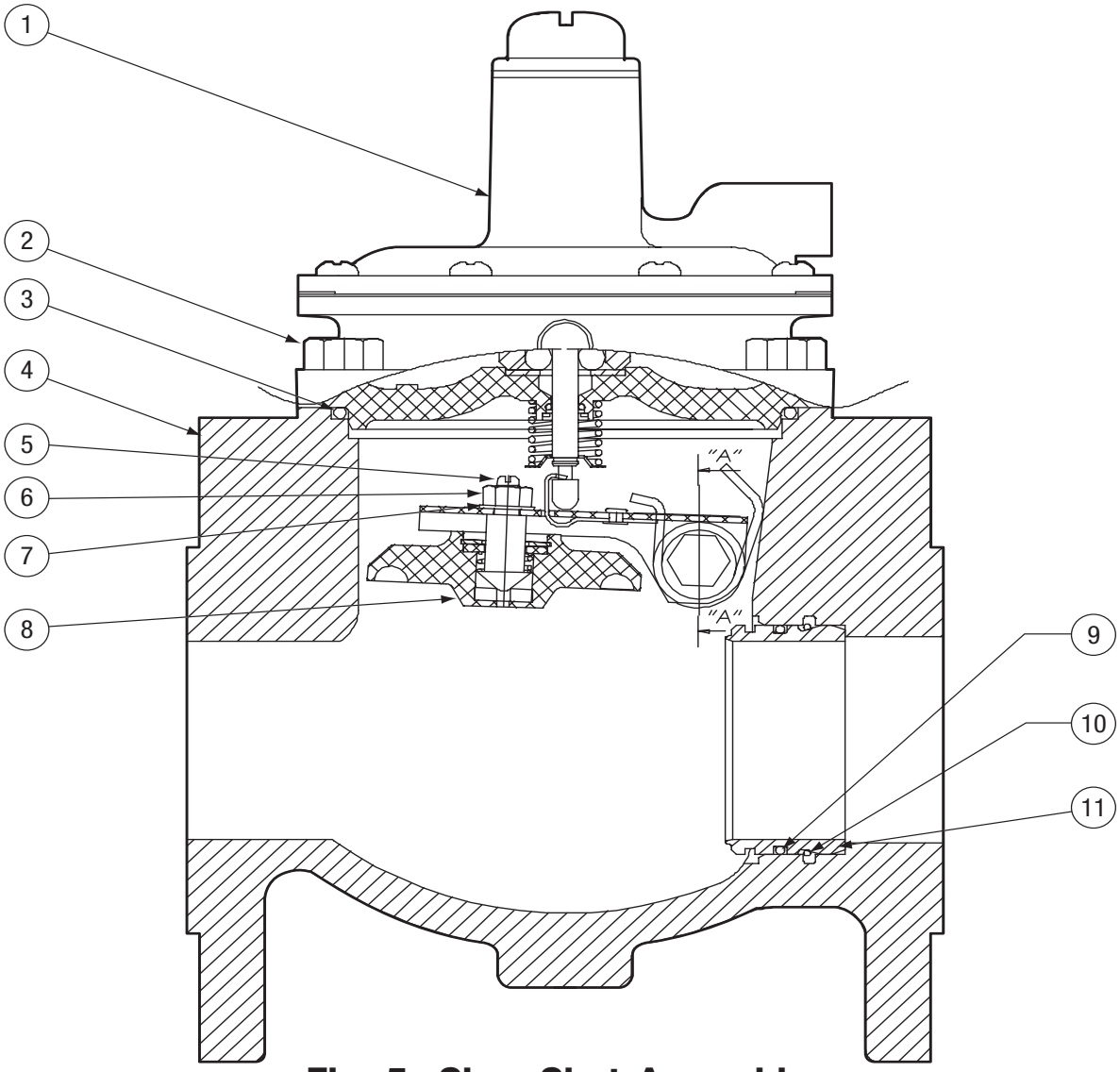


Fig. 5 Slam-Shut Assembly

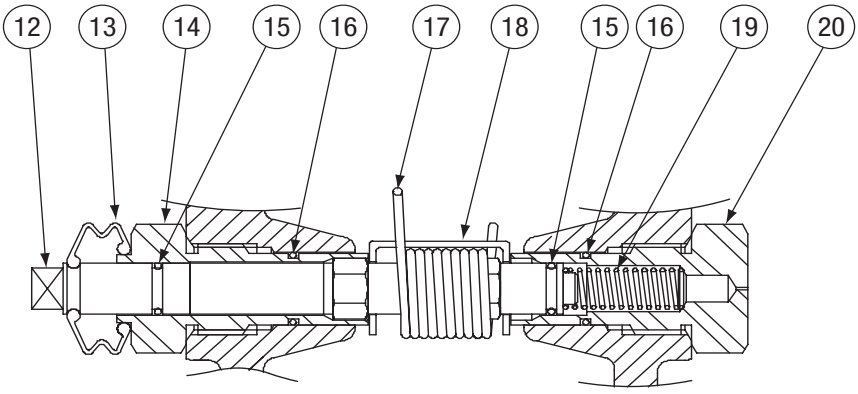


Fig. 6 Section A-A

Table 1 Parts List for Slam-Shut Assembly and Section A-A

Item No.	AMCO Part Number	Description	Qty.	Size
1	72986G243	OPSO Assembly LP	1	2", 3"
	72986G244	OPSO Assembly LP	1	4"
	72986G241	OPSO Assembly LP	1	2", 3"
	72986G242	OPSO Assembly LP	1	4"
	72986G239	OPSO Assembly LP	1	2", 3"
	72986G240	OPSO Assembly LP	1	4"
2	11635P053	Screw	4	2", 3", 4"
3	78037P115*	“O” Ring	1	2", 3"
	78037P121*	“O” Ring	1	4"
4	-	Body ANSI 150 Raised Face	1	2"
	-	Body ANSI 150 Flat Face	1	2"
	-	Body ANSI 150 Raised Face	1	3"
	-	Body ANSI 150 Flat Face	1	3"
	-	Body ANSI 150 Raised Face	1	4"
	-	Body ANSI 150 Flat Face	1	4"
5	-	Stem (Included in Item No. 8)'		
6	22032P079	Nut	1	2", 3", 4"
7	13981P080	Washer	1	2", 3", 4"
8	72720G005*	Seat Disc Assembly	1	2"
	72720G006*	Seat Disc Assembly	1	3"
	72720G007*	Seat Disc Assembly	1	4"
9	78037P114*	“O” Ring	1	2"
	78037P119*	“O” Ring	1	3"
	78037P163*	“O” Ring	1	4"
10	73841P001	Ring Retainer	1	2"
	73841P002	Ring Retainer	1	3"
	73841P003	Ring Retainer	1	4"
11	73840P001	Seat Ring	1	2"
	73840P002	Seat Ring	1	3"
	73840P003	Seat Ring	1	4"
12	72644P004	Shaft	1	2", 3", 4"
13	78198P003	Gaiter V6-438	1	2", 3", 4"
14	14596P003	Reset Shaft Bush	1	2", 3" 4"
15	42710P027*	“O” Ring	1	2", 3" 4"
16	42710P152*	“O” Ring	1	2", 3" 4"
17	73849P001	Spring Closing	1	2, 3""
	73849P002	Spring Closing	1	4"
18	72626G003	Lever Assembly	1	2"
	72626G004	Lever Assembly	1	3"
	72626G005	Lever Assembly	1	4"
19	71402P003	Spring	1	2", 3", 4"
20	73862P001	Spring Reset Shaft Bush	1	2", 3", 4"

*Indicates item is included in standard repair kit (see table 4, page 18).

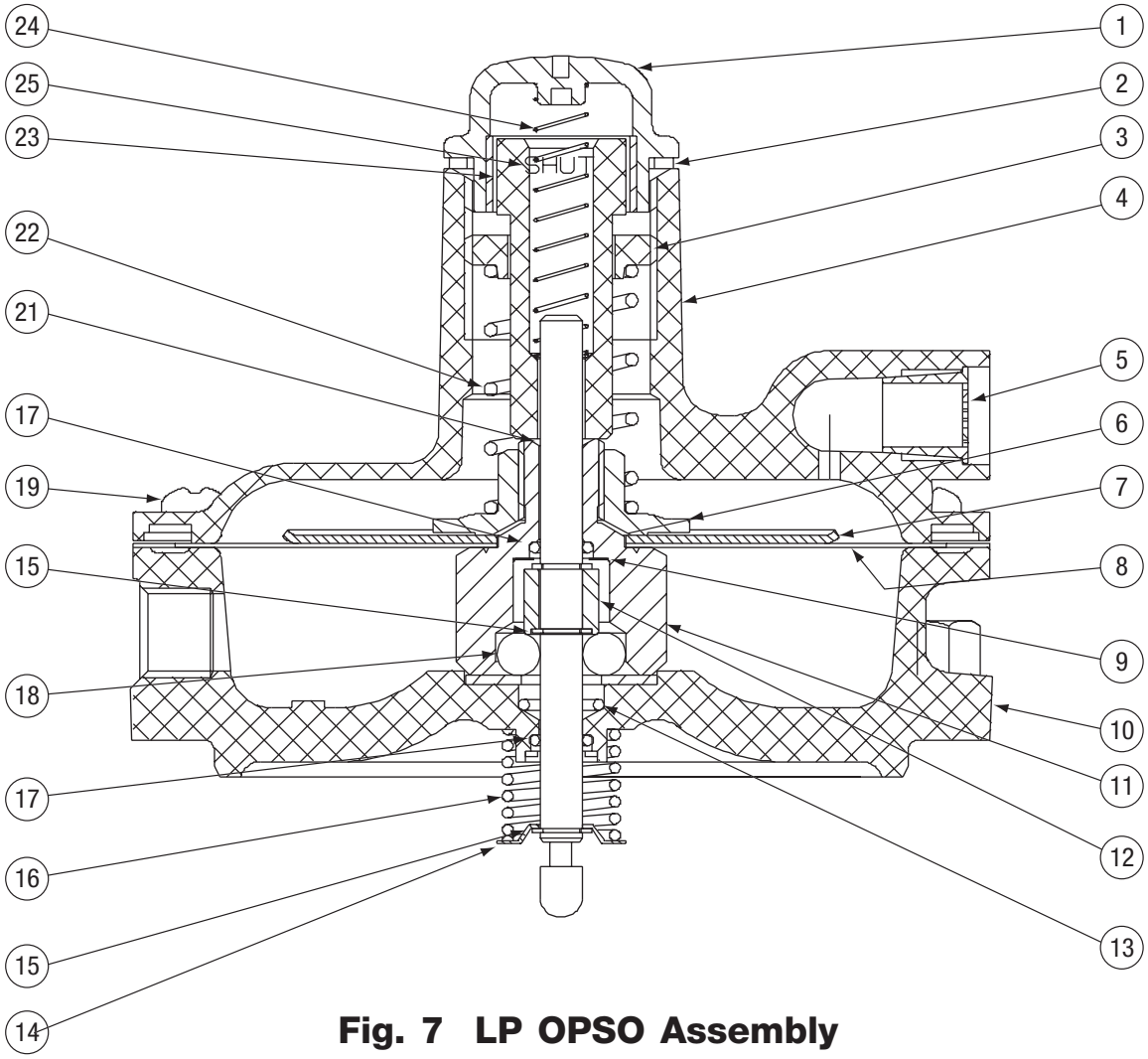


Fig. 7 LP OPSO Assembly

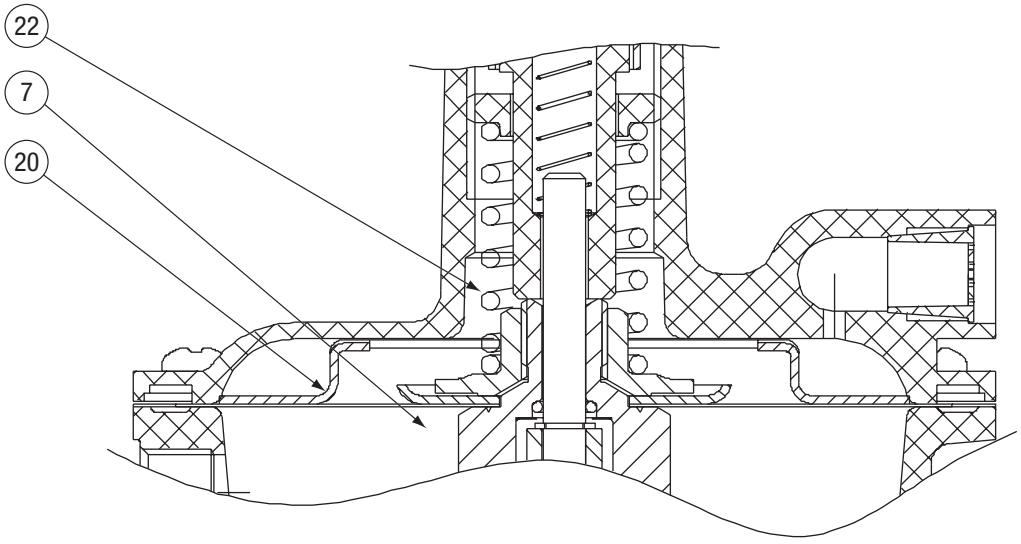


Fig. 8 MP OPSO Assembly

Table 2 Parts List for Low/Medium Pressure OPSO

Item No.	AMCO Part Number	Description	Qty.	Size
1	73877P001	Plug Seal	1	2", 3", 4"
2	70019P108*	Gasket (Plug Seal)	1	2", 3", 4"
3	71824P005	Screw Adjustment	1	2", 3", 4"
4	-	Top Cover (1/4 NPT)	1	2", 3", 4"
5	70034P001	Screen Vent	1	2", 3", 4"
6	72642P001	Nut (Diaphragm)	1	2", 3", 4"
7	70012P042	Diaphragm Plate LP	1	2", 3", 4"
	70012P045	I51310	1	2", 3", 4"
8	70014P155*	Diaphragm	1	2", 3", 4"
9	78074P013*	Washer Starlock	1	2", 3", 4"
10	_	Adaptor Body 1/4" NPT	1	2", 3"
	_	Adaptor Body 1/4" NPT	1	4"
11	72649P001	Ball Cage	1	2", 3", 4"
12	72648P001	Collar	1	2", 3", 4"
13	42710P027*	“O” Ring	1	2", 3", 4"
14	72363P002	Retainer	1	2", 3", 4"
15	78074P014	Ring	3	2", 3", 4"
16	71411P014	Spring (Shut-off)	1	2", 3", 4"
17	42710P146*	“O” Ring	2	2", 3", 4"
18	78067P013	Ball (1/4 Dia.)	6	2", 3", 4"
19	78008P006	Screw (Body)	8	2", 3", 4"
20	72646P001	Reducing Ring MP	1	2", 3", 4"
21	72644P003	Shaft	1	2", 3", 4"
22	See Table 5/6	Loading Springs LP/MP	1	2", 3", 4"
23	73874P001	Position Indicator	1	2", 3", 4"
24	71401P002	Spring (Indicator)	1	2", 3", 4"
25	73875P001	Decal Position Indicator	1	2", 3", 4"

*Indicates item is included in standard repair kit (see table 4, page 18).

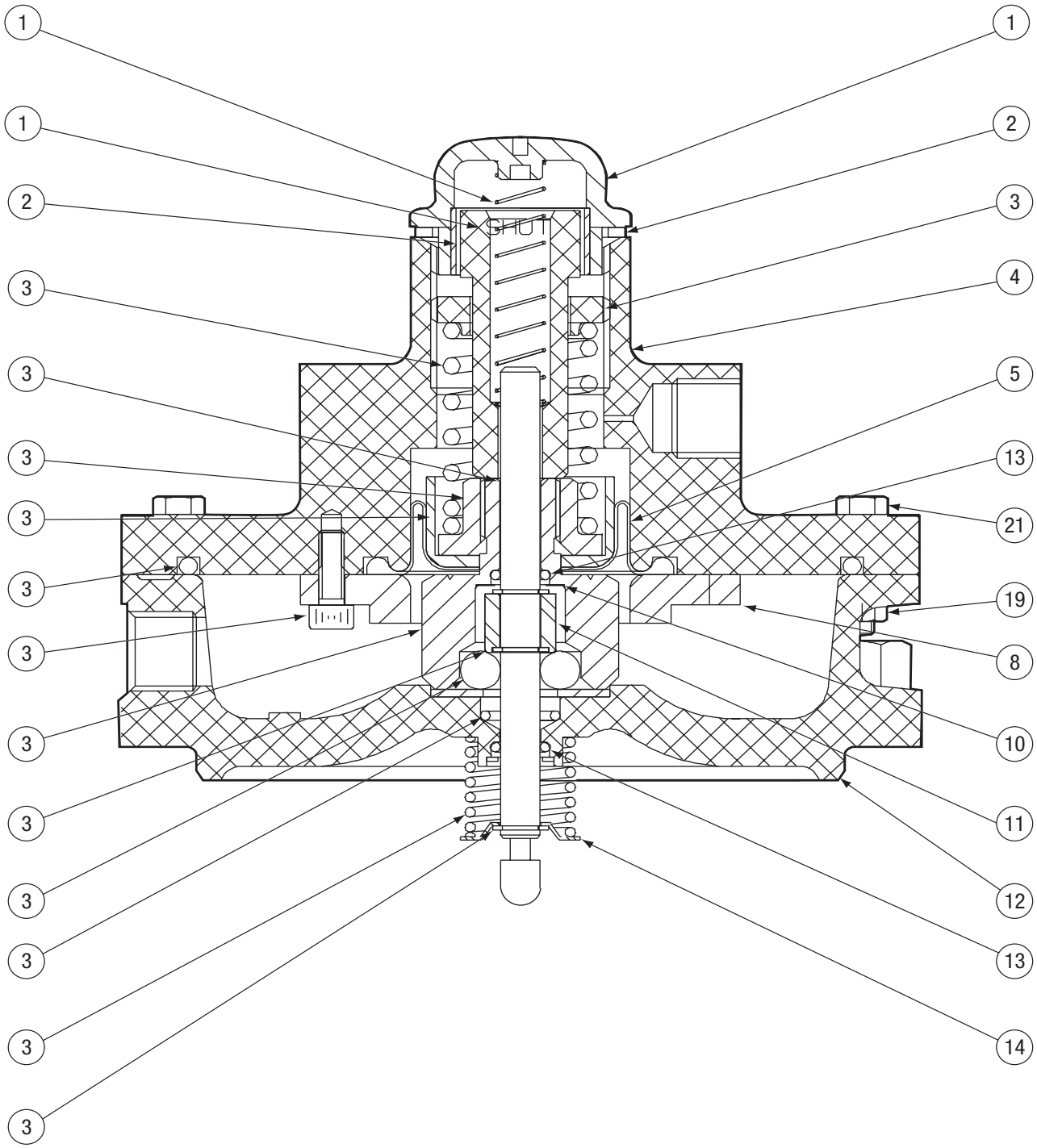


Fig. 9 HP OPSO Assembly

Table 3 Parts List for High Pressure OPSO

Item No.	AMCO Part Number	Description	Qty.	Size
1	73877P001	Plug Seal	1	2", 3", 4"
2	70019P001*	Gasket (Plug Seal)	1	2", 3", 4"
3	71824P005	Screw Adjustment	1	2", 3", 4"
4	-	Top Cover	1	2", 3", 4"
5	72688P300*	Diaphragm	1	2", 3", 4"
6	72642P301	Nut (Diaphragm)	1	2", 3", 4"
7	78037P115*	"O" Ring	1	2", 3", 4"
8	72646P300	Locking Plate	1	2", 3", 4"
9	78000P300	Screw (Locking Plate)	1	2", 3", 4"
10	78074P013*	Washer Starlock	4	2", 3", 4"
11	78074P013	Collar	1	2", 3", 4"
12	-	Adaptor Body 1/4" NPT	1	2", 3"
	-	Adaptor Body 1/4" NPT	1	2", 3"
	-	Adaptor Body 1/4" NPT	1	4"
13	42710P146*	"O" Ring	2	2", 3", 4"
14	72363P002	Retainer	1	2", 3", 4"
15	78074P014	Ring	3	2", 3", 4"
16	71411P045	Spring (Shut-off)	1	2", 3", 4"
17	42710P027*	"O" Ring	1	2", 3", 4"
18	78067P013	Ball (1/4 Dia.)	6	2", 3", 4"
19	78020P300	Nut (Body)	8	2", 3", 4"
20	72649P301	Ball Cage	1	2", 3", 4"
21	78000P301	Screw (Body)	8	2", 3", 4"
22	72689P300	Diagphragm Cup	1	2", 3", 4"
23	72644P003	Shaft	1	2", 3", 4"
24	See Table 7	Loading Springs HP	1	2", 3", 4"
25	73874P001	Position Indicator	1	2", 3", 4"
26	71401P002	Spring	1	2", 3", 4"
27	73875P001	Decal Position Indicator	1	2", 3", 4"
28	-	Old Type Screw (Locking Plate)	4	2", 3", 4"

*Indicates item is included in standard repair kit (see table 4, page 18).

Table 4 Spares Kit

AMCO Part Number	Description
72986K003	2" LP/MP
72986K004	2" HP
72986K005	3" LP/MP
72986K006	3" HP
72986K007	4" LP/MP
72986K008	4" HP

Table 5 Low Pressure Springs (All Sizes)

"wc/PSIG	AMCO Part Number	Color Code
7"-14" wc	70017P091	-
14"-28" wc	70017P075	Light Blue
1-2 PSIG	70017P076	Red Brown
2-3 PSIG	70017P077	Purple
3-5 PSIG	70017P078	Orange/Yellow
5-8 PSIG	70017P079	Orange/Green

Low Pressure units use Diaphragm Plate Part No. 70012P042

Table 6 Medium Pressure Springs (All Sizes)

PSIG	AMCO Part Number	Color Code
8-14	70017P078	Orange/Yellow
14-20	70017P079	Orange/Green

For Medium pressure replace LP Diaphragm plate with MP Diagphragm plate Part No. 70012P045, and add MP Reducing ring Part No. 72646P001.

Table 7 High Pressure Springs (All Sizes)

"wc/PSIG	AMCO Part Number	Color Code
14-26	70017P077	Purple
24-51	70017P078	Orange/Yellow
36-87	70017P079	Orange/Green

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