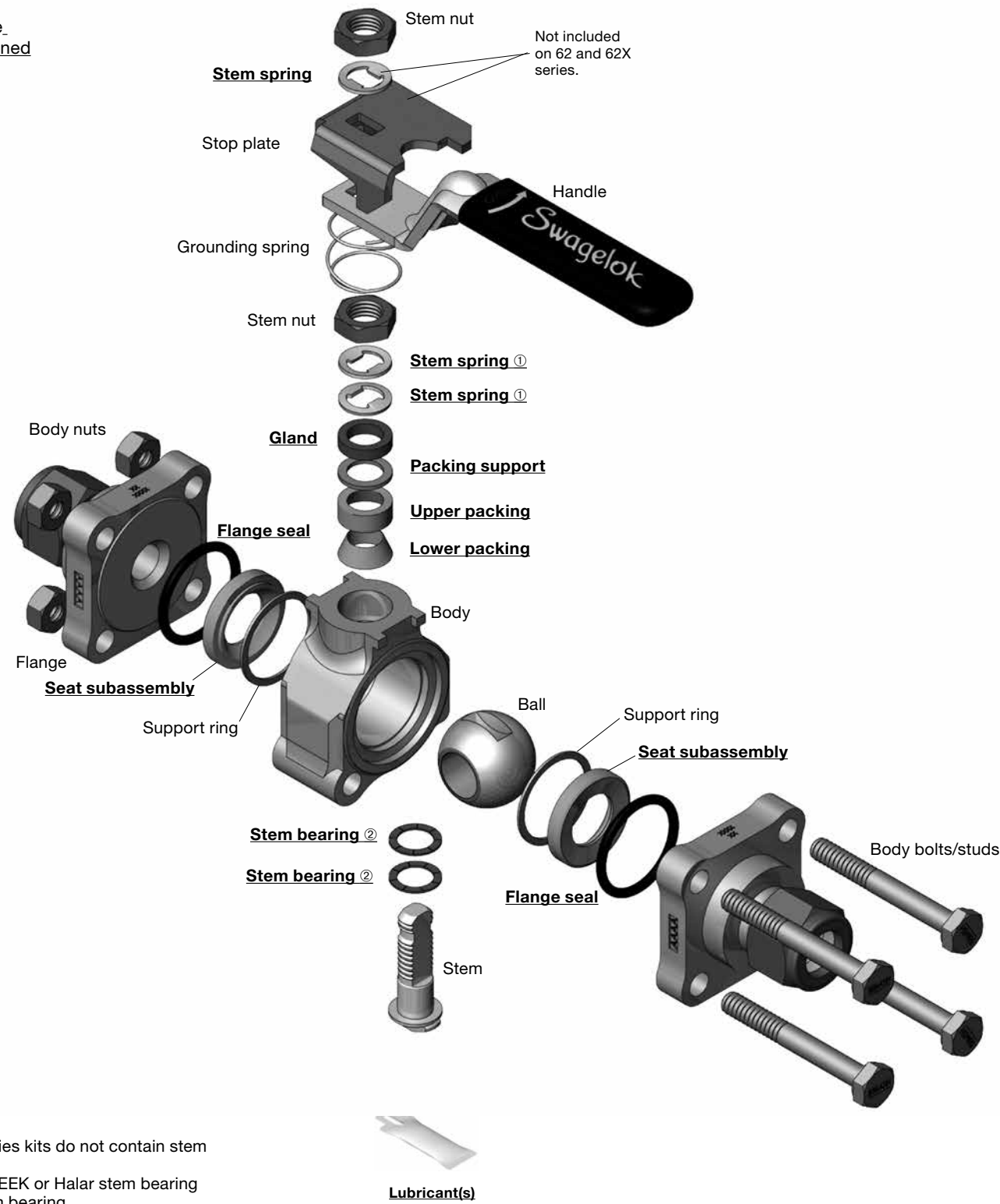


**Kit contents** are **bold** and **underlined**



These instructions cover the following 4-bolt 60 and 60X series ball valves:

Service	Valve Series
Standard	60T, 60XT, 60V, 60XV, 60C, 60XC, 60E, 60XE, 60P, 60XP
Sour Gas	N60T, N60XT
Low Temperature	L60T, L60XT

**Tools Required**

Part	Tool	Series	Size
Stem nut	Crow's foot	62	7/16 in.
		63	9/16 in.
		65	3/4 in.
		67	15/16 in.
		68	15/16 in.
Body nut	Crow's foot	62	3/8 in.
		63	7/16 in.
		65	9/16 in.
		68	11/16 in.
Body bolt	Open-end wrench	62	5/16 in.
		63	7/16 in.
		65	9/16 in.
		67	9/16 in.
		68	5/8 in.
Stem nut, body nut	Torque wrench	62	Capable of 40 in.-lb (4.5 N·m)
		63	Capable of 100 in.-lb (11.3 N·m)
		65	Capable of 300 in.-lb (33.9 N·m)
		67	Capable of 400 in.-lb (45.2 N·m)
		68	Capable of 600 in.-lb (67.8 N·m)

**Body Bolt/Stud Torque Chart, in.-lb (N·m)**

Series	Body Material	Fastener Material	1st pass	2nd pass	3rd pass	4th pass	5th pass
62	Brass	Carbon Steel	5 (0.57)	10 (1.1)	20 (2.3)	30 (3.4)	30 (3.4)
	Stainless Steel or Alloy 276	316 SS, Alloy K-500, Alloy 718, B7 CS or Grade 8 CS	5 (0.57)	10 (1.1)	20 (2.3)	40 (4.5)	40 (4.5)
	Carbon Steel	316 SS, B7 CS or Grade 8 CS					
	Titanium or Alloy 400	316 SS or Alloy K-500	5 (0.57)	10 (1.1)	20 (2.3)	35 (4.0)	35 (4.0)
63	Brass	Carbon Steel	10 (1.1)	20 (2.3)	40 (4.5)	60 (6.8)	60 (6.8)
	Stainless Steel or Alloy 276	316 SS, Alloy K-500, Alloy 718, B7 CS or Grade 8 CS	10 (1.1)	20 (2.3)	40 (4.5)	100 (11.3)	100 (11.3)
	Carbon Steel	316 SS, B7 CS or Grade 8 CS					
	Titanium or Alloy 400	316 SS or Alloy K-500	10 (1.1)	20 (2.3)	40 (4.5)	80 (9.0)	80 (9.0)
65	Brass	Carbon Steel	25 (2.8)	50 (5.7)	100 (11.3)	180 (20.3)	180 (20.3)
	Stainless Steel or Alloy 276	316 SS, Alloy K-500, Alloy 718, B7 CS or Grade 8 CS	25 (2.8)	50 (5.7)	100 (11.3)	300 (33.9)	300 (33.9)
	Carbon Steel	316 SS, B7 CS or Grade 8 CS					
	Titanium or Alloy 400	316 SS or Alloy K-500	25 (2.8)	50 (5.7)	100 (11.3)	250 (28.3)	250 (28.3)
67	Stainless Steel or Alloy 276	316 SS, Alloy K-500 or B7 CS	35 (4.0)	75 (8.5)	150 (17.0)	300 (33.9)	300 (33.9)
		Alloy 718 or Grade 8 CS	35 (4.0)	75 (8.5)	150 (17.0)	400 (45.2)	400 (45.2)
	Carbon Steel	316 SS or B7 CS	35 (4.0)	75 (8.5)	150 (17.0)	300 (33.9)	300 (33.9)
		Grade 8 CS	35 (4.0)	75 (8.5)	150 (17.0)	330 (37.3)	330 (37.3)
		316 SS or Alloy K-500	35 (4.0)	75 (8.5)	150 (17.0)	300 (33.9)	300 (33.9)
68	Stainless Steel or Alloy 276	316 SS, Alloy K-500 or B7 CS	40 (4.5)	100 (11.3)	200 (22.6)	500 (56.5)	500 (56.5)
		Alloy 718 or Grade 8 CS	40 (4.5)	100 (11.3)	200 (22.6)	600 (67.8)	600 (67.8)
	Carbon Steel	316 SS or B7 CS	40 (4.5)	100 (11.3)	200 (22.6)	500 (56.5)	500 (56.5)
		Grade 8 CS	40 (4.5)	100 (11.3)	200 (22.6)	575 (65.0)	575 (65.0)
		316 SS or Alloy K-500	40 (4.5)	100 (11.3)	200 (22.6)	450 (50.9)	450 (50.9)

① 62 and 62X series kits do not contain stem springs.

② Valves with a PEEK or Halar stem bearing contain (1) stem bearing.

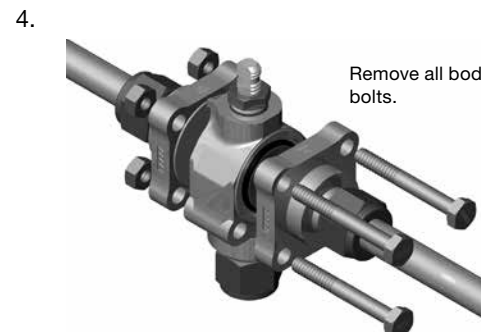
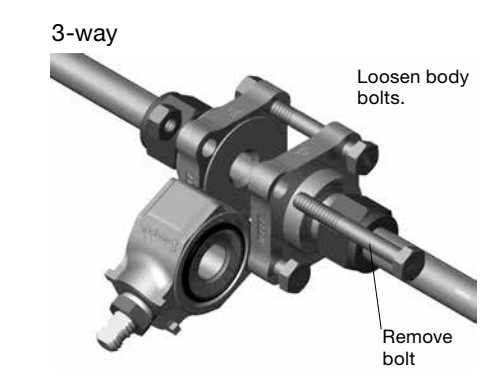
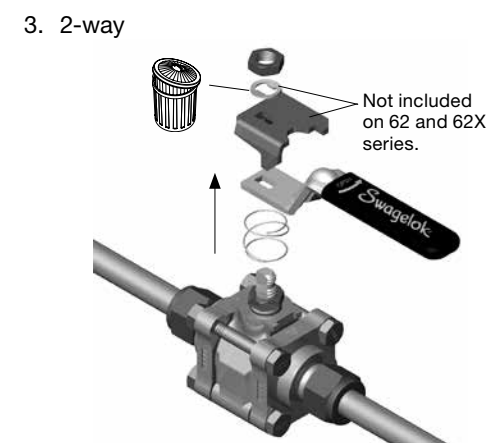


# 60 and 60X Series 4-Bolt Ball Valves Maintenance Instructions

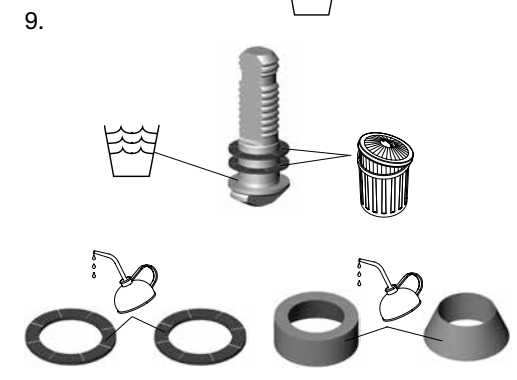
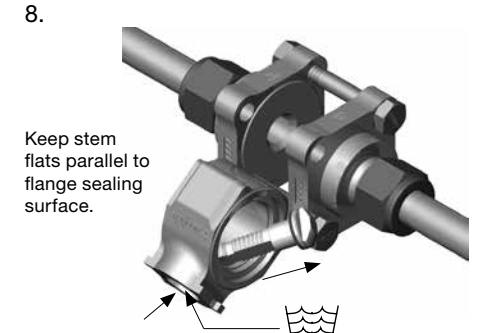
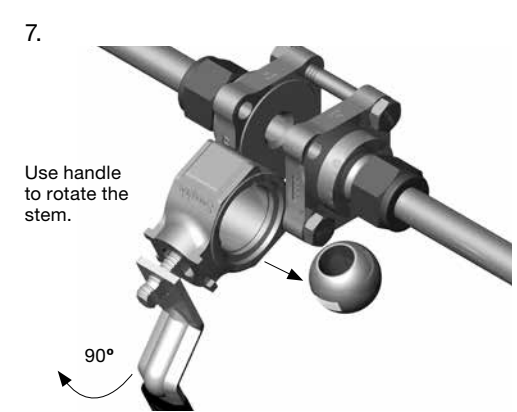
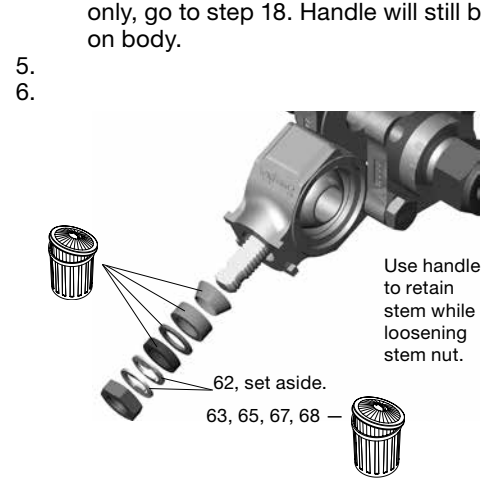
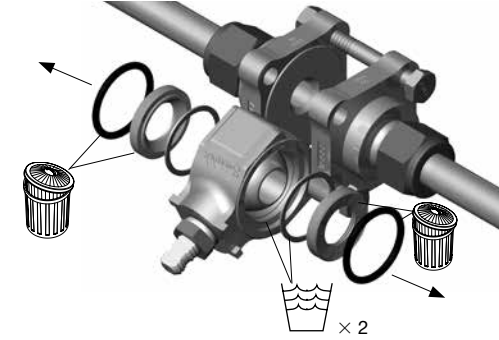
- WARNING**  
Before servicing any installed valve, you must
  - depressurize system
  - cycle valve
- WARNING**  
Residual material may be left in the valve and system.
- CAUTION**  
Do not scratch any sealing surfaces while following these instructions. Valve performance could be affected.



Note: For seat and flange seal replacement only, go to step 4.  
1. Put valve in the open position and loosen the stem nut.  
2.



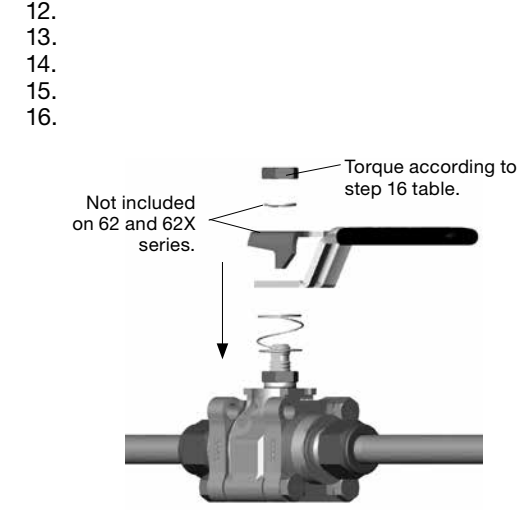
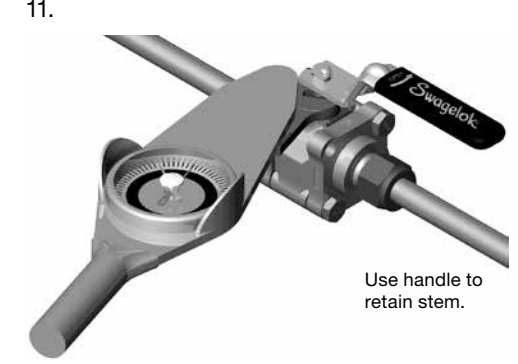
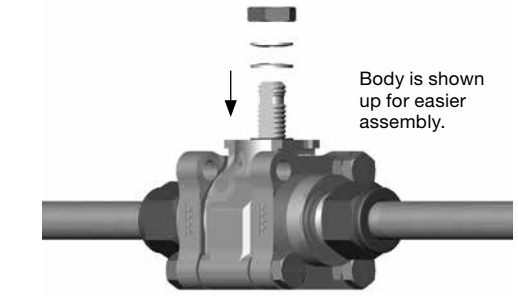
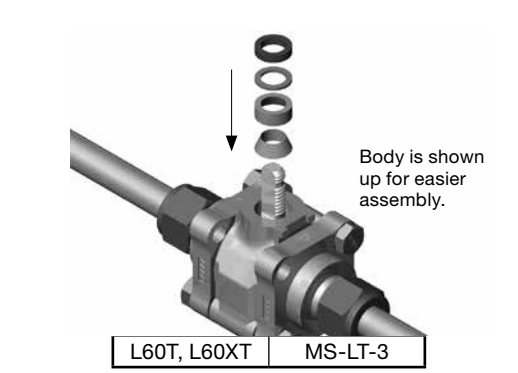
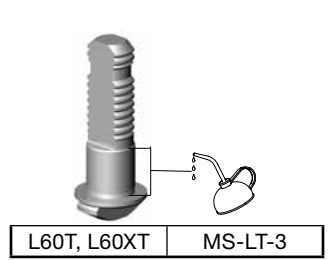
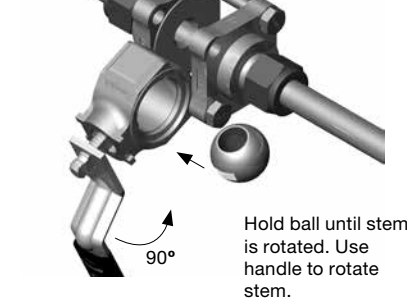
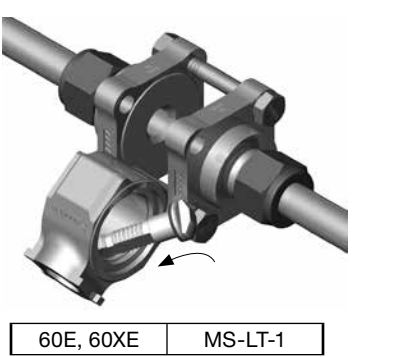
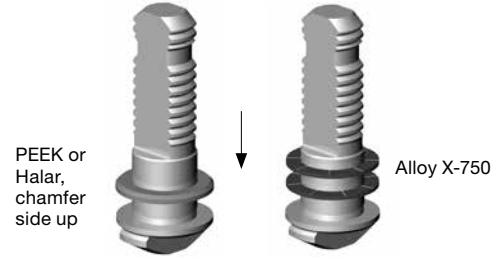
Note: For seat and flange seal replacement only, go to step 18. Handle will still be on body.



Valve Series	Lubricant
60T, 60XT, 60V, 60XV, 60C, 60XC, N60T, N60XT, 60P, 60XP	MS-LT-WL8-1
60E, 60XE	MS-LT-1

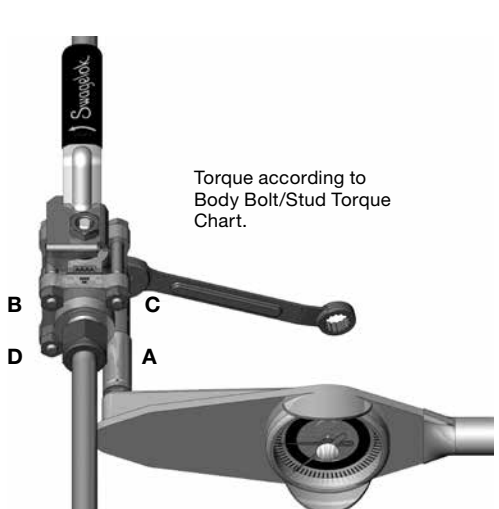
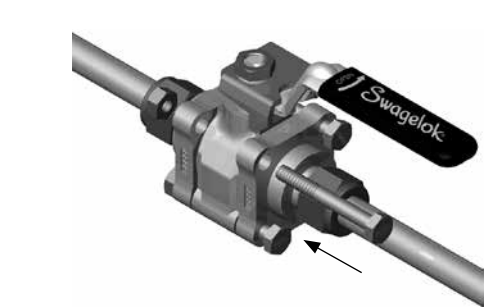
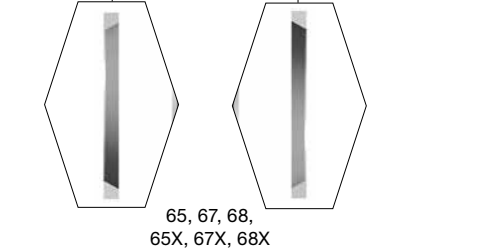
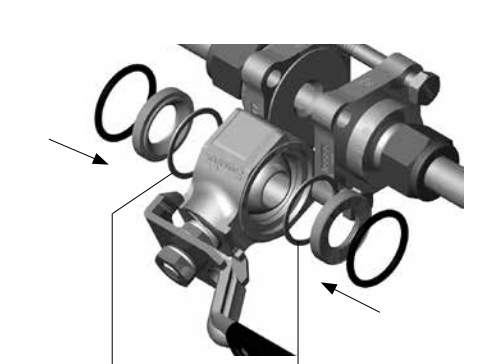
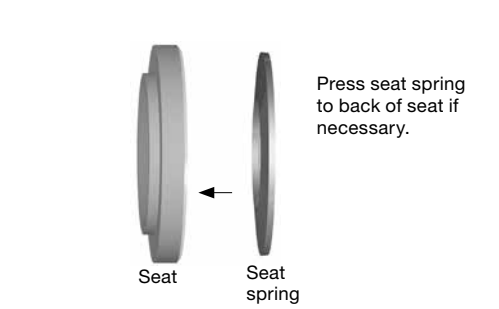
10.

Valve Series	Stem Shank Lubricant
60T, 60XT, 60V, 60XV, 60C, 60XC, N60T, N60XT, 60P, 60XP	MS-LT-WL8-1



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)

Flange Seal Lubricant	Valve Series	Seat Face Lubricant



MS-LT-1	60T, 60XT, 60V, 60XV, 60C, 60XC, 60E, 60XE, N60T, N60XT,	MS-LT-1
MS-LT-1	60P, 60XP	MS-LT-WL8-1
MS-LT-3	L60T, L60XT	MS-LT-3

- 19.
- 20.
- 21.
- 22. Test the product prior to reinstallation in system.