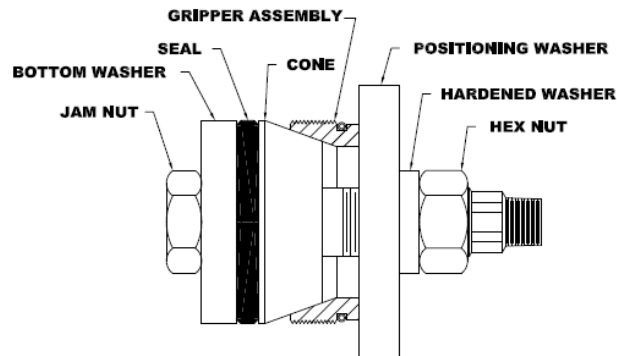


## GRIP TIGHT® SEAL AND GRIPPER REPLACEMENT PROCEDURES



**SINGLE SHAFT PLUG**  
**6" PIPE AND SMALLER**  
**ENSURE PARTS ARE ASSEMBLED AS SHOWN**

### **WARNING!**

**FOR PROPER OPERATION, GRIP TIGHT PLUGS MUST BE ASSEMBLED AS SHOWN. FAILURE TO PROPERLY REASSEMBLE GRIP TIGHT HIGH PRESSURE TEST PLUGS AS SHOWN MAY RESULT IN UNSAFE OPERATION OR PLUG FAILURE. TAPERED CONE AND GRIPPER SURFACES MUST BE CONFIGURED AS SHOWN WITH THICKER END OF GRIPPER SEATED AGAINST POSITIONING WASHER.**

**THE MAXIMUM TEMPERATURE EXPOSURE FOR URETHANE SEALS IS 180°F (82°C). CONTACT EST CUSTOMER SERVICE IF HIGH TEMPERATURE MATERIAL IS NEEDED.**

### **SEAL REPLACEMENT, SINGLE SHAFT PLUGS**

1. Remove jam nut and unthread bottom washer from shaft. Remove old seal(s) and replace with new seal(s). Sizes 4" sch 5 to 6.82" use (2) ½" thick seals. For these sizes install the harder, red colored seal, marked 80, with chamfered OD towards cone. Next install the softer, black colored seal, marked 70, so that the unchamfered side is against harder red seal. Thread bottom washer onto shaft and firmly tighten jam nut against bottom washer.

### **GRIPPER REPLACEMENT, SINGLE SHAFT PLUGS**

1. Fully back-off hex nut by hand. Remove gripper segments by prying them out of the spring. Remove spring. If additional slack in the shaft is needed for gripper removal or re-assembly, the jam nut, bottom washer and seal can be removed.
2. Apply a light lubricant such as SAE 10W motor oil to the tapered surface of the cone. Wipe away any excess lubricant from components making sure to leave an ample amount on tapered cone face and mating surface of the gripper back. Lubricant must not be on seal.

**Questions?** Contact EST Group Customer Service at any of the following locations.

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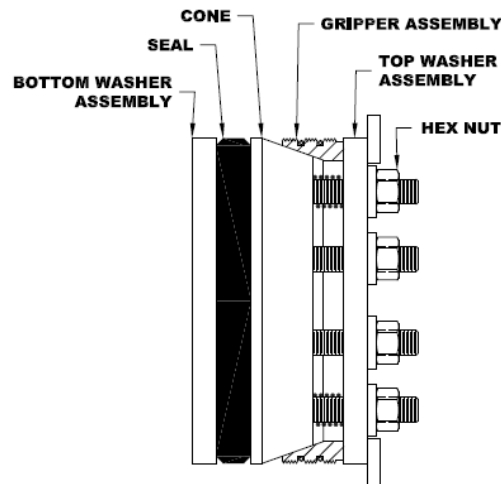
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3. Install new spring over the plug so it is positioned around the tapered surface of the cone. Position gripper segments, one at a time on the cone surface and slide the spring into the groove on grippers. Repeat for each gripper segment. A screwdriver or similar tool may aid in the installation of the grippers and spring.
4. If removed, reinstall seal, bottom washer and jam nut. Lubricate shaft with anti-seize, if necessary. Hand tighten the hex nut to remove all slack from the plug assembly.
5. Verify proper operation by hand advancing the grippers by pushing on positioning washer so that they move freely to the end of the tapered cone surface.
  - If grippers move freely to end of the tapered cone surface, then loosen the jam nut back to its original position and go on to next step.
  - Should the grippers not fully retract, if required, remove any light rust, residue or corrosion on the cone face, gripper backs and tops and underside of positioning washer using a Scotch Brite Pad or pad of equivalent quality. Re-lubricate gripper backs, tops and tapered cone surface using a light lubricant such as SAE 10W motor oil. Wipe away any excess lubricant from components making sure to leave an ample amount on tapered cone face and mating surface of gripper back. If grippers still do not fully retract and nut cannot be easily advanced, do not use this plug for testing. Contact EST Group Customer Service for assistance.

**WARNING! DO NOT MAR OR SCRATCH THE TAPERED CONE OR TAPERED GRIPPER SURFACE.**



**MULTIPLE SHAFT PLUG  
8" PIPE ONLY**

**ENSURE PARTS ARE ASSEMBLED AS SHOWN**

### **SEAL AND GRIPPER REPLACEMENT, MULTIPLE SHAFT PLUGS**

1. Remove hex nuts, and positioning washer.
2. Carefully remove gripper assembly, cone and seal. If care is taken the gripper assembly can be handled in its assembled configuration.
3. Install new seal and cone so that the large end of the cone is against the seal.

**Questions?** Contact EST Group Customer Service at any of the following locations.

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4. Apply a light lubricant such as SAE 10W motor oil to the tapered surface of the cone. Wipe away any excess lubricant from components making sure to leave an ample amount on tapered cone face and mating surface of the gripper back. Lubricant must not be on seal.
5. If gripper assembly has collapsed or if new a new gripper assembly is being installed it may be reassembled by placing the thick end of each gripper segment on a flat surface. Form a circle with all but (2) gripper segments, Install the garter spring around the gripper segments and into the groove on each gripper. Holding (2) adjacent segments stretch the spring and install an additional gripper section. Repeat for the remaining section. Carefully handle gripper assembly and install onto the plug so that tapered gripper surface mates with tapered cone surface.
6. Install positioning washer. Lubricate shafts with anti-seize, if necessary. Install hex nuts.
7. Verify proper operation by hand advancing the grippers by pushing on positioning washer so that they move freely to the end of the tapered cone surface.
  - If grippers move freely to end of the tapered cone surface, then loosen the jam nut back to its original position and go on to next step.
  - Should the grippers not fully retract, if required, remove any light rust, residue or corrosion on the cone face, gripper backs and tops and underside of positioning washer using a Scotch Brite Pad or pad of equivalent quality. Re-lubricate gripper backs, tops and tapered cone surface using a light lubricant such as SAE 10W motor oil. Wipe away any excess lubricant from components making sure to leave an ample amount on tapered cone face and mating surface of gripper back. If grippers still do not fully retract and nut cannot be easily advanced, do not use this plug for testing. Contact EST Group Customer Service for assistance.

## STORAGE

1. Clean and dry plugs prior to storage. All worn or damaged parts should be replaced prior to further testing.

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