



**Disassembly and Assembly Procedures
for
Global Manufacturing, Inc.
Two Piece Low Torque Kelly Valves
with Seat Stop**

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Disassembly and Assembly Procedures for Global Manufacturing, Inc.
Two Piece Low Torque Kelly Valves with Seat Stop

SAFETY CONSIDERATIONS

- Safety glasses should be worn along with other protective clothing as required.
- Proper tools and restraining devices (vises, clamps, etc.) should be used to secure the valve in a safe manner.
- Valve maintenance should be performed in a safe and suitable work area as designated by your supervisor.
- Personnel performing these operations should be familiar with Global Two Piece Low Torque Kelly Valves and their uses.
- If unsure of any part of the operation, check with the valve manufacturer before proceeding.

These instructions are intended for disassembly and assembly of Global Manufacturing, Inc. Two Piece Low Torque Kelly Valves with Seat Stop only.

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VALVE DISASSEMBLY

1. Move the ball to the open position and remove the valve from the drillstring. Clean the outside and inside of the valve in preparation for disassembly.

FIGURE 1

2. Move the ball to the closed position before beginning disassembly.
3. Break the service connection and separate the top sub from the valve body.

FIGURE 2

4. Remove the upper seat, ball and stem from the body.
5. Remove the stop ring from the body.
6. Remove the lower seat and the spring insert from the body.
7. Remove the nested spring from the body.
8. Remove all o-rings, seal rings and anti-friction ring(s) from the parts on which they are installed.
9. Inspect the o-ring and seal ring grooves on the upper and lower seats for burrs or scratches.
10. Inspect the o-ring and anti-friction ring grooves on the stem(s) for burrs or scratches.
11. Inspect the ball and stem(s) to ensure that there are no scratches or excessive wear.
12. Inspect the end connections and the service connection box and pin for excessive wear or damage.

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VALVE ASSEMBLY

1. Get new replacement parts for all seal rings, o-rings, anti-friction rings and any worn or damaged parts. However, an o-ring is not needed for the spring insert because it will be installed without an o-ring.

FIGURE 3

2. Apply high-grade lithium based grease to the o-ring of the top sub.
3. Install the o-ring on the top sub.
4. Apply pipe dope (containing 40 to 60% by weight of finely powdered metallic zinc and less than 0.3% active sulfur) to the service connection threads of the top sub.

FIGURE 4

5. As necessary, use an emery cloth to remove any sharp edges from the stem hole. Clean any emery cloth grit and metal particles thoroughly from the body.
6. Apply high-grade lithium based grease to the seal bores (including stem hole) of the body.
7. Install the nested spring inside the body. The spring should slide freely into the bore.
8. The spring insert will be installed without an o-ring. Slide the spring insert into the body against the spring.
9. Apply high-grade lithium based grease to the o-ring and seal ring (Teflon or equivalent) of the lower seat and install the o-ring and seal ring on the lower seat.
10. Gently slide the lower seat (ball contact side out) into the body against the spring insert.
11. Slide the stem stop ring into place in the body.

FIGURE 5

12. Apply grease to the stem, o-ring, and anti-friction ring. Install the o-ring and anti-friction ring on the stem.

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13. Install the stem using caution to orient the cam flats to allow the valve to fully open and close.
14. Rotate the stem to the closed position.

FIGURE 6

15. Apply grease to the ball. Insert the ball against the lower seat with the stem key in the ball groove.
16. Apply high-grade lithium based grease to the o-ring and seal ring (Teflon or equivalent) of the upper seat and install the o-ring and seal ring on the upper seat.
17. Gently slide the upper seat (ball contact side toward the ball) into the body against the ball.
18. Apply pipe dope (containing 40 to 60% by weight of finely powdered metallic zinc and less than 0.3% active sulfur) to the service connection threads.

FIGURE 7

19. Screw the top sub into the valve body until drag is felt. Rotate the stem and ball midway between the open and close positions and hand tighten the service connection.
20. Check for smooth operation of the valve by opening and closing the valve.
21. Rotate the stem and ball to the full open position and ensure that there is no offset between the bore and the open ball.

FIGURE 8

22. Rotate the stem and ball midway between the open and close positions to prevent damage to the stem during make-up. Make-up the service connection to the manufacturer's recommended torque.
23. Test the valve to the manufacturer's specifications to ensure no leakage.
24. Move the ball to the full open position and store the valve in the full open position until installed in the drillstring.

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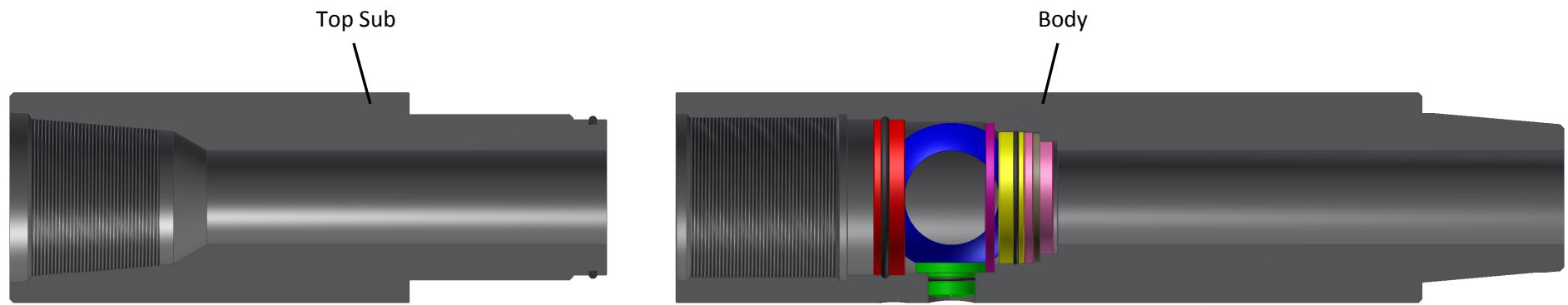


Figure 1

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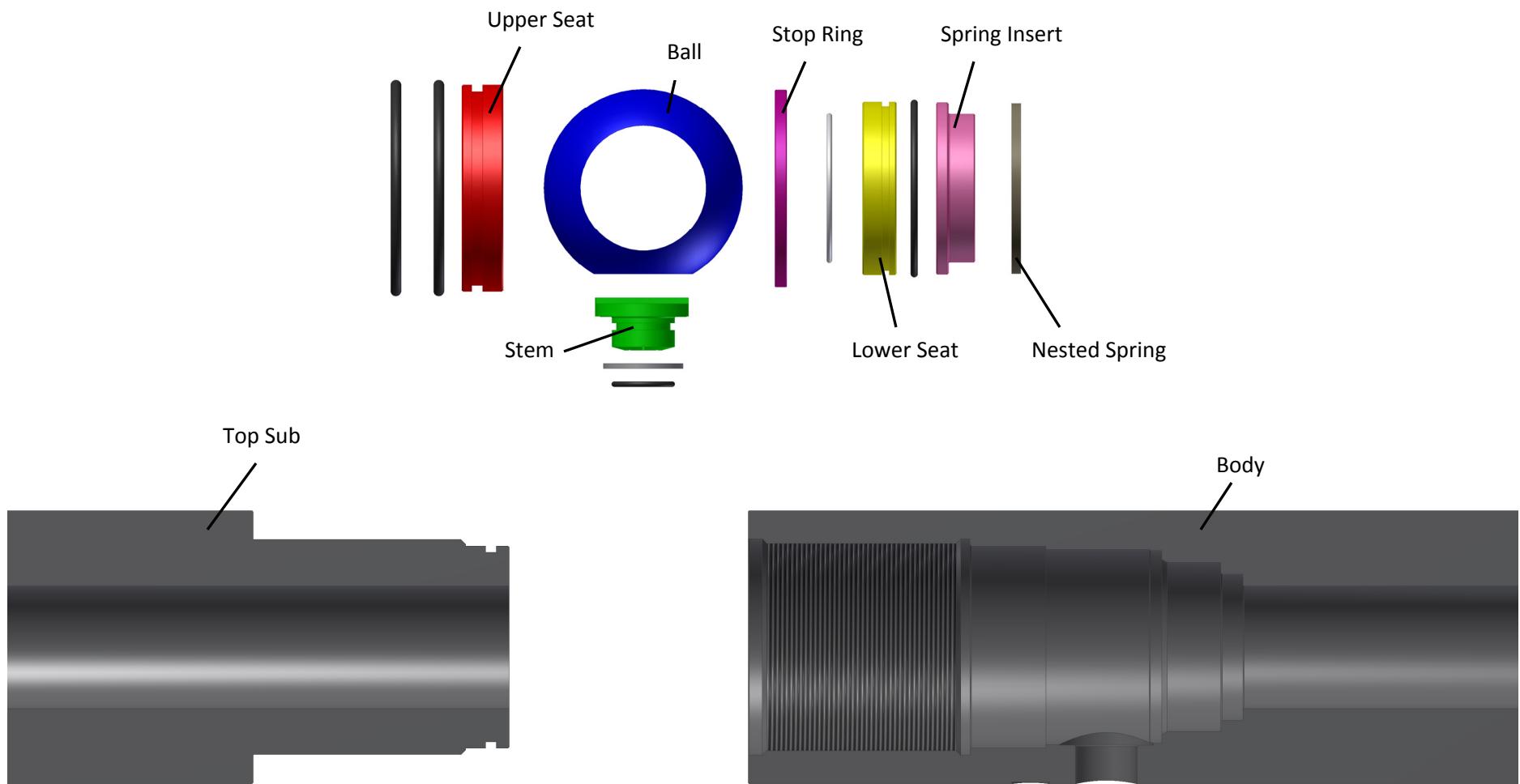


Figure 2

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Figure 3

Disassembly and Assembly Procedures for Global Manufacturing, Inc.
Two Piece G-Low Torque Valves with Seat Stop

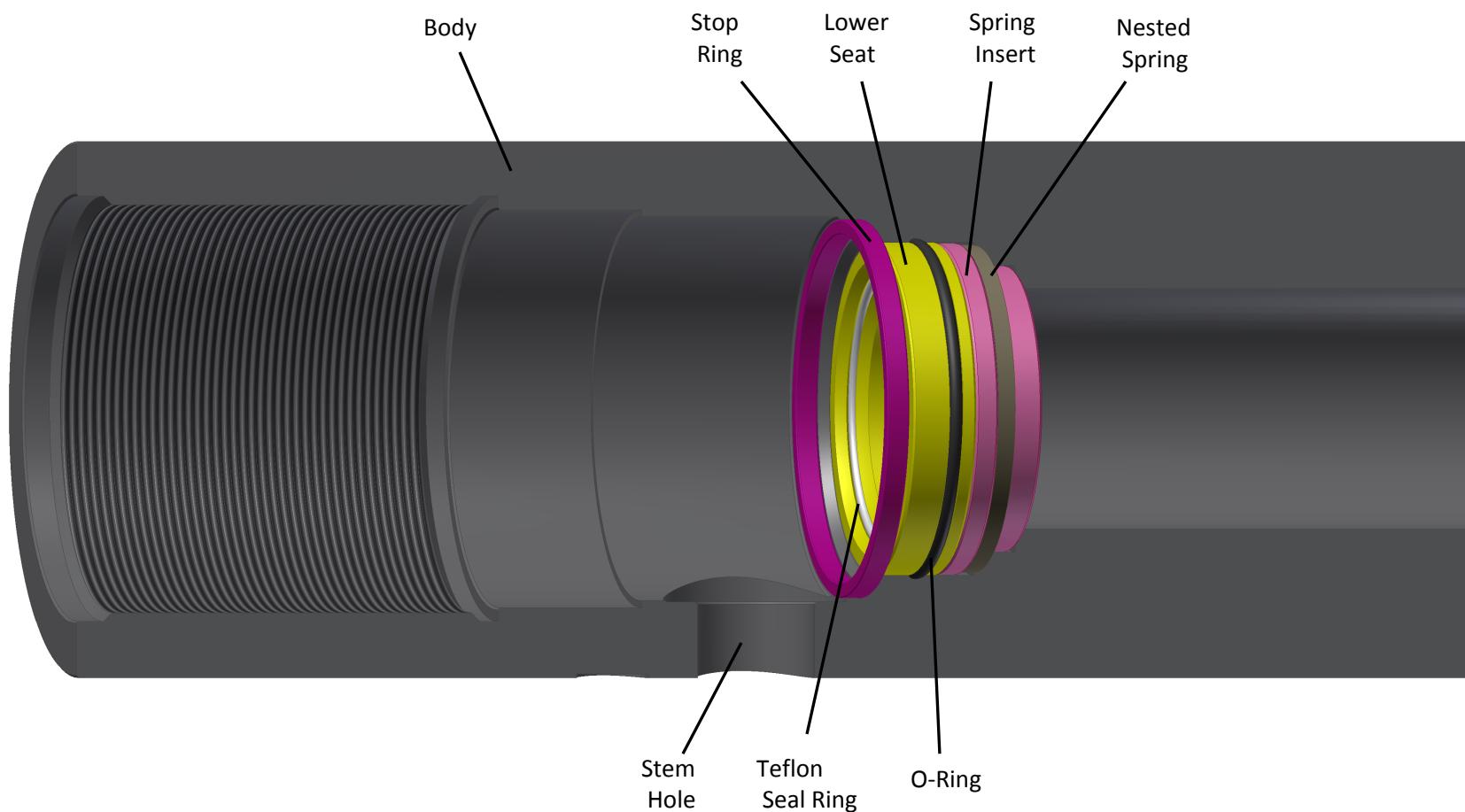


Figure 4

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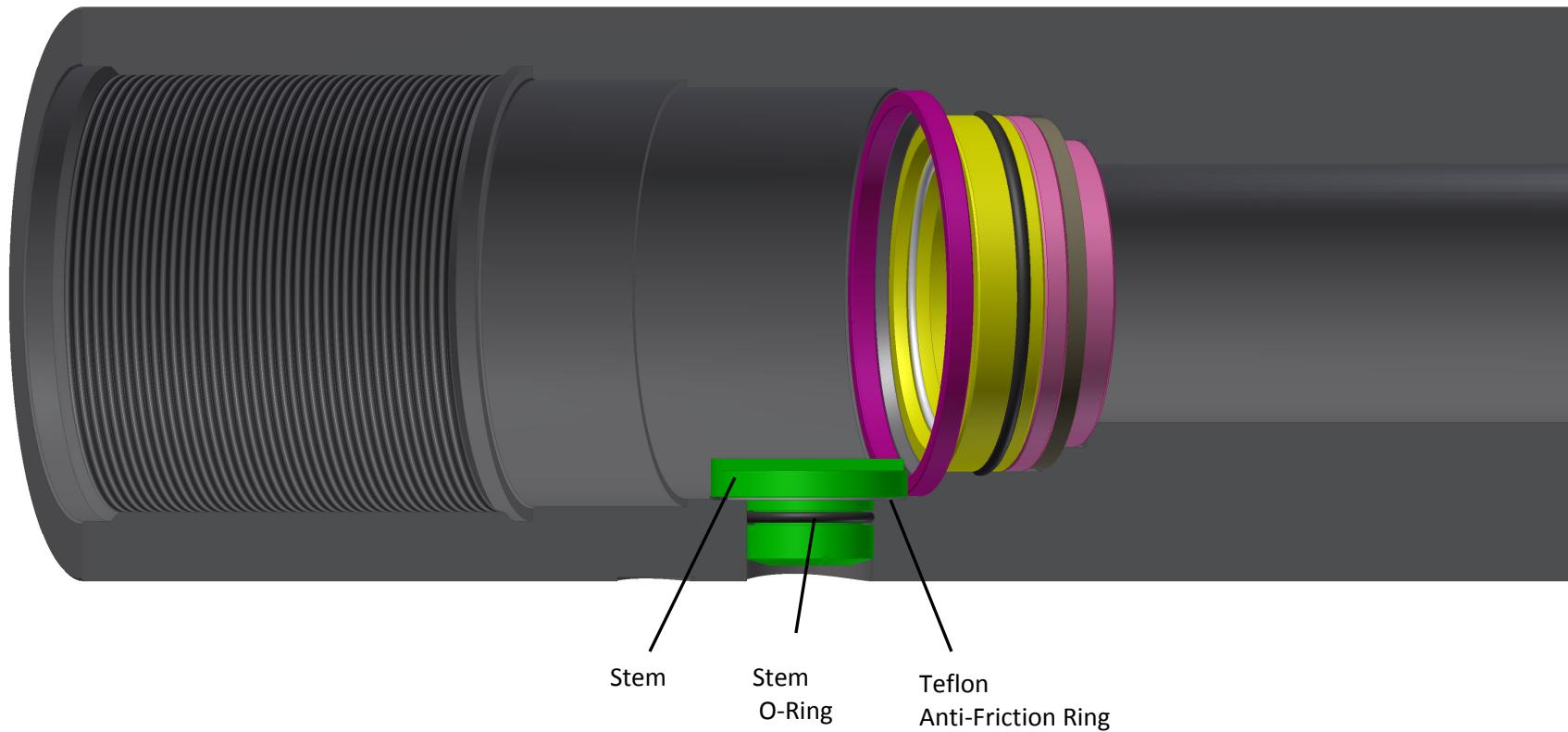


Figure 5

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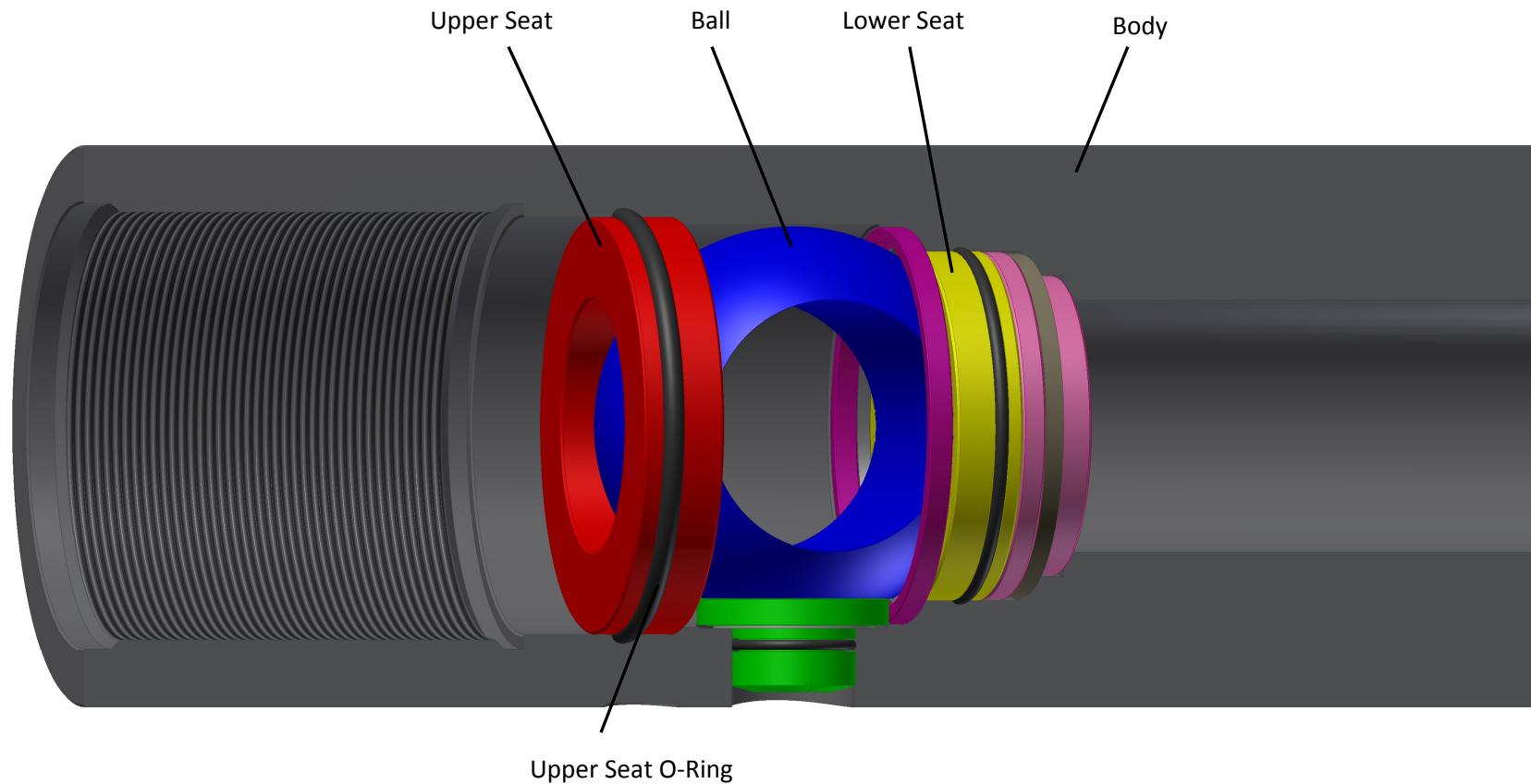


Figure 6

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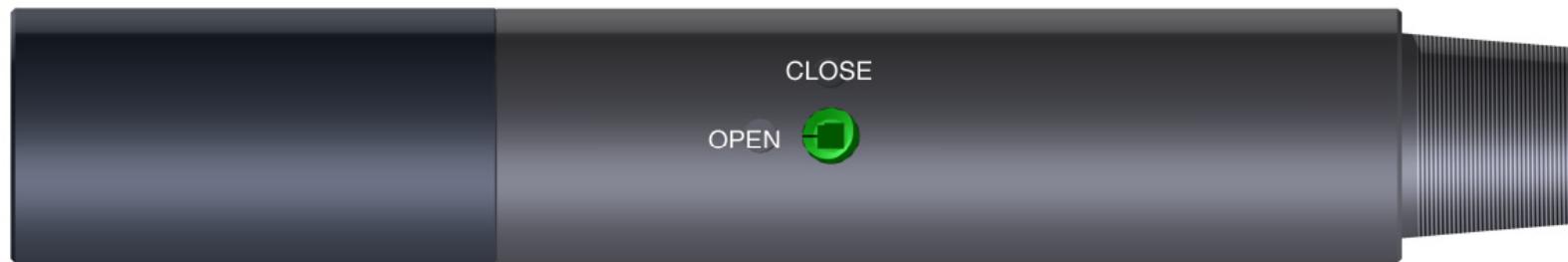


Figure 7

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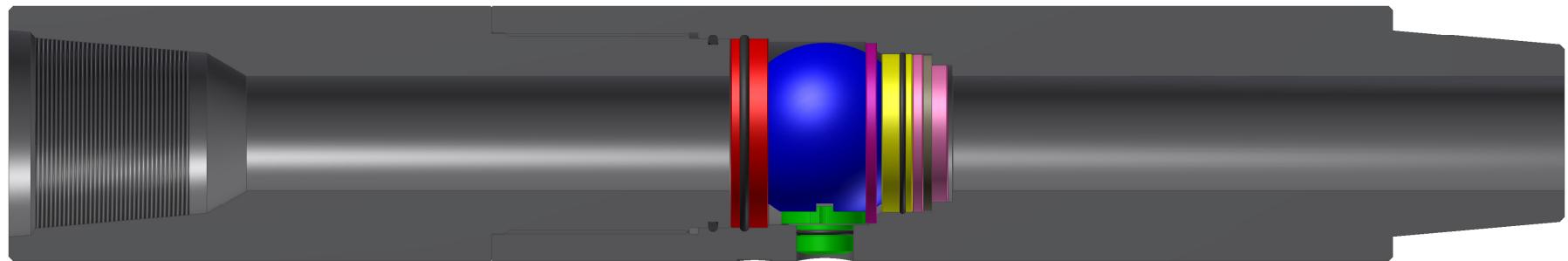


Figure 8