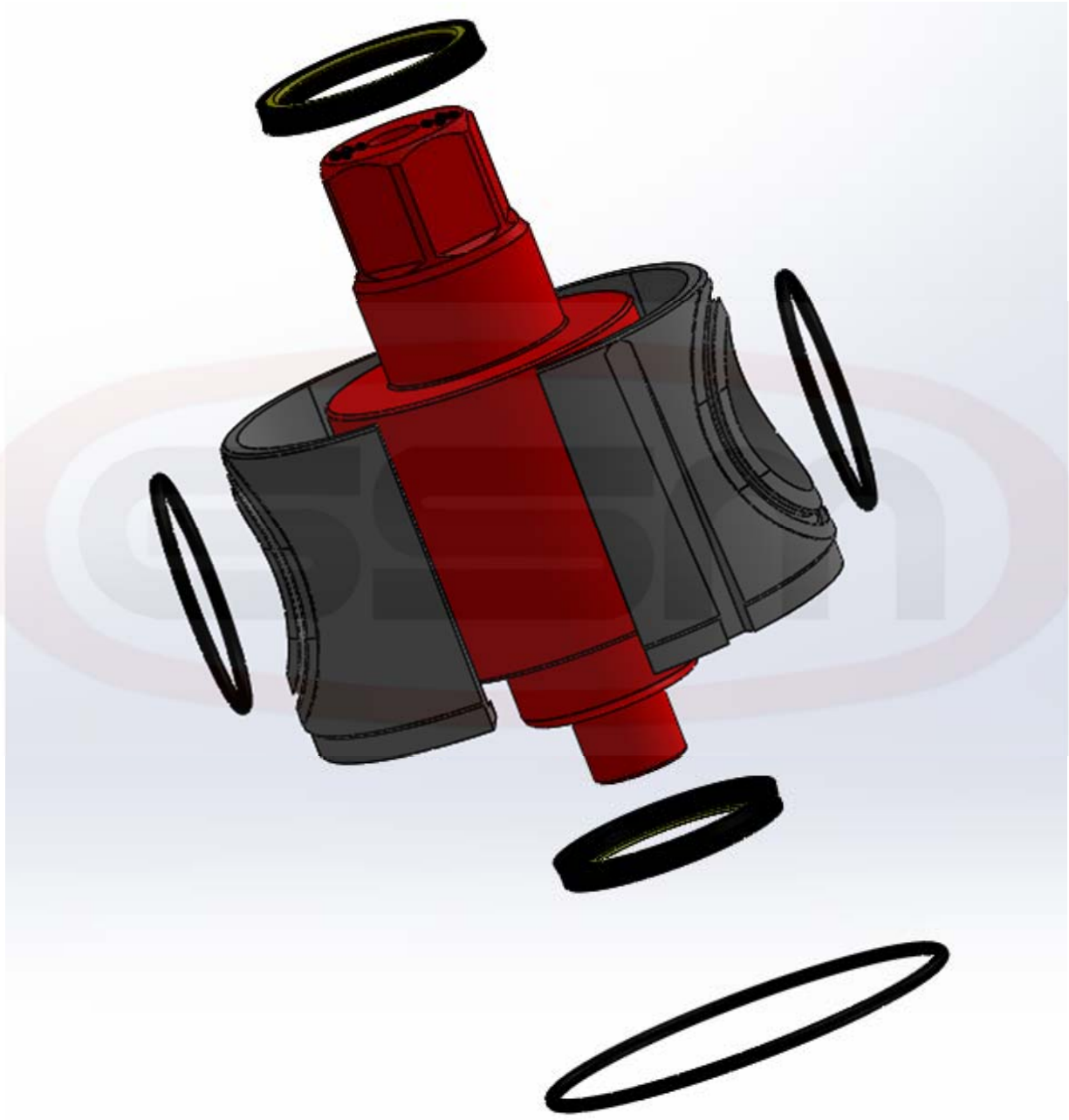

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Gulf South Machine, Inc.	2" LT Plug Kit Technical Manual		



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1. Scope/Purpose

The scope and purpose of this manual is to include methods of verification, inspection, and installation, of the GSM designed 2" plug kit, and its technical specifications.

Disclaimer

Gulf South Machine, Inc. (GSM) is a quality independent manufacturer. Our Products are not licensed nor affiliated with any (OEM) original equipment manufacturer which may be named in website or within documented information. The manufacturers' trade names, trademarks, or part numbers used herein are solely for identification purposes and are not intended by GSM to cause confusion as to the source, sponsorship or quality of the parts manufactured by GSM. The OEMs named throughout this website, associated documented information, or images do not sponsor, promote, warranty or endorse GSM products. GSM is not responsible for the un-authorized application other than the stated performance characteristics.

Gulf South Machine, Inc. (GSM) does not warranty any product that is not properly installed as per this instruction and tested prior to implementation or utilization as a completed product.

2. Technical Specifications

2.1 Material Components

- Plug- 4140H
- Insert – ASTM A536 GRADE 80-55-06
- Plug and Insert Coating – AMS 2753 Tufftride/QPQ
- 90 Buna N, O-ring set with Brass insert (Purchase item)

2.2 Storage and Preservation.


- Kit, where possible, should be stored in a clean, dry environment.
- To preserve shelf life of elastomers, O-rings should be maintained in UV protective bag.
- Shelf life of elastomer properly stored, and not under pressure/load, is 5 years from cure date.

3. Plug

3.1 Installation, repair, and operation

3.1.1 Prior to any installation, repair or operation. It is recommended to perform visual inspection as per section 4.2 and refer to section 6 further instruction.

3.2 Visual verification of the plug.

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3.2.1 Check the part for any damage or defects such as, scratches, indentations, corrosion, nicks, burrs, and/or sharp corners that can affect operation of the valve. If any condition beyond repair as per manufacturer's recommendation, seek replacement parts.

4. Insert

4.1 Installation, repair, and operation

4.1.1 Prior to any installation, repair or operation. It is recommended to perform visual inspection as per section 4.2 and refer to section 6 further instruction.

4.2 Visual verification of the insert.

4.2.1 Check the part for any damage or defects such as, scratches, indentations, corrosion, nicks, burrs, and/or sharp corners that can affect operation of the insert. If any condition beyond repair as per manufacturer's recommendation, seek replacement parts.

5. O-rings

5.1 Installation, repair, and operation

5.1.1 Prior to any installation, repair or operation. It is recommended to perform visual inspection as per section 4.2 and refer to section 6 further instruction.

5.2.1 Visual verification of the O-ring.

5.2.1 Check the part for any damage or defects such as, scratches, indentations, life span, nicks, burrs, and/or sharp corners that can affect operation of the O-ring. If any condition beyond repair as per manufacturer's recommendation, seek replacement parts.


6. Installation and Testing





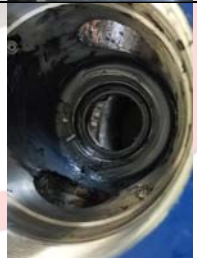


6.1 Installation of Plug Kit


6.1.1. Recommended materials

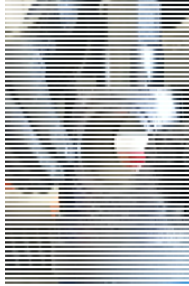







- a.) Val-Tex 972-K Lube Sealant
- b.) Jet-Lube Kopr-Kote (Anti-Seize)
- c.) QS-2000A Air/Hydraulic Grease lubricator by Val-Tex
- d.) Torque Wrench or transducer
- e.) GSM adjusting nut torque adapter


6.1.2 Installation process

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<p>1. Verify surfaces around inside the valve body around the sealing surfaces for sharp edges, porosity, rust, and/or pitting that may cause O-ring damage or prevent from sealing.</p>	
<p>2. Verify Roll pins are not damaged.</p>	
<p>3. Grease O-ring groove on adjusting nut, install O-ring and apply grease over the top of the O-ring</p>	
<p>4. Apply a thin layer of grease to the recess of the adjusting nut and apply brass O-ring plug seal. Apply grease on top of O-ring plug seal. Note: Brass shall face away from the center of the valve body in the final assembly.</p>	
<p>5. Apply thin layer of grease to the recess of the valve body and install the brass O-ring plug seal. Ensure brass is pointed away from the center of the valve body and apply grease on all surfaces of the O-ring plug seal. Note: Brass shall face away from the center of the valve body in the final assembly.</p>	
<p>6. Install the plug (non-hex side) into the plug seal of the adjusting nut, and press plug until the seal touches the shoulder of the plug.</p>	
<p>8. Apply grease to the inside of the inserts and install unto the plug. Note: Too heavy of grease will affect the assembly process and torque values under pressure.</p>	

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<p>9. Install the insert O-rings into the insert and apply grease over O-rings. And entire face of the insert.</p>	
<p>10. Secure the plug kit to the adjusting nut with the manufacturers bolt and washers.</p>	
<p>11. Apply grease over the top of the inserts and the plug filling in the gap between the top of the insert and plug.</p>	
<p>12. Lubricate threads of adjusting nut with Anti-Seize</p>	
<p>13. Install plug into valve ensuring the roll pin of the valve and roll pin groove of the insert are properly aligned.</p>	
<p>14. Using the adjusting nut adapter, tighten adjusting nut to a recommended torque of 150 ft lbs., and ensure inserts are clear of the through bore of the valve. Note: Excessive tightening will cause valve to exceed torque values under pressure. Insufficient torque values may lead to leakage and drifting of valve.</p>	
<p>15. Actuate valve to ensure operation.</p>	
<p>16. Grease valve to 4,000 PSI two times actuating between each greasing.</p>	

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17. Remove excessive grease from the through bore of the valve.	
18. Complete remainder of valve assembly as per manufacturer.	

6.2 Testing after assembly

6.2.1 Recommended testing of upstream and downstream side to include the following.

Test Pressure	Time period	Acceptance criteria
10,000 PSI	5 Min hold	No more than 100 PSI leak
250 PSI	5 Min Hold	No more than 50 PSI leak

6.3 Troubleshooting

6.3.1 Pressure leak

- a.) Verify assembly to above instruction, tighten adjusting nut 1/8 of a turn not to exceed ¼ turn.
- b.) Disassemble and check for damage on insert, plug and O-rings. Verify body of valve has not been damaged. If no damage is evident, re-assemble and re-test.

6.3.2 High Torque Values

- a.) Verify assembly to the above instruction.
- b.) identify torque values of adjusting nut
- c.) Disassemble and check for damage on insert, plug and O-rings. Verify body of valve has not been damaged. If no damage is evident, re-assemble and re-test.

7. Revision History

Revision History			
Revision	Date	Name	Description/Changes
-	11/27/2018	CDC	New Document
A	02/04/2019	CDC	Removed: Compatibility to statement Added: Disclaimer under scope
B	04/09/2019	CDC	Remove section 2.1. Intent is of the user.