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3" 1502 LT Plug Valve Repair Instructions

REV#	DATE	REVISION DESCRIPTION	PREPARED BY	APPROVED BY
A	Dec 9, 2018	CREATION OF DOCUMENT	JZ	JJ
B	Sep 6, 2019	UPDATED BODY CAP TORQUE VALUES	JZ	RS

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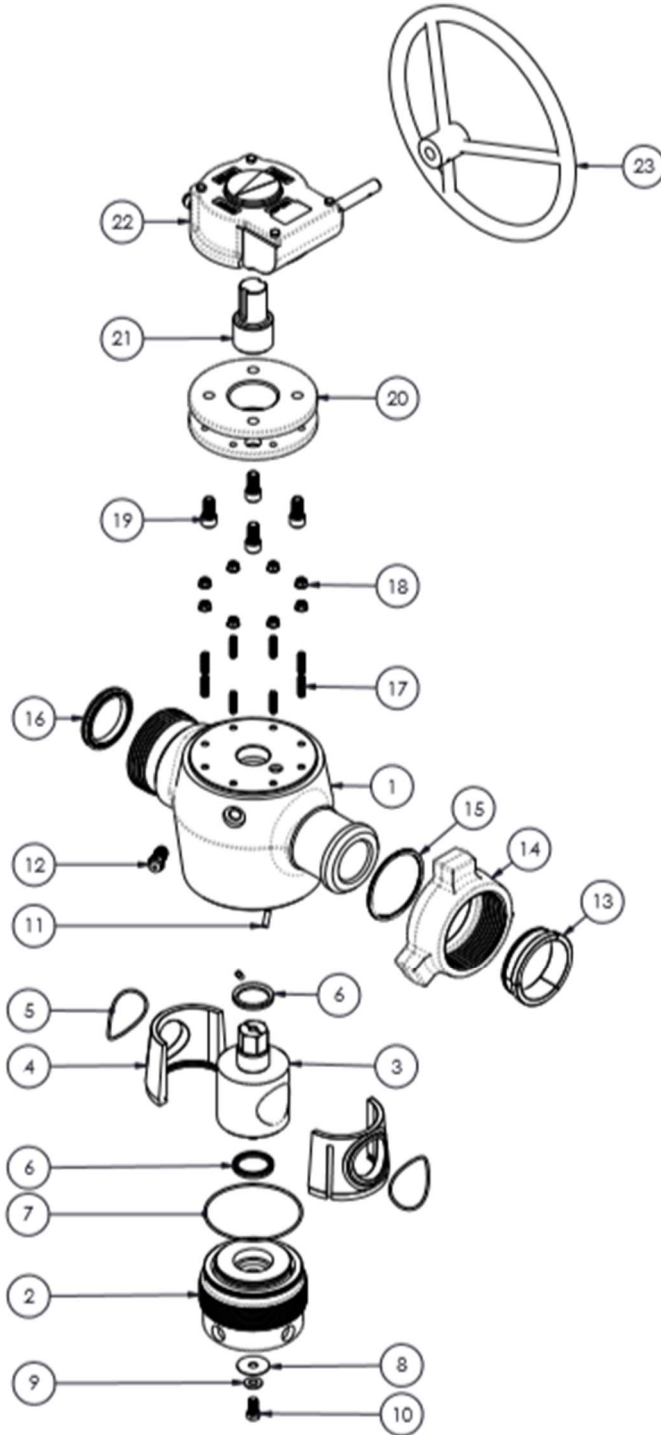
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1.0 Exploded View



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2.0 Parts List

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	03-PVL-33061-01	3" 1502 PLUG VALVE, LT, VALVE BODY, SG	1
2	03-PVL-33090-02	3" 1502 PLUG VALVE, LT, CAP/ ADJ. NUT	1
3	03-PVL-33000-25	3" 1502 PLUG VALVE, LT, PLUG, REG PORT, SG	1
4	03-PVL-33001-20	3" 1502 PLUG VALVE, LT, SEAT INSERT, REG PORT, SG	2
5	10-ROR-11236	O-RING, SEAT INSERT	2
6	10-PVS-02601	PLUG SEAL, LT	2
7	10-ROR-11257	O-RING, CAP/ ADJ. NUT	1
8	10-FLW-01202	WASHER, FLAT, OVERSIZED	1
9	10-FLW-01201	WASHER, FLAT	1
10	10-HCS-00401	HEX CAP SCREW	1
11	10-SRP-01700	SPIRAL HD ROLL PIN	2
12	10-GRZ-02101	BUTTON HEAD GREASE FITTING W/ RELIEF GROOVE	1
13	09-SEG-33000	SEGMENT SET, WINGNUT, 3" 1502	1
14	09-WND-33001	WING NUT, 3" 1502, SG, DETACH	1
15	10-SRE-10450	SNAP RING, 3" 1502 SEGMENTS	1
16	09-USR-33101	3" 602/1502 SEAL RING HSN	1
17	10-CTR-00501	THREADED ROD	8
18	10-HFN-00801	NUT, HEX FLANGE	8
19	10-SHC-00306	SOCKET HEAD CAP SCREW	4
20	03-PVL-33000-03	3" 1502 PLUG VALVE, LT, GEAR OP MOUNT	1
21	03-PVL-33000-04	3" PLUG VALVE, LT, GEAR OP STEM ADAPTOR	1
22	03-PVL-30000-06	GEAR OP	1
23	03-PVL-30000-05	3" PLUG VALVE, HANDWHEEL	1

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3.0 Disassembly Instructions

1. Remove the gear op (22) and gear op mount (20). Turn valve over so that the body cap (2) is facing up. Leaving the bottom plug bolt (10) in place, screw out (turning counter-clockwise) the body cap (2). This will allow the entire internal assembly to be removed from the valve cavity at once.
2. Remove the plug bolt (10) that attaches the plug (3) to the body cap (2).
3. Remove the plug (3) and seat inserts (4).
4. Remove the seat insert O-rings (5), cap O-ring (7) and plug seals (6).
5. Clean all the old lubricant and debris from the parts and valve body cavity.

4.0 Assembly Instructions

4.1 Valve Body Assembly

1. Clean any grease, rust, debris etc. from the bore of the valve body (1) so that bare metal is exposed.
2. Check surfaces around the valve bore (1) and inside the valve pocket for sharp edges that could cause damage to O-rings or the seat inserts.
3. Check the threads of the valve cap (2) for any damage or burrs.
4. After inspection, grease the sealing groove of the cap (2) and install the cap O-Ring (7) in the groove. Make sure the O-Ring is seated properly into the groove.
5. Check the roll pins (11) in the valve body by gently sliding a seat inserts (4) into the valve. The seat (4) should move freely up and down the length of the roll pin slots without interference.
6. Apply a thin film of lubricant to the recess in the valve body (1) and install the plug seal (6) with the metal back towards the recess, facing away from the pressure.
7. Apply a thin film of lubricant to the recess in the body cap (2) and install the plug seal (6) with the metal back towards the recess, facing away from the pressure.

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8. Check the plug (3) outside diameter for surface defects such as scratches, dings, nicks, or sharp edges that could affect the sealing area. Repair any defects.
9. Check the surface finish of the seat inserts (4) making sure they do not have any scratches, dings, nicks or sharp edges that could also affect the sealing area. Repair any defects.
10. Pack the cap plug seal (6) with valve grease.
11. Install the bottom end of the plug (3) (opposite the hex) into the cap (2). Push down on the plug until it shoulders against the cap.
12. Apply a thin film of valve grease to the entire O.D. of the plug (3).
13. Place the seat inserts (4) around the plug (3), making sure the bottom shoulder of the carrier fits with the groove of the cap (2).
14. Place the seat insert O-rings (5) in to the grooves on the seats (4). Pack with valve grease to retain the rings and thoroughly grease the sealing surfaces.
15. Secure the plug (3) to the cap (2) with the plug bolt (10) and two washers (8 & 9). Do not tighten the bolt past “finger tight”. This allows the valve cap (2) to rotate freely during installation.
16. Lubricate the valve pocket with valve grease.
17. Apply anti-seize to the cap threads.
18. Support the valve body so that the plug (3) hex can pass through unobstructed.
19. Install the plug (3), carrier (4) and cap (2) assembly into the valve body.
20. Screw the body cap assembly into the valve body (1) until snug. With a wrench, tighten the cap down until it is bottomed out or cannot be tightened anymore. At this point, back the cap off ¼ turn. With a torque wrench, re-tighten the cap to **125 ft*lbs.**
21. Apply anti-seize to the threads of the double check grease fitting (12). Do **NOT** use Teflon tape on the grease fitting.
22. Install double check grease fitting (12). Torque to **125 ft*lbs.**

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4.2 Wingnut Assembly

23. Place the 3" 1502 segment snap ring (15) onto the male end of the valve body (1).

24. Place wing nut (14) on male end and install the segment set (13).

25. Secure the segments (13) with the snap ring (15).

4.3 Gear Op Assembly

26. Install the threaded rods (17) into the top of the valve body (1). Thread until bottomed out.

27. Place the gear op mount (20) onto the valve body (1) and threaded rods (17). Secure the mount with the flanged locknuts (18).

28. Place the stem adaptor (21) onto the hex of the plug (3). Check that the stem adaptor is properly indexed.

29. With a 7/16" by 7/16" key stock, install the gear op (22) to the stem adaptor (21). Secure gear op (22) to the mount (20) with 4 cap screws (19).

4.4 Greasing Procedure

30. With the valve in the open position, grease to 4,000 psi.

31. Cycle the valve to the closed position and then back to the open position. Repeat greasing the valve to 4,000 psi. Complete this cycle a total of 4 times. This ensures that no air is trapped in the cavity of the valve.

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