

## INSTRUCTIONS FOR NO LUBE, 4-BOLT "60" SERIES BALL VALVES

### Contents of kit:

- |                        |                   |                       |
|------------------------|-------------------|-----------------------|
| (2) Seat subassemblies | (1) Upper packing | (1) Stem bearing      |
| (1) Lower packing      | (3) Stem springs* | (1) Packing support   |
| (2) L-seals            | (1) Gland         | (1) Instruction sheet |

\*62 series kits do not contain stem springs.

These instructions cover the following standard NO LUBE valves: 60T, 60E, 60C, 60V and N60T.

**WARNING:** Before servicing any installed valve, you must



- depressurize system
- cycle valve

**WARNING:** Residual material may be left in the valve and system.

**Please Note:** Handle all parts carefully and clean before reassembly. DO NOT drop, nick or scratch the ball or stem. Check ball, stem, and body bolts/studs for wear, corrosion or damage.

1. Leave valve in the "open" position. Note position of the handle before disassembly, as it must be reassembled in the same position to indicate the proper direction of valve flow.

**NOTE:** To replace only the seats, disregard steps 2-10 and skip to either step 11a or 11b. To replace both stem packings and seats, follow all steps except steps 11 and 12.

**NOTE:** It is important to refer to the exploded view drawings while following the maintenance instructions.

2. Using a wrench, remove stem nut, stem spring, stop plate, handle and grounding spring. Set all except stem spring aside as they will be reused. Note the handle position, as it must be replaced in the same position. Note: 62 series do not use an upper stem spring.

3a. Straight-pattern assemblies: Loosen the body bolts/studs. Remove only the black body bolt/stud. Swing out the center body. Remove and discard the seat subassemblies and L-seals. Remove the support rings. Cycle valve to "closed" position and remove the ball. Set support rings and ball aside as they will be reused.

3b. X-pattern assemblies: Loosen and remove body bolts/studs. Remove center body from between flanges. Remove and discard the seat subassemblies and L-seals. Remove the support rings. Cycle valve 90°, to center (off) position, and remove ball. Set support rings and ball aside as they will be reused.

4. Remove the lower stem nut, stem springs, and gland. Push stem down into the body and remove. Remove stem bearing from the stem. Carefully pry packings out of the body using an awl or screwdriver. Be careful not to scratch or nick the packing bore in the body. Discard the stem bearing(s), stem springs (63-68 series only), upper packing, lower packing, and packing support as new ones are provided in the kit.

5. Clean the stem and body bore. **DO NOT** scratch or nick them.

6. Place stem bearing, chamfer side away from the ball, on stem. Insert stem up into the center body.

7. Place the ball in the center body until the stem tang is engaged and rotate the stem to the "open" position. The ball should now be secure.

8. Insert the new packings and packing support into the body bore. Place the gland and two stem springs on stem. The first spring concave side down and the second spring concave side up. Keep packings level, press into body bore area.

9. Place the stem nut onto the stem. Using the handle to retain the stem, torque the stem nut according to this chart.

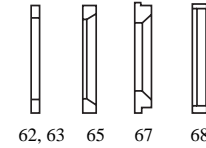
Valve Series	62 & 62X	63 & 63X	65 & 65X	67 & 67X	68 & 68X
Torque in.·lb. (N·m)	25 (2.8)	50 (5.7)	100 (11.3)	150 (17.0)	150 (17.0)

10. Place the grounding spring, handle\*\*, stop plate, stem spring (none in 62 series) (concave side up) and stem nut on the stem. Torque the stem nut using the same torque values shown in step #9.

\*\*Handle must be in the same position as noted in step 2.

11a. Straight-pattern assemblies: Leave valve in the "open" position. Loosen body bolts/studs. Remove only the black bolt/stud located above the enclosed body bolt. Swing out the center body.

- 11b. X-pattern assemblies: With the handle positioned toward either side port, loosen and remove the body bolts/studs. Remove the center body from between the flanges.
12. Remove and discard the seat subassemblies and L-seals. Remove support rings and set aside as these will be reused.
13. To ensure correct operation, carefully clean the body, support rings and sealing surfaces of the flanges.
14. Insert the support rings and seat subassemblies (metal spring away from the ball) into the body.

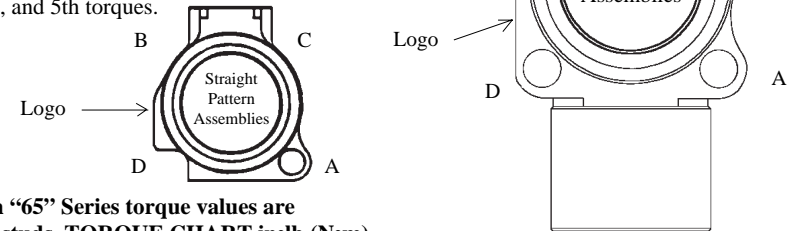


**NOTE:** "65", "67", and "68" Series support rings are installed with the chamfered side toward the ball.

15. Insert the new L-seals (with the plastic backup ring positioned away from the ball) into the center body flange seal groove area.

16. Reinsert the center body back into place between the flanges. Be sure the L-seals are flush with the center body, to avoid pinching of the L-seals. Reinstall the body bolt/stud and nut(s).

17. With the valve in the fully "open" position, torque the body bolts/studs in the alphabetical (crisscross) sequence shown in the appropriate center body diagram. Torque to the value listed in the "1st" column of the chart below, according to the valve series/body material and fastener type/material. Repeat torque sequence for the 2nd, 3rd, 4th, and 5th torques.



**NOTE: "62" through "65" Series torque values are the same for bolts or studs. TORQUE CHART in·lb (N·m)**

VALVE SERIES/ BODY MATERIAL	FASTENER TYPE/ MATERIAL	1st	2nd	3rd	4th	5th
62 Series Brass	Carbon Steel Bolts	5 (0.57)	10 (1.1)	20 (2.3)	30 (3.4)	30 (3.4)
62 Series Carbon -or- Stainless Steel	Stainless -or- Carbon Steel Bolts/Studs	5 (0.57)	10 (1.1)	20 (2.3)	40 (4.5)	40 (4.5)
62X Series Stainless Steel	Stainless Steel Bolts/Studs					
63 Series Brass	Carbon Steel Bolts	10 (1.1)	20 (2.3)	40 (4.5)	60 (6.8)	60 (6.8)
63 Series Carbon -or- Stainless Steel	Stainless -or- Carbon Steel Bolts/Studs	10 (1.1)	20 (2.3)	40 (4.5)	100 (11.3)	100 (11.3)
63X Series Stainless Steel	Stainless Steel Bolts/Studs					
65 Series Brass	Carbon Steel Bolts	25 (2.8)	50 (5.7)	100 (11.3)	180 (20.3)	180 (20.3)
65 Series Carbon -or- Stainless Steel	Stainless -or- Carbon Steel Bolts/Studs	25 (2.8)	50 (5.7)	100 (11.3)	300 (33.9)	300 (33.9)
65X Series Stainless Steel	Stainless Steel Bolts/Studs					
67 & 67X Series Stainless Steel	Stainless Steel Bolts/Studs	35 (4.0)	75 (8.5)	150 (17.0)	300 (33.9)	300 (33.9)
67 Series Carbon -or- Stainless Steel	Carbon Steel Bolts	35 (4.0)	75 (8.5)	150 (17.0)	400 (45.2)	400 (45.2)
68 & 68X Series Stainless Steel	Stainless Steel Bolts/Studs	40 (4.5)	100 (11.3)	200 (22.6)	500 (56.5)	500 (56.5)
68 Series Carbon -or- Stainless Steel	Carbon Steel Bolts	40 (4.5)	100 (11.3)	200 (22.6)	600 (67.8)	600 (67.8)

