

60 SERIES 4-BOLT FASTENER REPLACEMENT INSTRUCTIONS

KIT CONTENTS:	Standard Fastener (bolt or stud) (3)	Instruction Sheet (1)
	Stem nuts (2)	Black Fastener (bolt or stud) (1)
	Body nuts (8)	Lubricants (1)
	Material Safety Data Sheets (1)	

WARNING: Before servicing any installed valve you must:

- depressurize system
- cycle valve

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

These instructions cover 304SS, 316SS, Alloy K-500, B7 CS, Alloy 718, and SAE Grade 8 CS fasteners being used with Stainless Steel, Brass, Carbon Steel or exotic alloy bodies.

NOTE:

- Changing fastener material may affect valve assembly pressure rating.
- Only body and fastener configurations listed in the tables on pages 3 and 4 are currently available.
- Lubricant provided (MS-LT-WL8-1) has a fluorocarbon base and should not be used in applications where fluorocarbons are a concern.

STEM NUT REPLACEMENT:

NOTE: Prior to removal of stem nuts and other handle components, note position of the handle. It must be reassembled in the same orientation.

1. Use the handle to retain the stem and loosen the upper stem nut. Remove the stem nut, stem spring, stop plate, handle, and grounding spring. Discard the upper stem nut. Set aside the other components as they will be reused.

NOTE: 62 series assemblies do not contain a stem spring and a stop plate.

2. Using the handle to retain the stem, loosen the lower stem nut. Remove and discard.
3. For 304SS, 316SS, Alloy K-500, and Alloy 718 fastener kits, lubricate the stem threads with MS-LT-WL8-1.

NOTE: Do not lubricate carbon steel (B7 CS and SAE Grade 8 CS) stem nuts.

4. Place either of the stem nuts supplied in the kit on the stem.
5. Using the handle to retain the stem, torque the stem nut per the following table.

Valve Series	62	63	65	67	68
Stem Nut Torque, in.·lbs (N·m)	25 (2.8)	50 (5.7)	100 (11.3)	150 (17.0)	150 (17.0)

6. Place the grounding spring over the stem nut.
7. Place the handle onto the stem in the orientation noted prior to step 1.
8. Assemble the stop plate, stem spring (concave side up), and remaining stem nut onto the stem.

NOTE: 62 series assemblies do not contain a stem spring and a stop plate.

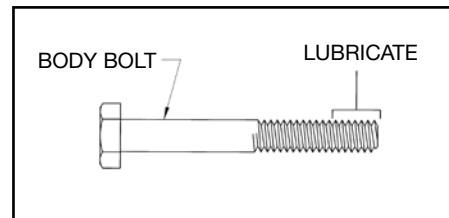
9. Torque the upper stem nut using the same torque values shown in step 5.

BODY FASTENER REPLACEMENT:

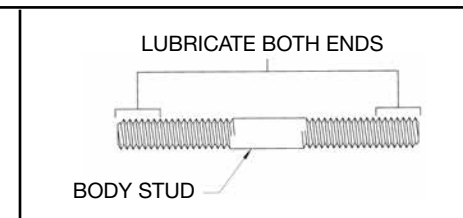
1. Loosen and remove the body fasteners. Discard.
2. For 304SS, 316SS, Alloy K-500, and Alloy 718 fastener kits, lubricate the first five (5) to seven (7) threads of the fastener with MS-LT-WL8-1.

NOTE: Do not lubricate carbon steel (B7 CS and SAE Grade 8 CS) fasteners.

Bolt Diagram

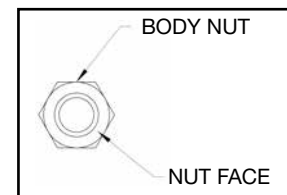


Stud Diagram



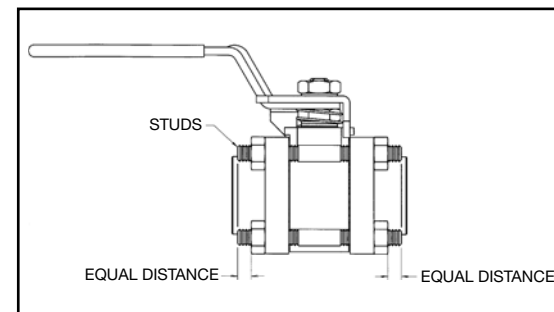
3. For 304SS, 316SS, Alloy K-500, and Alloy 718 fastener kits, lubricate the nut face that will contact the flange with MS-LT-WL8-1.

NOTE: Do not lubricate carbon steel body nuts.



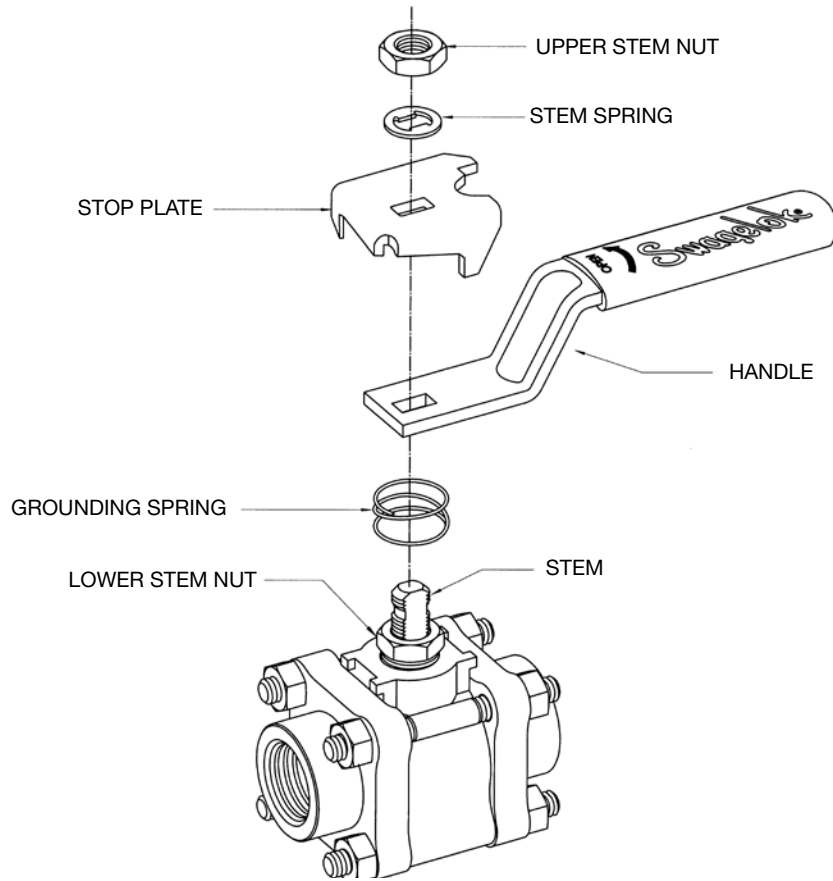
4. Position the body bolts through the flanges with the black bolt positioned in the "C" location as shown in the Torque Sequence Diagram.
5. Thread the hex nuts onto the fasteners until the flanges are in light contact with the flange seals.

NOTE: If studs are used, be sure to position the studs so that an equal length extends beyond each nut.

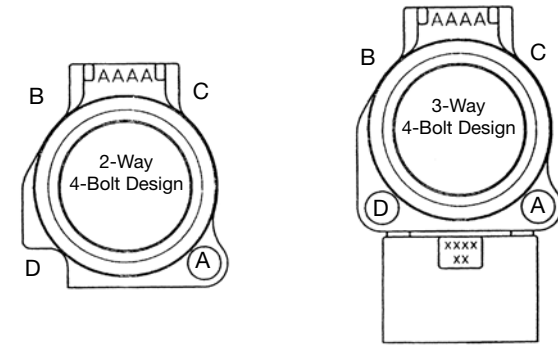


6. Using the applicable Torque Chart, torque the fasteners to the value listed in Sequence Diagram, continuing on to the “B”, “C”, and then the “D” positioned bolt.
7. Repeat the sequence given in step 6 for the 2nd, 3rd, 4th, and 5th torque values listed in the applicable Torque Chart.

Stem Nut Replacement Exploded View



Torque Sequence Diagram



TORQUE CHARTS AND BODY FASTENER/NUT IDENTIFICATION

Body Fastener/Nut Identification – Studs are marked on the unthreaded shank (middle) of the stud. Bolts are marked on the top of the head. Nuts are marked on the nut face.

Fastener Material (Bolt or Stud)	Marking	Nut Material	Marking
304SS	B8	303SS	303 or 8F
316SS	SS or B8M	316SS	316 or 8M
Alloy K-500	-MK-	Alloy 405	M5
B7 CS	B7	Grade 2H CS	2H or 2HB
SAE Gr. 8 CS	six radial lines, evenly spaced	SAE Gr. 8 CS	A dot and a radial line 60° counterclockwise from the dot
Alloy 718	I 718	Alloy 625	I 625

Torque Charts, in.-lbs (N·m)

Chart #1 - Stainless Steel Body (CF3M) Alloy 60D, Alloy C276

Valve Series	Fastener Material	1st	2nd	3rd	4th	5th
62	304SS or 316SS or alloy K-500 or alloy 718 or B7 CS or GR 8 CS	5 (0.57)	10 (1.1)	20 (2.3)	40 (4.5)	40 (4.5)
63	304SS or 316SS or alloy K-500 or alloy 718 or B7 CS or GR 8 CS	10 (1.1)	20 (2.3)	40 (4.5)	100 (11.3)	100 (11.3)
65	304SS or 316SS or alloy K-500 or alloy 718 or B7 CS or GR 8 CS	25 (2.8)	50 (5.7)	100 (11.3)	300 (33.9)	300 (33.9)
67	304SS or 316SS or alloy K-500 or B7 CS	35 (4.0)	75 (8.5)	150 (17.0)	300 (33.9)	300 (33.9)
67	alloy 718 or GR 8 CS	35 (4.0)	75 (8.5)	150 (17.0)	400 (45.2)	400 (45.2)
68	304SS or 316SS or alloy K-500 or B7 CS	40 (4.5)	100 (11.3)	200 (22.6)	500 (56.5)	500 (56.5)
68	alloy 718 or GR 8 CS	40 (4.5)	100 (11.3)	200 (22.6)	600 (67.8)	600 (67.8)

Chart #2 - Brass Body (not available in 67 and 68 series)

Valve Series	Fastener Material	1st	2nd	3rd	4th	5th
62	304SS or 316SS or GR 8 CS	5 (0.57)	10 (1.1)	20 (2.3)	30 (3.4)	30 (3.4)
63	304SS or 316SS or GR 8 CS	10 (1.1)	20 (2.3)	40 (4.5)	60 (6.8)	60 (6.8)
65	304SS or 316SS or GR 8 CS	25 (2.8)	50 (5.7)	100 (11.3)	180 (20.3)	180 (20.3)

Chart #3 - Carbon Steel Body (WCB)

Valve Series	Fastener Material	1st	2nd	3rd	4th	5th
62	304SS or 316SS or GR 8 CS	5 (0.57)	10 (1.1)	20 (2.3)	40 (4.5)	40 (4.5)
63	304SS or 316SS or GR 8 CS	10 (1.1)	20 (2.3)	40 (4.5)	100 (11.3)	100 (11.3)
65	304SS or 316SS or GR 8 CS	25 (2.8)	50 (5.7)	100 (11.3)	300 (33.9)	300 (33.9)
67	304SS or 316SS	35 (4.0)	75 (8.5)	150 (17.0)	300 (33.9)	300 (33.9)
67	GR 8 CS	35 (4.0)	75 (8.5)	150 (17.0)	330 (37.3)	330 (37.3)
68	304SS or 316SS	40 (4.5)	100 (11.3)	200 (22.6)	500 (56.5)	500 (56.5)
68	GR 8 CS	40 (4.5)	100 (11.3)	200 (22.6)	575 (65.0)	575 (65.0)

Chart #4 - Titanium and Alloy 400 bodies

Valve Series	Fastener Material	1st	2nd	3rd	4th	5th
62	304SS or 316SS or Alloy K-500	5 (0.57)	10 (1.1)	20 (2.3)	35 (4.0)	35 (4.0)
63	304SS or 316SS or Alloy K-500	10 (1.1)	20 (2.3)	40 (4.5)	80 (9.0)	80 (9.0)
65	304SS or 316SS or Alloy K-500	25 (2.8)	50 (5.7)	100 (11.3)	250 (28.2)	250 (28.2)
67	304SS or 316SS or Alloy K-500	35 (4.0)	75 (8.5)	150 (17.0)	300 (33.9)	300 (33.9)
68	304SS or 316SS or Alloy K-500	40 (4.5)	100 (11.3)	200 (22.6)	450 (50.8)	450 (50.8)