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*A Pump & Valve Mfg. Company*

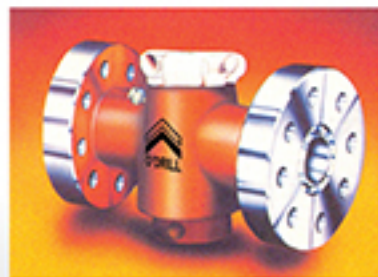


# PLUG VALVES



*...The Choice is yours!*  
*Complete Valves or Repair Kits*

*1", 2" & 3"*  
*5,000 - 15,000 psi*



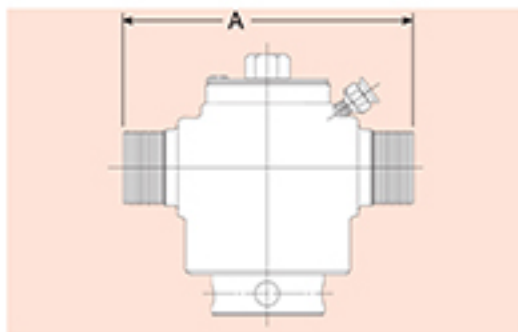
100% INTERCHANGEABLE WITH NAME BRAND PLUG VALVES AND PARTS

# DIMENSIONAL OUTLINE

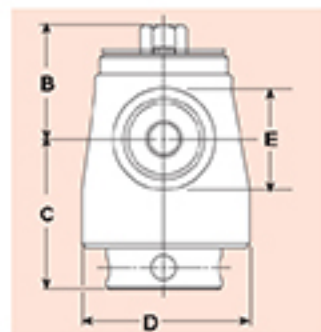
O'Drill • MCM



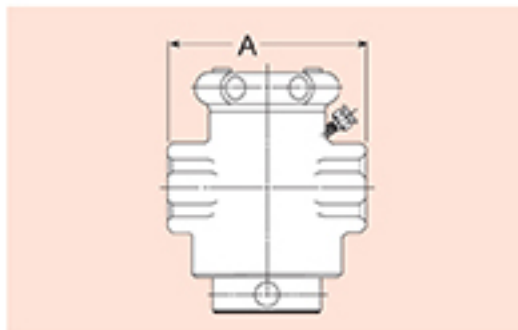
PN's M-1012, M-1013, M-1016.



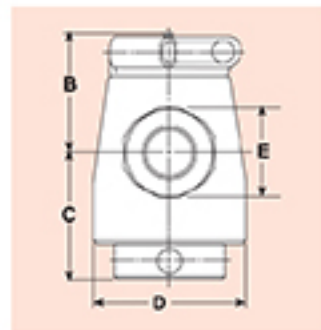
Line pipe threaded (male)



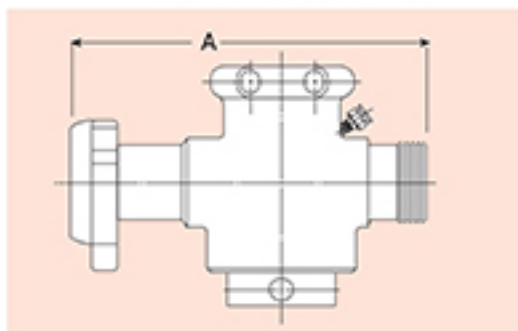
PN's M-2021, M-2022, M-2023.



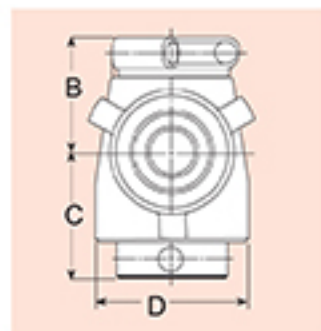
Line pipe threaded (female)



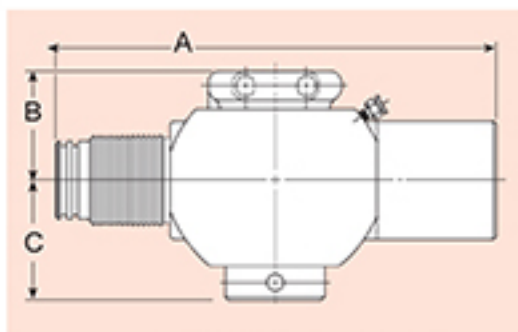
PN's M-1015, M-1017, M-1725, M-2026, M-2027.



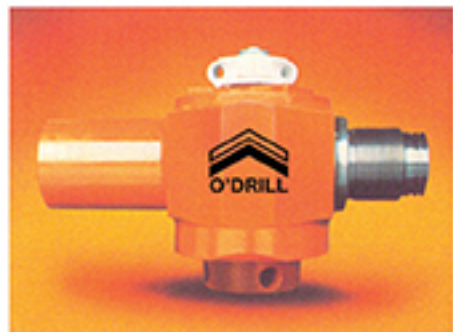
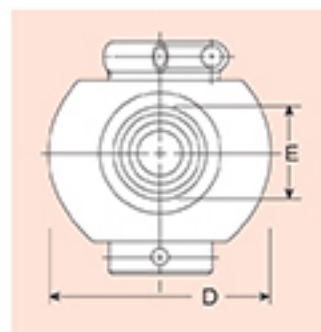
Hammer union connections.



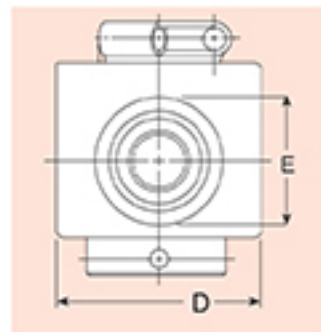
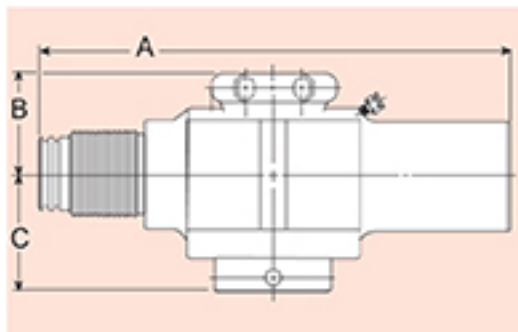
PN's M-2028 & M-2029.



Special connection tool joint.



PN's M-2501 & M-3034.



Disclaimer: O'Drill•MCM is in no way associated with Halliburton company.

# ◀ COMPLETE VALVES ▶

100% Interchangeable with name brand Plug Valves & Parts.

Valve Size	WP PSIG	O'Drill P/N	Valve Description	wt - lbs	Type Service	Dimensions (Inches)				
						A	B	C	D	E
1"	5K	M - 1011	1½" Female LP thd. Reg. Open	37	Reg	9½	3¾	4¾	5¾	3¾
1"	5K	M - 1012	2" Male LP thd. Full Opening	37	Reg	9½	3¾	4¾	5¾	3¾
1"	10K	M - 1013	2" Male LP thd. Full Opening	37	Reg	9½	3¾	4¾	5¾	3¾
1"	15K	M - 1016	2" Male LP thd. Full Opening	37	Reg	9½	3¾	4¾	5¾	3¾
1"	10K	M - 1014	2" Male x 1" Female LP	37	Reg	9½	3¾	4¾	5¾	3¾
1"	15K	M - 1015	2" 1502 Union End w/ Wing Nut	65	Reg	15½	3¾	4¾	6¾	—
2"	5K	M - 2021	2" Female LP thd. Full Opening	65	Reg	8½	5½	5¾	6¾	3¾
2"	10K	M - 2023	2" Female LP thd. Full Opening	65	Reg	8½	5½	5¾	6¾	3¾
2"	15K	M - 1725	2" 1502 Union End w/ Wing Nut	85	Reg	15½	5½	5¾	6¾	—
2"	15K	M - 2026	2" 1502 Union End w/ Wing Nut	85	Reg	15½	5½	5¾	6¾	—
2"	10K	M - 2028	3½" I.F. Box x Pin	146	Reg	20	5½	5¾	9¾	4¾
2½"	10K	M - 2502	2½" EUE 8-rd thd.	95	Reg	14	6¾	5¾	8¾	5¾
2½"	5K	M - 2503	2½" Female LP thd. Full Opening	80	Reg	9¾	4¾	4¾	7¾	4¾
3"	15K	M - 3031	3" 1502 Union End w/ Wing Nut	419	Reg	21¾	6¾	8¾	10¾	—
3"	6K	M - 3035	3" Female LP thd. Full Open	120	Reg	11¾	4¾	5¾	9¾	4¾

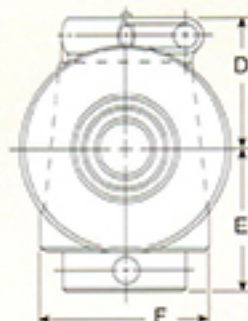
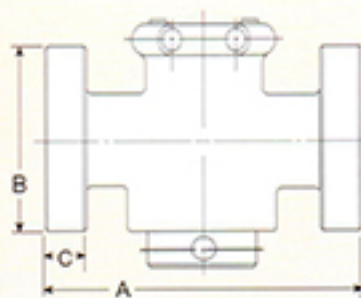
## H2S SERVICE

1"	10K	M - 1017	2" 1502 Union End w/ Wing Nut	65	H2S	15½	3¾	4¾	6¾	—
1"	5K	M - 2022	2" Female LP thd. Full Opening	65	H2S	8½	5½	5¾	6¾	3¾
1"	15K	M - 2024	2" 2202 Union End w/ Wing Nut	85	H2S	15½	5½	5¾	6¾	—
2"	10K	M - 2027	2" 1502 Union End w/ Wing Nut	85	H2S	15½	5½	5¾	6¾	—
2"	10K	M - 2029	4.12 4-thd 60° Stub Box x Pin	149	H2S	20	5½	5¾	9¾	5¾
1"	10K	M - 2501	4.12 4-thd 60° Stub Box x Pin	175	H2S	23¾	6¾	5¾	8¾	5¾
1"	10K	M - 3032	3" 1502 Union End w/ Wing Nut	419	H2S	21¾	6¾	8¾	10¾	—
1"	15K	M - 3033	3" 2202 Union End w/ Wing Nut	419	H2S	21¾	6¾	8¾	10¾	—
1"	15K	M - 3034	4.93 4-thd 60° Stub Box x Pin	319	H2S	25¾	6¾	8¾	10¾	6¾

## RING JOINT TYPE FLANGED ENDS (as shown below)

Valve Size	WP PSIG	Regular Service		Valve Description	H2S Service		Dimensions (Inches)					
		O'Drill	P/N		O'Drill	P/N	A	B	C	D	E	F
2"	5K	M - 2041		2¼" I.D. Flange Full Open R 24 Ring	M-2042		15½	8½	1¾	4¾	5¾	6¾
2"	10K	M - 2043		2¼" I.D. Flange Full Open BX 152 Ring	M-2044		20½	7¾	1¾	4¾	5¾	6¾
2½"	5K	M - 2551		2¾" I.D. Flange Full Open R 27 Ring	M-2552		18	9¾	1¾	4¾	4¾	7¾
3"	5K	M - 3061		3¾" I.D. Flange Full Open R 35 Ring	M-3062		20¾	10¾	2¾	4¾	5¾	9¾
3"	10K	M - 3063		3¾" I.D. Flange Full Open BX 154 Ring	M-3064		24¾	10¾	2¾	9¾	8¾	10¾
3"	15K	M - 3065		3¾" I.D. Flange Full Open BX 154 Ring	M-3066		25¾	11¾	2¾	9¾	8¾	10¾

\* Requires special Adjusting Nut P/N 243



Ring Joint-Flanged End Valve

# PLUG VALVES

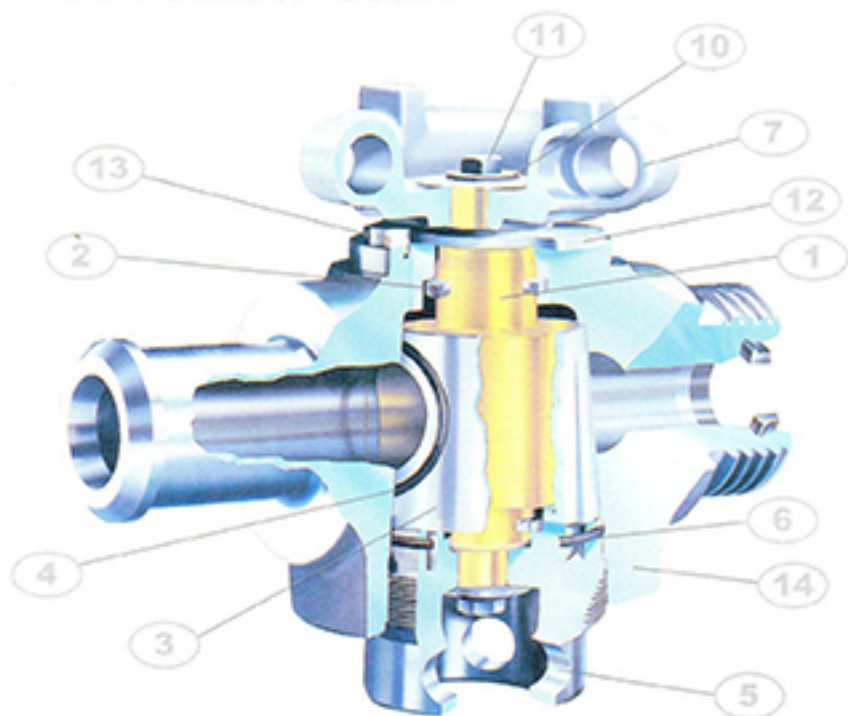
by O'Drill

O'DRILL •MCM, manufactures a 'quarter turn' plug valve which is 100% interchangeable with the name brand plug valves and parts. O'Drill Plug Valves are manufactured from the highest grade materials which exceed API-6A requirements, for standard or H2S service. The valve cavity is tapered to ensure uniform seating of the sealing inserts, thereby providing reliable seal across the full range of pressures. The O'Drill PLUG VALVES and REPLACEMENT PARTS are designed to provide low operating torque and dependable service under severe conditions.

*O'Drill •MCM Plug Valves...*

*Engineered for High Performance...!*

## CUT AWAY VIEW



## PARTS LIST

1	Plug
2	Plug Seal
3	Inserts
4	Insert, O-Ring
5	Adjusting Nut
6	Adjusting Nut, O-Ring
7	Adapter
8	Grease Fitting (not shown)
9	Roll Pins (not shown)
10	Flat Washer
11	Plug Screw
12	Stop Collar
13	Stop Collar Screw
14	Body

### Design Features

- Design for positive shut off or full open.
- Balanced to reduce operating torque.
- Fully Documented (Data Books).
- Certified Quality.
- In Stock Parts Availability.
- Complete Testing & Inspection.
- Customer Satisfaction guaranteed!

### Material Specifications

• Valve Body	4130/4140 forged alloy steel
• Adjusting Nut	4130/4140 forged alloy steel
• Plug	a) 17-4 PH – Std. Service b) K-500 Monel – H2S Service c) 4140-Q.P.Q.
• Inserts	a) Ductile Iron-Phosphate Coated b) 8160 Alloy Steel c) Aluminium Nickel Bronze
• Plug Seals	a) Buna-N – Std. Service b) Viton – H2S Service

*We've got the Quality...We've got the Price!!!*

*Check with O'Drill •MCM before your next plug valve order.*

**Call: (713) 541-2020 • FAX (713) 541-9090 • 1-800-255-6263**

# REPLACEMENT PARTS 'Regular' SERVICE

100% Interchangeable with name brand Plug Valve & Parts.

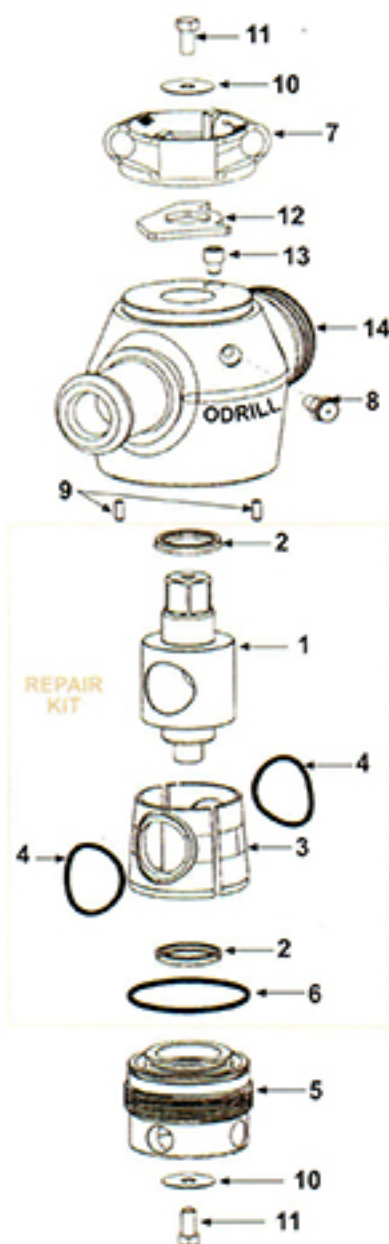


ASSEMBLY LOCATION	DESCRIPTION	SVC	QTY	P A R T N U M B E R S						
				VALVE BORE SIZE	1"	1 1/2"	1 3/4"	2"	2 1/2"	3"
1	Plug	Reg	1	101	—	171	201	251	301	311
2	Plug Seals	Reg	2	104	—	174	174	174	174	174
3	Inserts	Reg	1 pr	102	—	172	202	252	302	312
4	Insert O-rings	Reg	2	105	—	175	205	255	305	305
5	Adjusting Nut +	Reg	1	103	—	173	203 + 243	253	303	313
6	Adjusting Nut O-ring	Reg	1	106	—	176	176	256	306	306
7	Adapter	Reg	1	877	877	878	878	878	878	879
8	Grease Fitting	Reg	1	777	777	777	777	777	777	777
9	Roll Pin	Reg	2	108	108	108	108	108	108	109
10	Flat Washer	Reg	2	996	996	997	997	997 Top 998 Bot	997	997
11	Plug Screw	Reg	2	117	117	118	118	118	118	118
12	Stop Collar	Reg	1	—	—	137	137	137	137	138
13	Stop Collar Screw	Reg	1	126	126	118	118	128	118	129

★	Repair Kit	Reg	—	K113	—	K1758	K295	K258	K391	K392
		H2S	—	K1103	K1208	—	K2905	K2508	K3901	K3902
★★	Seal Kit	Reg	—	K111	—	K1759	K291	K259	K393	K394
		H2S	—	K1101	K1209	—	K2901	K2509	K3903	K3904
★★★	Lubricant					O'Drill # 2000				

## REPLACEMENT PARTS For H2S SERVICE

ASSEMBLY LOCATION	DESCRIPTION	SVC	QTY	P A R T N U M B E R S						
				VALVE BORE SIZE	1"	1 1/2"	1 3/4"	2"	2 1/2"	3"
1	Plug	H2S	1	1010	1210	—	2010	2510	3010	3110
2	Plug Seals	H2S	2	1040	1040	—	2040	2040	2040	2040
3	Inserts	H2S	1 pr	1020	1220	—	2020	2520	3020	3120
4	Insert O-rings	H2S	2	1050	1250	—	2050	2550	3050	3050
5	Adjusting Nut	H2S	1	1030	1230	—	2030	2530	3030	3130
6	Adjusting Nut O-ring	H2S	1	1060	1260	—	2060	2560	3060	3060



Check us out!  
We carry...  
all sizes of  
repair kits in  
Ready Stock!

- ★ **Repair Kit:** Consists of ① Plug, ② Plug Seals, ③ Insert Set, ④ Insert O-Rings and ⑤ Adjusting Nut O-Ring
- ★★ **Seal Kit:** Consists of ② Plug Seals, ④ Insert O-Rings and ⑤ Adjusting Nut O-Ring
- ★★★ **Lubricant:** Heavy Castor Oil based grease is recommended.  
+ Use only in assembly of M-2026.

Lowest Prices...Guaranteed!!!

## DISASSEMBLY & REASSEMBLY INFORMATION

★ **Valve Repair:** O'Drill can rebuild your damaged 'Plug Valves' to a brand new condition for a very nominal price!



### Disassembly

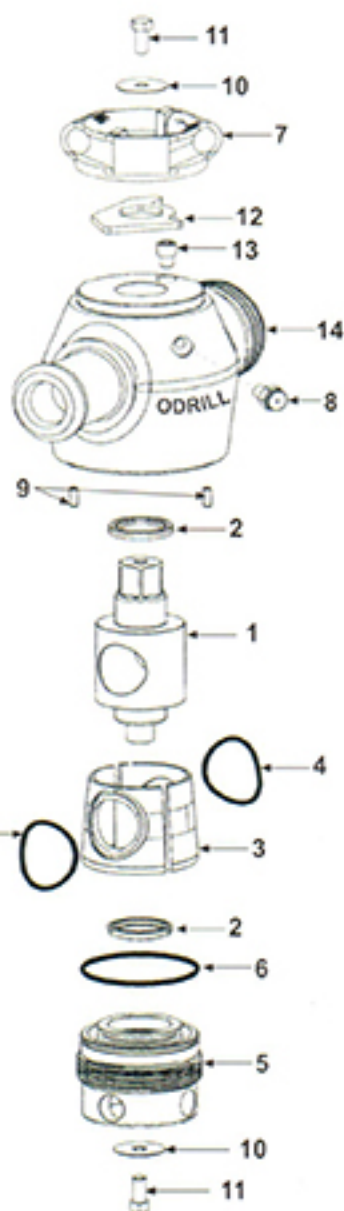
1. Remove the top capscrew (11), washers (10), adapter (7), and stop collar (12).
2. Secure the valve assembly with the adjusting nut facing up.
3. Using a bar, unscrew the adjusting nut (5) counter-clockwise until it disengages from the valve body (14). Leaving the bottom capscrew (11) in place will allow the entire internal assembly to be removed from the valve at once.
4. Remove the bottom capscrew (11) and washers (10).
5. Remove the plug (1) and inserts (3) from the adjusting nut.
6. Remove the insert o-rings (4), adjusting nut o-ring (6), and plug seals (2).
7. Remove all the grease and debris from all valve components.
8. Remove the grease fitting (8) from the body or plug (1).

### Inspection and Repair

1. After degreasing the parts, visually inspect for wear, corrosion, or any other physical damage.
2. Inspect the primary sealing surface of the plug (1) and inserts (3) for any scratches or dings. Parts with heavy wear or deep scratches in the sealing surfaces should be replaced. For light wear or superficial blemishes, use 600-grit sandpaper along with a solvent polish to smoothen the surfaces.
3. All surfaces which contact the elastomeric seals must be smooth and free of rust and pitting. Use sandpaper to polish. Parts with excessive pitting and rust should be replaced.
4. Lubricate and screw the adjusting nut (without the o-ring) completely into the valve body. Check for damaged threads. It should turn easily all the way.
5. Check the roll pins (9) in the valve body by gently sliding a set of inserts (3) into the valve. The inserts should move freely up and down the length of the roll pin slots without interference.
6. Inspect the grease fitting (8) for damaged threads or sealing surface.

### Re-Assembly

1. Secure the valve body in a vise or other fixed position with the valve pocket facing up.
2. Clean and visually inspect all new and used parts. Make sure all dirt, rust and old grease is removed prior to assembly.
3. Lubricate the plug seal and glands of the valve/adjusting nut with grease and install the plug seals (2) with the metal backup ring adjacent to the seal glands and facing away from the valve cavity.
4. Install the o-ring (6) onto the adjusting nut.
5. Apply a thin film of plug valve grease onto the primary sealing surface of the inserts (3) and install onto the adjusting nut. Split inserts are installed after the plug is inserted into the adjusting nut.
6. Apply a thin film of plug valve grease onto the large diameter of the plug (1) and carefully insert the lower end of the plug, opposite the hex-keyway, down through the inserts (3) until it seats into the adjusting nut. When using split inserts, the plug is seated into the adjusting nut first. The inserts are then evenly spaced around the plug, hooking onto the adjusting nut.
7. Install the insert o-rings (4) by pressing them into the grooves of the inserts (3) with plug valve grease.
8. Tilt the subassembly and install the bottom capscrew (11) and washers (10) through the bottom of the adjusting nut and into the plug (1).
9. Apply anti-seize compound to the adjusting nut threads and o-ring area and lubricate the valve pocket below the threads with all-purpose grease.
10. Install the plug (1), inserts (3), and adjusting nut assembly into the valve body. Make sure that the roll pins (9) in the body are aligned with the slots of the inserts as you screw the subassembly into the adjusting nut.
11. Screw in the adjusting nut until proper alignment is obtained between the valve bore and the insert and plug. Do not tighten beyond proper alignment. If sight through the bore is not possible, then screw in the adjusting nut until no more than one half of a thread or no threads are visible.
12. Install the grease fitting (8) into the valve body plug using 50-60 ft-lbs of torque. Teflon tape should not be used with Safe Tap grease fittings since they do not seal on the threads.
13. Install the stop collar screw (13) and stop collar (12) if required.
14. Install the adapter (7), top plug screw (11) and washer (10) onto the top of the valve. If the valve has an actuator or gear operator, bolt it back on the valve body and verify full 90° rotation. Adjust limit stops as necessary.
15. Remove excess grease from the valve bore and inspect plug alignment. Adjust as necessary with adjusting nut.
16. Grease the valve in the open position to approximately 3000psi, cycle once, and then grease one more time. Grease Seal fitting, should be greased in the open position to pack the valve cavity but may also be greased in the closed position prior to testing or while in service.



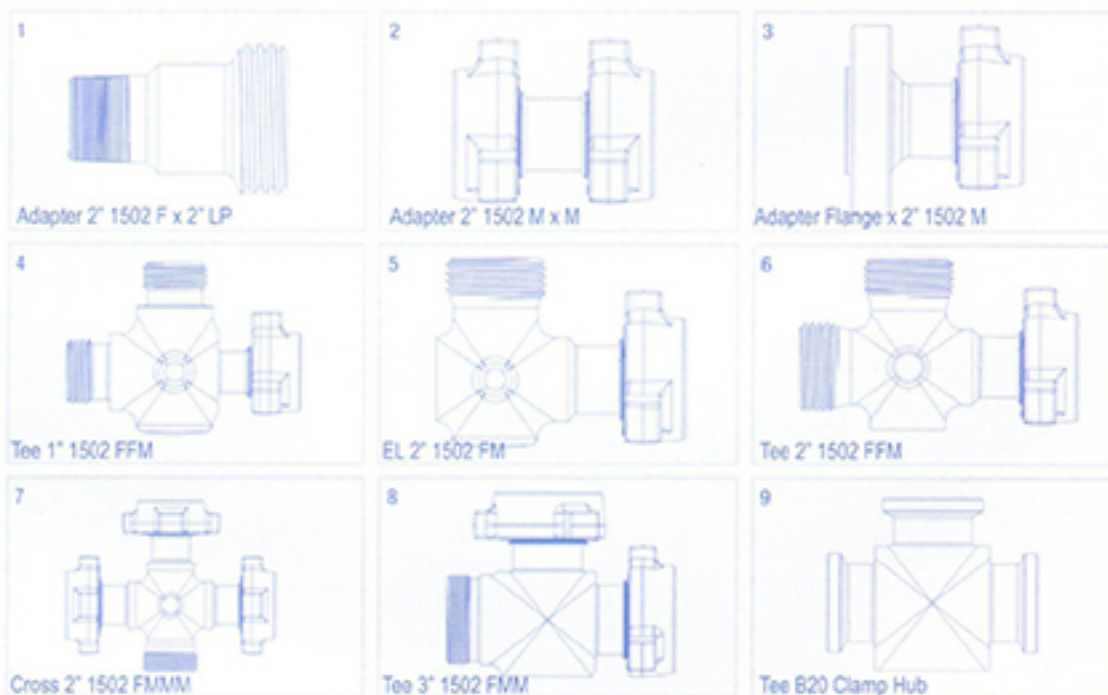
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PROBLEM	POSSIBLE CAUSE	RECOMMENDED REPAIR
<p><b>Leak at adjusting nut threads.</b></p> <p>Refer to Item 6, Service and Assembly Information</p> 	<ul style="list-style-type: none"> <li>Adjusting Nut loose allowing extrusion of O-Ring.</li> <li>Aged, worn, or damaged O-Ring.</li> <li>Re-installation of used O-Ring can cause it to be cut upon re-entry into body.</li> <li>Dents, deep scratches, in top of body cavity creates a leak path, damaging O-Ring.</li> <li>Foreign matter in threads.</li> </ul>	<ul style="list-style-type: none"> <li>Remove Adjusting Nut, check for O-Rings that have nicks, cuts or are worn out.</li> <li>Replace Adjusting Nut O-Ring with new one.</li> <li>Check body cavity for foreign matter in threads and for scratches or dents in the body sealing surface where O-Ring makes contact.</li> <li>Repair as required, reassemble and relubricate.</li> <li>Retest the valve to ascertain the problem is corrected.</li> </ul>
<p><b>Leak between inserts and body.</b></p> <p>Refer to Item 2 &amp; 4, Service and Assembly Information</p>	<ul style="list-style-type: none"> <li>Prolonged throttling of valve.</li> <li>Corrosion or damaged surface.</li> <li>Worn, damaged, aged, or blown out Insert O-Rings.</li> </ul>	<ul style="list-style-type: none"> <li>Disassemble valve.</li> <li>Check for corrosion or damaged Insert surfaces.</li> <li>Inspect surface of body in contact with Inserts for corrosion or foreign matter. Also check for damaged insert O-Ring.</li> <li>Repair as required, reassemble and relubricate.</li> </ul>
<p><b>Leaked from top or bottom of valve at end of plug.</b></p> <p>Refer to Item 3 &amp; 8, Service and Assembly Information</p>	<ul style="list-style-type: none"> <li>Improperly tightened nut.</li> <li>Corroded or scored sealing surface for Seals in Adjusting Nut or valve body.</li> <li>Aged, worn or damaged Seals.</li> <li>Scoring of Plug and Seals due to abrasive matter being trapped between them.</li> </ul>	<ul style="list-style-type: none"> <li>Disassemble valve.</li> <li>Remove Plug and Inspect end surface of Plug mating with Seals.</li> <li>Inspect Plug Seals for damage such as cuts to elastomer or damage to metal retainer.</li> <li>Replace parts as required, reassemble and relubricate.</li> <li>Re-test the valve.</li> </ul>
<p><b>Grease fitting leaking.</b></p> <p>Refer to Item 9, Service and Assembly Information</p>	<ul style="list-style-type: none"> <li>Over or under tightening of a fitting may cause them to leak.</li> <li>Reusing of previously tightened Fittings may result in leak at threads.</li> </ul>	<ul style="list-style-type: none"> <li>Disassemble valve.</li> <li>Remove Plug Inspect end surface of Plug mating with Seals.</li> <li>Inspect Plug Seals for damage such as cuts to elastomer or damage to metal retainer.</li> <li>Replace parts as required, reassemble and relubricate.</li> </ul>
<p><b>Leakage between plug and inserts.</b></p> <p>Refer to Item 3 &amp; 4, Service and Assembly Information</p>	<ul style="list-style-type: none"> <li>Valve not properly lubricated permitting wear and corrosion of valve or contamination with abrasive matter.</li> <li>Normal wear of Plug or Inserts.</li> <li>Scoring of Plug due to contact with damaged Inserts.</li> </ul>	<ul style="list-style-type: none"> <li>Disassemble valve.</li> <li>Remove Plug Inspect end surface of Plug mating with Seals.</li> <li>Inspect Plug Seals for damage such as cuts to elastomer or damage to metal retainer.</li> <li>Replace parts as required, reassemble and relubricate.</li> </ul>

**Caution:** The Plug Valve is designed to operate on a metal to metal seal with an assist from the lubricant. Any abrasive particles trapped between plug and insert will cause severe scratches or scoring, and will result in leakage.



VALVE ACCESSORIES

Ask us About O'Drill's FITTINGS AND ADAPTERS



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Oteco<sup>®</sup> Style Gate Valves



Plug Valves



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All brands  
of Pumps



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Baker<sup>®</sup> Style Float Valves



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DUAL TANDEM SHAKER

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