

“G83” SERIES BALL VALVE MAINTENANCE INSTRUCTIONS

MS-INS-G83
CP Revision A
August, 1998

Kit Contents:

Ball	O-Rings
Seat Carrier Back-up Rings	Seat Carrier Assemblies
Rings	End Screw Seals
Springs	Lubricant
Quad Rings	Material Safety Data Sheet
Stem Bearing	Ball Back-up Rings (straight pattern)
Instruction Sheet	Seat Carrier Guides (only)
Stem Back-up Ring	(X-pattern only)

WARNING: Before servicing any installed valve, you must

- depressurize system
- cycle valve

WARNING: Residual material may be left in the valve and system.
NOTE: It is important to refer to the exploded view drawing while following the maintenance instructions.

DISASSEMBLY

End Screws:

1. Remove end screws (18) from valve body (4).
2. Discard the backup rings (15), quad rings (16), seat springs (13), seat carrier assemblies (12), end screw seals (17), and seat carrier guides (14).

Ball & Stem:

3. Remove the set screw (not pictured) in handle (1) and remove handle. For X-pattern assemblies, note the position of the handle for reassembly.
4. Remove the ball (9) assembly through the bottom of the valve body (4). For X-pattern assemblies, note the position of the ball orifices for reassembly. *(It may be necessary to place an object into the ball orifice and press down to release the ball.)* Discard the ball (9).



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Ball & Stem:

3. Remove the set screw (not pictured) in handle (1) and remove handle. For X-pattern assemblies, note the position of the handle for reassembly.
4. Remove the ball (9) assembly through the bottom of the valve body (4). For X-pattern assemblies, note the position of the ball orifices for reassembly. *(It may be necessary to place an object into the ball orifice and press down to release the ball.)* Discard the ball (9).



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5. Press down on the top of the stem (5) and remove through the bottom of valve body (4).
- 6a. **Straight pattern assembly (2-way on/off)** – remove and discard the stem o-rings (6) and stem bearing (8). Set stem (5) aside for later use.
- 6b. **X-pattern assembly (3-way switching)** – remove and discard the stem o-rings (6), back-up ring (7), and stem bearing (8). Set stem (5) aside for later use.
7. Carefully, remove all lubricants and contaminants from inside the valve body.

REASSEMBLY

End Screws:

1. Clean all lubricant or contaminants from end screws (18).
2. Apply a moderate coating of MS-LT-WL8-1 to the seat carrier back-up rings (15), quad rings (16), and end screw seals (17).
3. Place seat springs (13) onto the shank of the seat carrier assembly (12).
4. Place other components onto the shank of the seat carrier assembly (12) in the following order:
 1. Metal seat carrier guide (14)
 2. One plastic back-up ring (15)
 3. Seat carrier quad ring (16)
 4. One plastic back-up ring (15)
5. Insert the seat carrier assemblies (12) into the end screws (18). Place an end screw seal (17) over each seat carrier assembly (12) and position on the end screws (18).

End screw assemblies are now complete.

Proceed to either step #6a or 6b.

Ball & Stem:

6a. Straight pattern assembly (2-way on/off):

Before installing the stem (5) and the new ball (9), remove all lubricant and any contaminants from the stem (5).

NOTE: The ball (9) must be replaced to ensure a leak-tight seal with the new seat assemblies.

STEM Preparation:

- Apply a moderate coating of MS-LT-WL8-1 lubricant to the stem (smallest) o-rings (6).
- With the chamfer side up, place the stem bearing (8) on the stem (5).
- Place the stem o-rings (6) into the stem grooves.

Stem assembly is now complete.

5. Press down on the top of the stem (5) and remove through the bottom of valve body (4).
- 6a. **Straight pattern assembly (2-way on/off)** – remove and discard the stem o-rings (6) and stem bearing (8). Set stem (5) aside for later use.
- 6b. **X-pattern assembly (3-way switching)** – remove and discard the stem o-rings (6), back-up ring (7), and stem bearing (8). Set stem (5) aside for later use.
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End Screws:

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 1. Metal seat carrier guide (14)
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Proceed to either step #6a or 6b.

Ball & Stem:

6a. Straight pattern assembly (2-way on/off):

Before installing the stem (5) and the new ball (9), remove all lubricant and any contaminants from the stem (5).

NOTE: The ball (9) must be replaced to ensure a leak-tight seal with the new seat assemblies.

STEM Preparation:

- Apply a moderate coating of MS-LT-WL8-1 lubricant to the stem (smallest) o-rings (6).
- With the chamfer side up, place the stem bearing (8) on the stem (5).
- Place the stem o-rings (6) into the stem grooves.

Stem assembly is now complete.

BALL Preparation:

Place the two (largest) o-rings (11) and then the back-up rings (10) into the ball grooves.

Ball assembly is now complete.

Skip to step #7.

6b. X-pattern assembly (3-way switching):

Before installing the stem (5) and the new ball (9), remove all lubricant and any contaminants from the stem (5).

STEM Preparation:

- Apply a moderate coating of MS-LT-WL8-1 lubricant to the stem o-rings (6).
- With the chamfer side up, place the stem bearing (8) on the stem (5).
- Place the two stem o-rings (6) and back-up ring (7) into the stem grooves.

Stem assembly is now complete.

Proceed to step #7.

7. Insert the stem (5) through the bottom of the valve body (4) and gently press the stem (5) up into position using a blunt instrument. Gently press upwards until the stem reaches its uppermost position against the body bore. Take care not to score the inside walls of the body bore, or to clip the stem o-rings (6) during installation. The stem hole should be perpendicular to the end screw holes to allow proper alignment with the handle (1).
8. Place the handle (1) over the stem (5). (The X-pattern handle (1) should be installed by aligning the arrow on the top of the stem (5) with the arrow on the underside of the handle (1)). Align the handle set screw hole with the stem hole. Place the set screw in handle (1) and tighten.
9. Lightly lubricate the new ball with MS-LT-WL8-1 and insert (Tang up) through bottom of valve body (4). Press upward until the ball Tang engages the stem slot. To test; turn handle, if ball rotates Tang is engaged.
- NOTE:** For an X-pattern assembly, be sure the open orifice is positioned towards the handle (1) front.
10. **Fully** close (straight pattern) or center-off (X-pattern) the valve. Failure to do so may cause damage to the seat during torque procedure.
11. Insert the end screw assemblies (18) and torque to 600 in. lbs. each.

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BALL Preparation:

Place the two (largest) o-rings (11) and then the back-up rings (10) into the ball grooves.

Ball assembly is now complete.

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6b. X-pattern assembly (3-way switching):

Before installing the stem (5) and the new ball (9), remove all lubricant and any contaminants from the stem (5).

STEM Preparation:

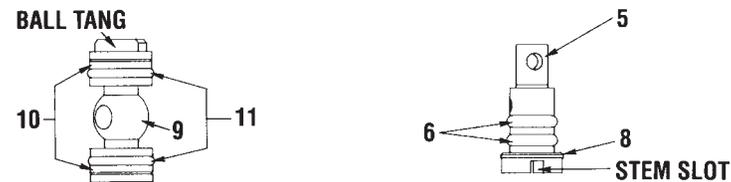
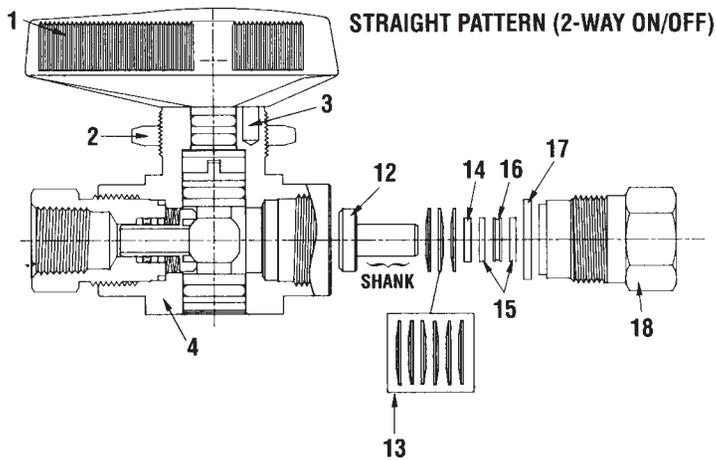
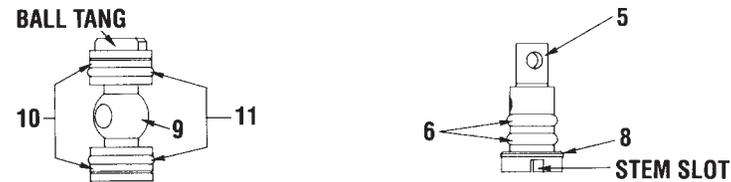
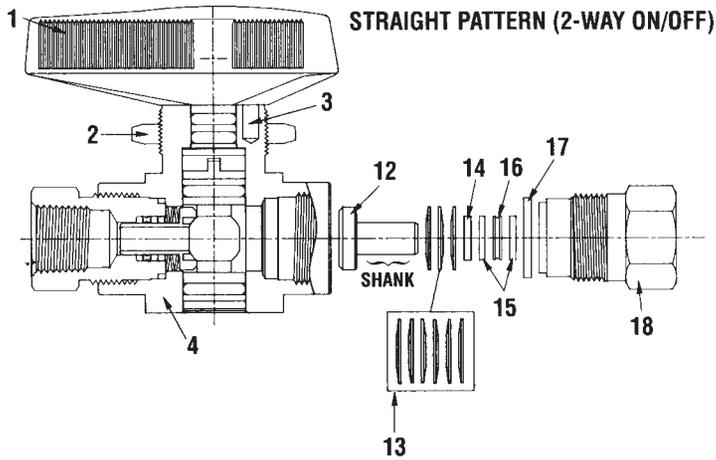
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- With the chamfer side up, place the stem bearing (8) on the stem (5).
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Stem assembly is now complete.

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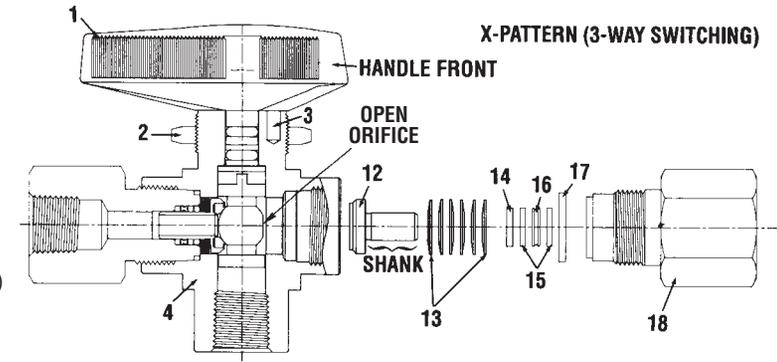
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COMPONENTS

- 1 HANDLE
- 2 PANEL NUT
- 3 STOP PIN
(2 WITH 2-WAY, 1 WITH 3-WAY)
- 4 BODY
- 5 STEM
- 6 STEM O-RINGS (2)
- 7 STEM BACK-UP RING (3-WAY)
- 8 STEM BEARING
- 9 BALL
- 10 BALL BACK-UP RINGS (2) - (2-WAY ONLY)
- 11 BALL O-RINGS (2) - (2-WAY ONLY)
- 12 SEAT CARRIER ASSEMBLY (2)
- 13 SEAT SPRINGS
- 14 SEAT CARRIER GUIDE (2)
- 15 SEAT CARRIER BACK-UP RINGS (4)
- 16 QUAD RING (2)
- 17 END SCREW SEAL (2)
- 18 END SCREW (2)



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