FMC's Weco® Butterfly Valve

Maintenance Procedures

Disassembly

1. Close valve and remove from the line. Turn the valve to the open position. Handle may be left on the upper stem or taken off by removing cap screw and washer.
2. Remove both the upper and lower spirol pins with a drift pin or pin punch and hammer. (Use any strong piece of steel rod which fits the spirol pin hole I.D.)
3. Pull both the upper and lower stems from the body. If the stems cannot be removed readily, grasp the stem in a vise and gently tap the body with a hammer. A twisting motion between the body and stems will allow the stems to be removed easily. A groove on the lower stem permits prying the lower stem from the body by using a screwdriver.
4. Remove the disc from the seat.
5. Remove the seat from the body. The seat may have to be tapped lightly and evenly around the edge from one end since the seat fits snugly in the body I.D. Take care not to damage the inside of the body.

Maintenance and Repair

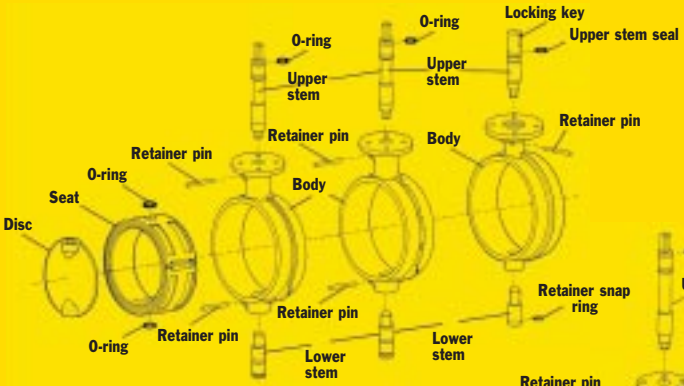
1. Inspect the disc and stems. If worn or pitted, substitute new ones.
2. When replacing the seat, new O-rings should be installed.
3. It is recommended that all rubber parts (seats, O-rings) be lightly but thoroughly lubricated with a grease such as Dow Corning® #111 silicone, to facilitate assembly. Spread lubricant on the inside diameter of the seat.

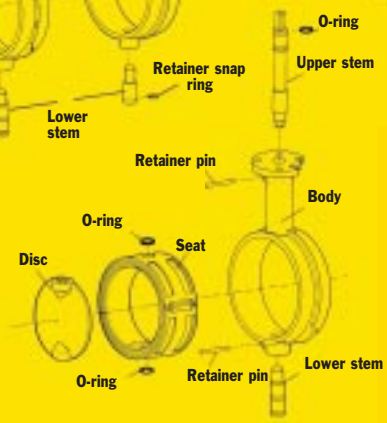
Assembly (Ref: FMC Specification 3253718)

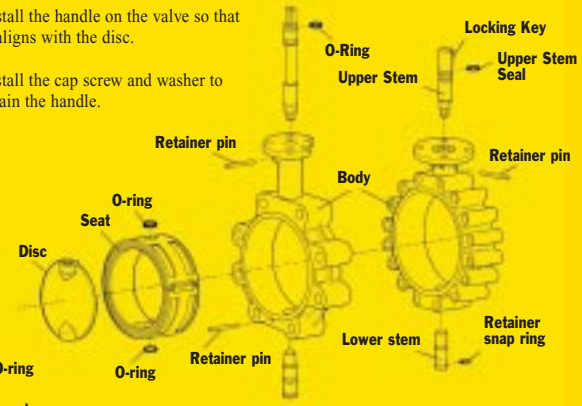
1. Place well lubricated O-rings into the top and bottom holes of the seat.
2. Place the seat in a vise with the stem holes parallel to the vise jaws. Use smooth jaws or otherwise protect the seat O.D. from damage. Carefully apply pressure to distort the seat and only enough pressure to insert the disc. Excessive pressure can damage seat. Slide the disc into the seat and center the disc by inserting the upper and lower stems. Remove the seat/ disc subassembly from the vise.
3. Using the upper stem, rotate the disc to the partially closed position.
4. Remove the upper stem (leaving the lower stem in place).
5. Lubricate the body I.D. (silicone spray recommended). Using the lower stem in the seat/disc assembly and a lower stem in the body, lay the seat/disc assembly on top of the body using a right angle alignment fixture to align the stems. Insert the seat enough to get started and then remove the stems from the body and the seat/disc assembly. Complete inserting the seat/ disc assembly into the body with uniform pressure.
6. Lubricate the upper and lower stems and place the third O-ring on the upper stem. The type of lubricant used on the stems should be Climax 422 CM or equivalent (Ref: FMC Specification 3259721).
7. Install the lower stem into the body. The lower stem is in correct position when the roll pin hole in the body is aligned with the groove in the stem.
8. Before installing the upper stem, align the indicator groove on top of the upper stem so that it is parallel with the disc. Install the upper stem into the body by pushing the stem while slightly turning back and forth. This will allow the stem to align with the disc hex. The upper stem is in the correct position when the roll pin is aligned with the groove in the stem.
9. Install the handle on the valve so that it aligns with the disc.
10. Install the cap screw and washer to retain the handle.

Installation with Flanges

Valves for installation between flanges should be closed to prevent damage to the disc. Caution should be taken to prevent the flange from striking the disc and causing possible leak paths. When flanges are pulled tight, the valve may be opened. The O.D. of the valve will locate the valve between the flanges. Disc position is determined by a slot in the top of the square shafts or by the square shafts or by the keyway in the keyed shafts.







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