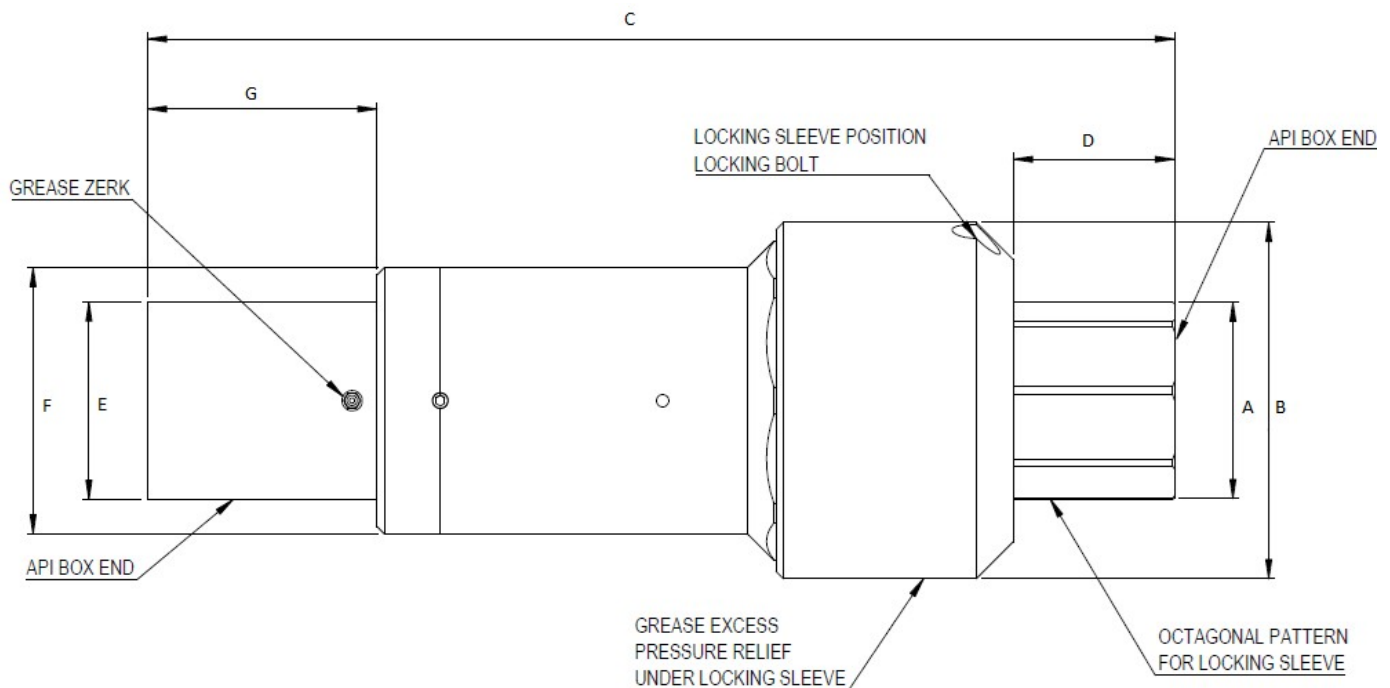


OPERATING SPECIFICATIONS



SERIES 00508 MAXI DUB-SWIVEL® BOX x BOX, LOCKING THRU-BORE SWIVEL

1. The MAXI DUB Swivel® is specifically designed for directional drilling applications. It is intended for coupling with the drill string. The swivel locking sleeve can be unbolted to allow rotation or bolted to transmit torque up to the torque specified.
2. The swivel is intended for use on the top drive track on the rig, not downhole.
3. The swivel has API box connections on each end as noted.



Part Number	A	B	C	D	E	F	G	Thru Bore size
0508-1110L	6-5/8 168.3mm	12 304.8mm	34-5/8 879.5mm	5-7/16 138.1mm	6-21/32 169.1mm	8-31/32 227.8mm	7-3/4 196.9mm	2 50.8mm
00508-1165L	6-21/32 169.1mm	12 304.8mm	35-1/2 901.7mm	5-15/32 138.9mm	6-21/32 169.1mm	10-3/4 273.1mm	7-3/4 196.9mm	2 50.8mm
00508-1220L	7-3/4 196.9mm	14 356mm	37 939.8mm	5-5/8 142.9mm	7 177.8mm	12-1/2 317.5mm	7-7/8 200.1mm	3 76.2mm

Part Number	Safe Working Limit	Safe working limit, compression	Ultimate Load, Tension	Torque	Box Thread, Free end	Box Thread, Fixed end	Internal Pressure Rating	External Pressure Rating	Net Weight
00508-1110L	110 TON 100 TONNE	58 TON 52.6 TONNE	400 TON 360 TONNE	27,500 Ftlbs 37,285 Nm	4-1/2 IF API	4-1/2 IF API	580 psi 4.00 MPa	25 psi 0.172 MPa	420 lb 190 kg
00508-1165L	165 TON 150 TONNE	66 TON 59.8 TONNE	600 TON 540 TONNE	27,500 Ftlbs 37,285 Nm	4-1/2 FH API	4-1/2 FH API	580 psi 4.00 MPa	25 psi 0.172 MPa	529 lb 240 kg
0508-1220L	220 TON 200 TONNE	66 TON 59.8 TONNE	750 TON 680 TONNE	180,000 Ftlbs 244,047 Nm	6-5/8 REG API	5-1/2 F/H API	580 psi 4.00 MPa	25 psi 0.172 MPa	766 lb 348 kg
0508-1221L	220 TON 200 TONNE	66 TON 59.8 TONNE	750 TON 680 TONNE	180,000 Ftlbs 244,047 Nm	6-5/8 REG API	6-5/8 REG API	580 psi 4.00 MPa	25 psi 0.172 MPa	766 lb 348 kg

Dimensions and weights subject to change without notice.

Bold linear dimensions in inches, non-bold in millimeters.

The **Ultimate Load** is the tensile loading required to separate the DUB Swivel® into two or more parts.

OPERATING INSTRUCTIONS



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SERIES 00508 MAXI DUB-Swivel®, Locking Thru-Bore



READ AND UNDERSTAN
THESE INSTRUCTIONS
BEFORE USING
THESE PRODUCTS

OPERATION

1. The swivel is not intended for down-hole operations, adjacent to the reamer, like a traditional HDD swivel. It should be installed on the top drive track on the rig. It should be supported from excessive vibration wherever possible.

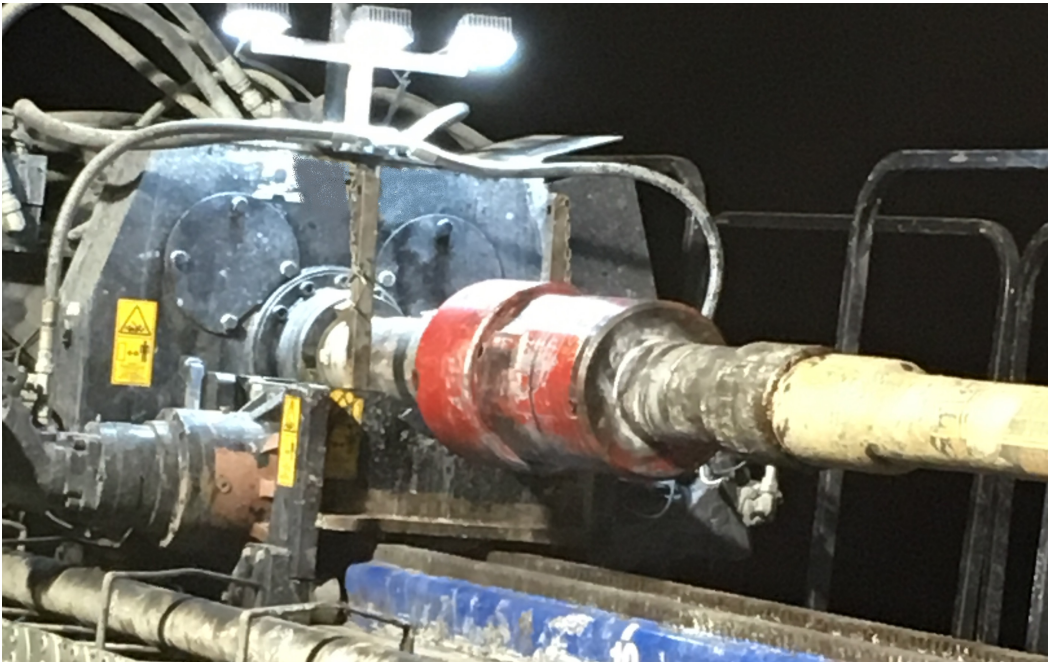


Figure 1 - Example of Typical installation

2. Thread the swivel onto the drill rod and torque to the requirements of the API thread specification.

3. Repeat for opposite box end.

4. If swivel is required to rotate, remove 'Locking sleeve position locking bolts', slide locking sleeve toward the end of the shaft until the locking sleeve bolt hole aligns with the holes on the shaft, and re-fasten bolts. Edge of locking sleeve will rest short of the swivel gap and allow swivel to rotate. When re-installing screws, ensure hole and thread are flushed out and clean to prevent debris from damaging threads.

5. If swivel is required to be in a locked condition, ensure flats between body and seal cover are aligned before proceeding. Remove 'Locking sleeve position locking bolts', slide locking sleeve toward the body of the swivel until the locking sleeve bolt hole aligns with the holes on the shaft, and re-fasten bolts. When re-installing screws, ensure hole and thread are flushed out and clean to prevent debris from damaging threads.

6. During operation, periodically observe the drilling mud relief valve for fluid. Some drilling fluid may escape from this point. If there is a noticeable increase in drilling fluid escaping, the pressure seal may have been compromised. Stop operation, unscrew the box end from the drill line, remove the seal carrier, and inspect the high pressure seal and replace if necessary. Re-install the seal carrier, ensuring the o-ring on the back is in place.

SAFETY

This MAXI DUB-Swivel® is designed to operate only within its specified safe working limit (see *Operating Specifications*). Operation of the MAXI DUB-Swivel® at loads in excess of its **safe working limit** will void the warranty as that may cause permanent bearing damage even though separation due to failure will not occur until the specified **ultimate load** is reached.



Rotating parts can cause death or serious injury! Stay well clear. Do not wear loose clothing.



A swivel is not a universal joint! It is designed to be used under tension and in a straight line. Any use of this product that allows the swivel to fall away from the centerline of rotation will severely affect the life of the swivel.



Make sure that all components of the pulling system are able to withstand the maximum pulling loads. Components not rated for the pull force may break and release the stored energy of the pull. Never use a worn, defective or incomplete component.



Be prepared for the unexpected. Always use recognized safety practices and wear recognized safety equipment.



Replace worn or damaged clevis pins with only DCD parts. The Clevis Pin is designed specifically for this application. It is manufactured and heat treated in a manner to satisfy both design requirements and claimed capacities. Use of any other product as a replacement part will void the warranty and may result in property damage, severe bodily harm, or death to operators or persons nearby. In any instances, the DCD warranty will be voided and DCD will accept no responsibility for product failure or personal injury.



Do not modify or dismantle the MAXI DUB-Swivel®. It has been assembled, and inspected and is only covered by a warranty in its "as shipped" form. Any attempt to dismantle or modify the swivel will result in the warranty becoming void.

OPERATING INSTRUCTIONS

SERVICE



While the machine is still rotating, use a water hose to wash all dirt from the split line groove. Pour oil into the groove and rotate the swivel a couple of turns to protect the mechanical seal from drying out. Failure to do so will allow mud to dry inside the cavity above the seals, which may damage the rubber portion of the seals. Ensure the bolt holes and threads are clean before installing the rotational locking bolts.



Assess the condition of the swivel checking for wear and external damage. Check for axial and radial play in the bearings. Observe mud escaping from the drilling mud relief valve. If a pronounced increase is noticed, the pressure seal will require replacement.



Lubricate the swivel with a **lithium-based grease** containing an extreme pressure (EP) additive after every use (the swivel has been factory lubricated with **Renolit S2TX** grease). Do not mix with calcium or other based greases.

1. Remove the pipe plug covering the grease zerk in the swivel cap.
2. Remove the locking sleeve to access the seal cover.
3. Remove the 2 pipe plugs and relief valves located on the front face of the seal cover.
4. Use a hand operated grease gun with slow pumping action.
4. Check to make sure relief valve is not plugged. Grease should purge from the drilling mud relief valve.

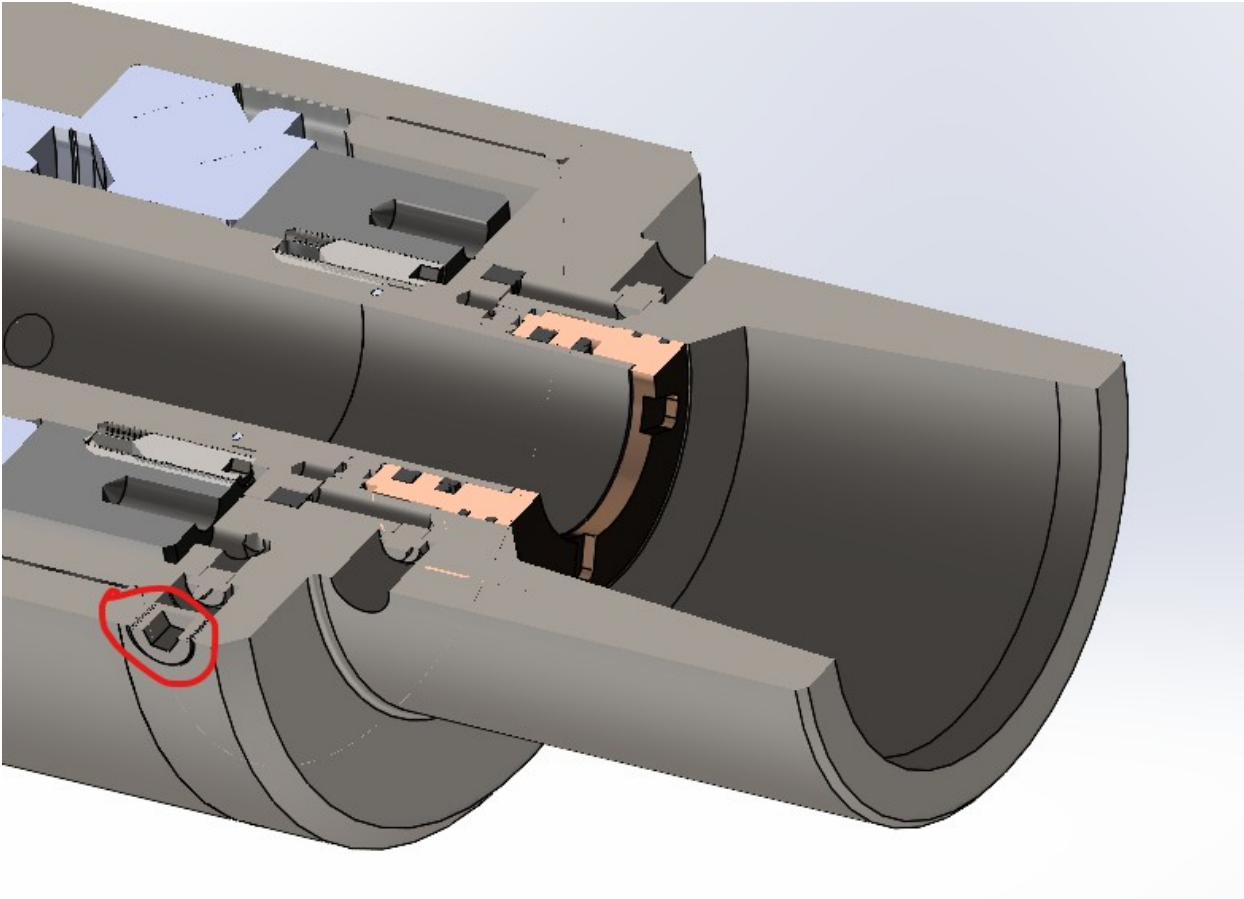


Do not remove the relief valves (except during greasing) or replace with an additional grease nipple! Lack of proper lubrication will shorten life of the bearings.

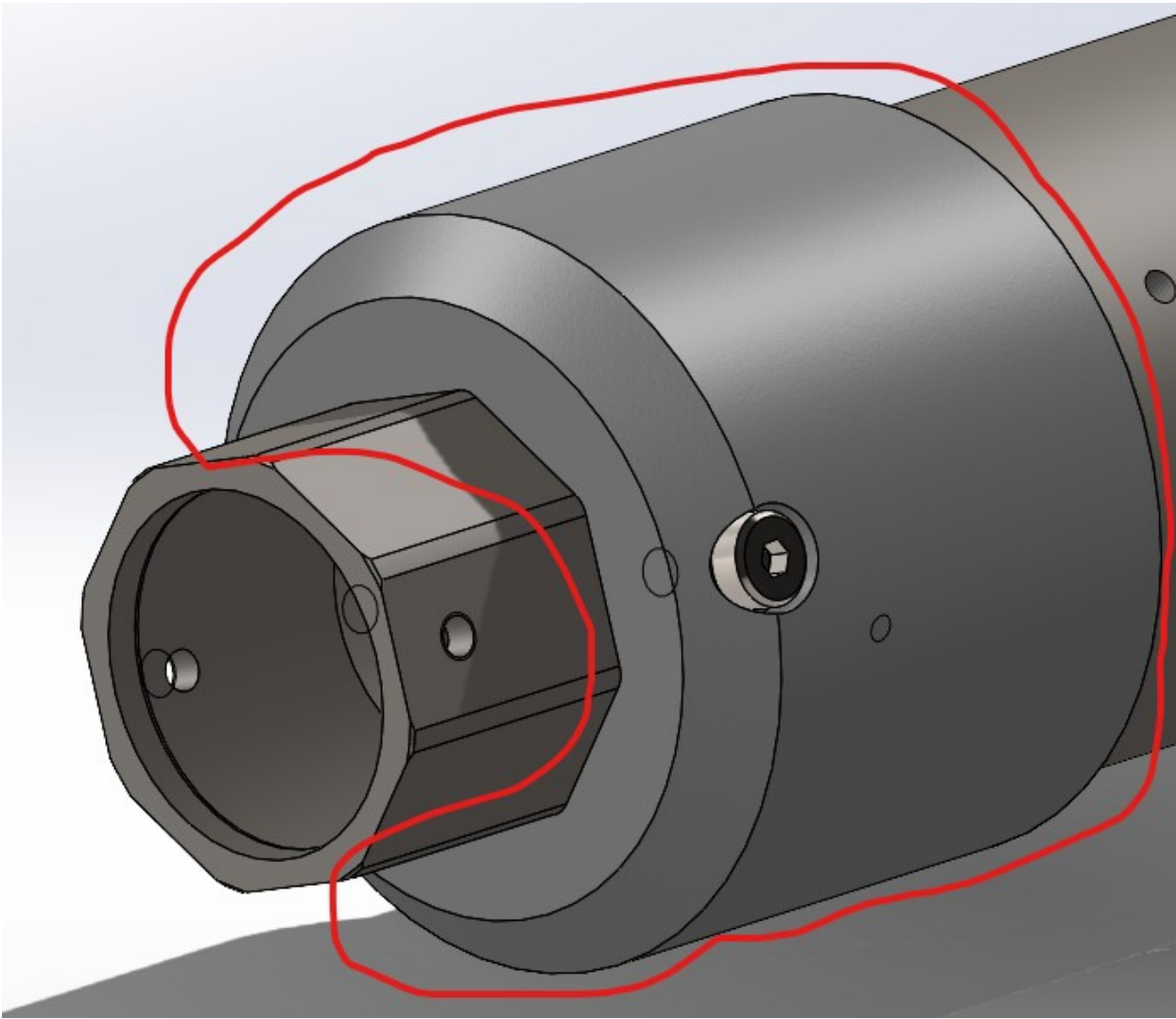
00508-1221L Greasing details

Lubricate the swivel with a lithium-based grease containing an extreme pressure (EP) additive after every use (the swivel has been factory lubricated with Renolit S2TX grease). Do not mix with calcium or other based greases.

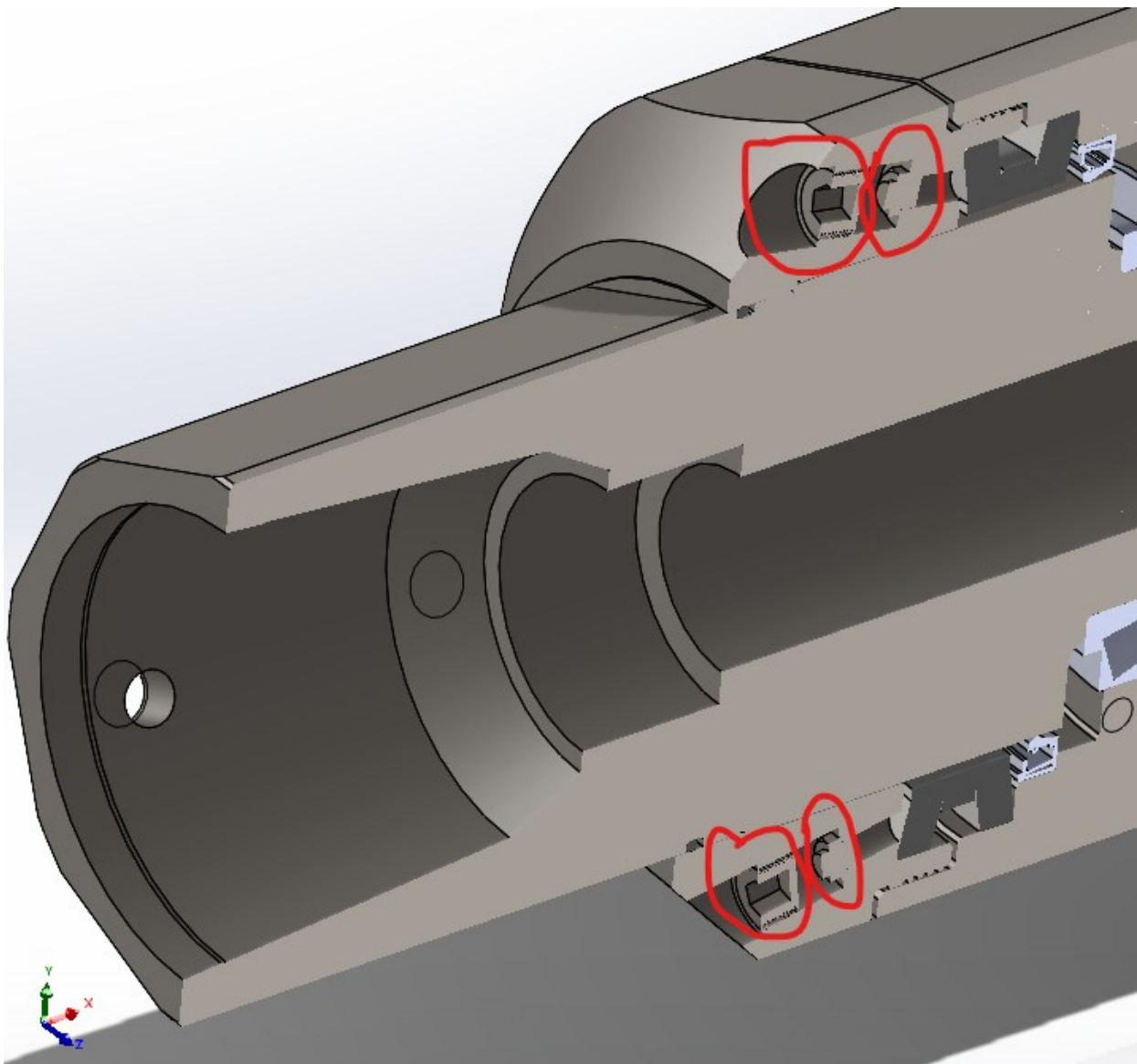
1. Remove the pipe plug covering the grease zerk in the swivel cap.



2. Remove the locking sleeve to access the seal cover.

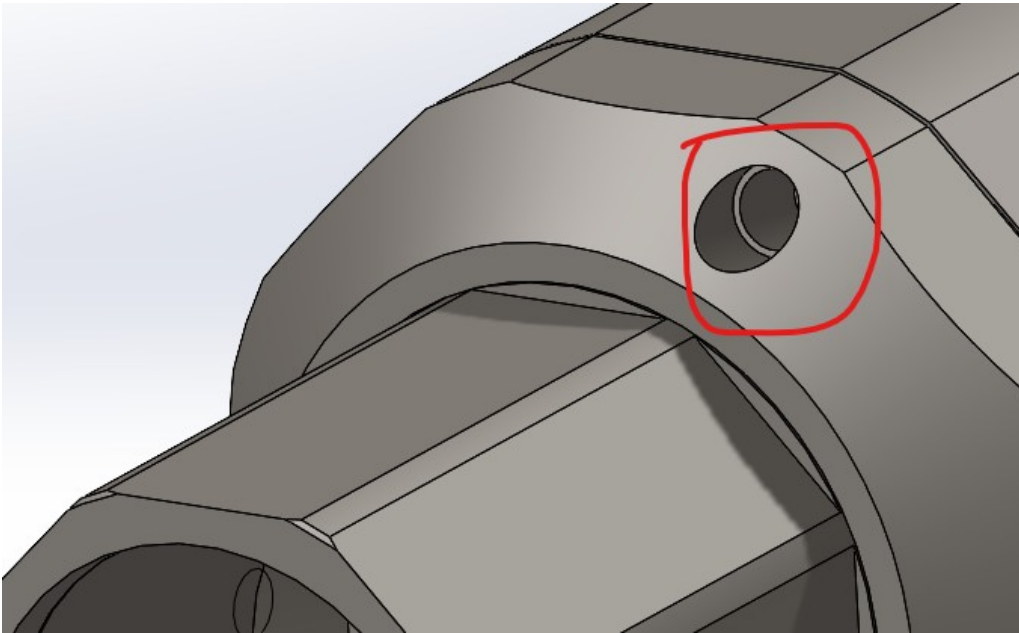


3. Remove the 2 pipe plugs and relief valves located on the front face of the seal cover.

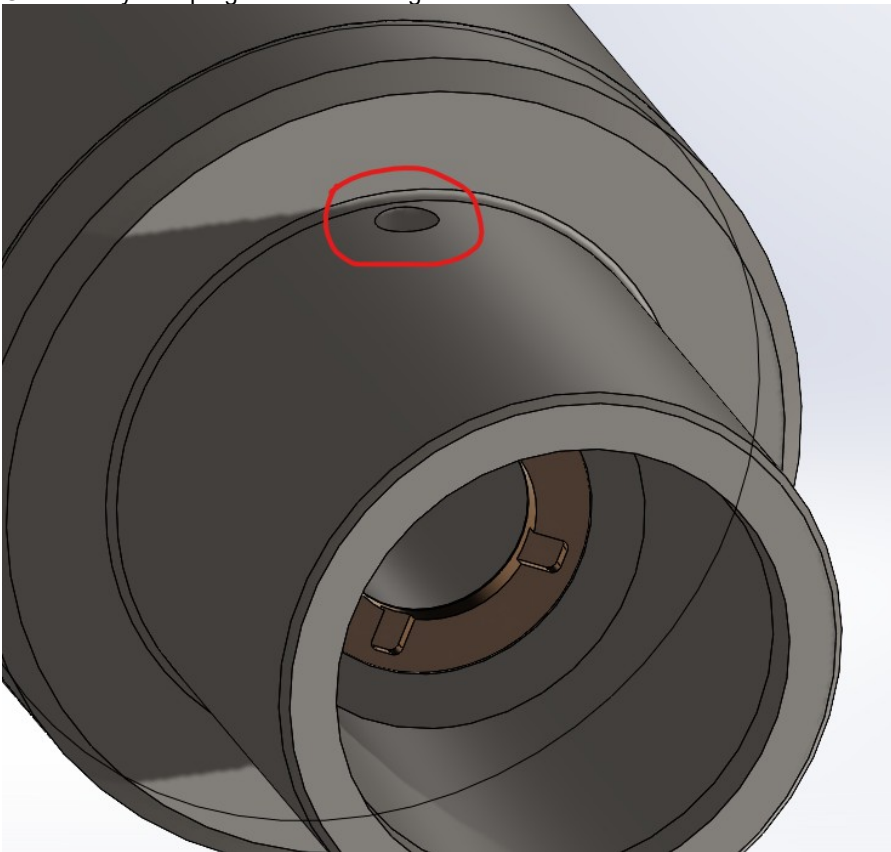


4. Use a hand operated grease gun with slow pumping action.

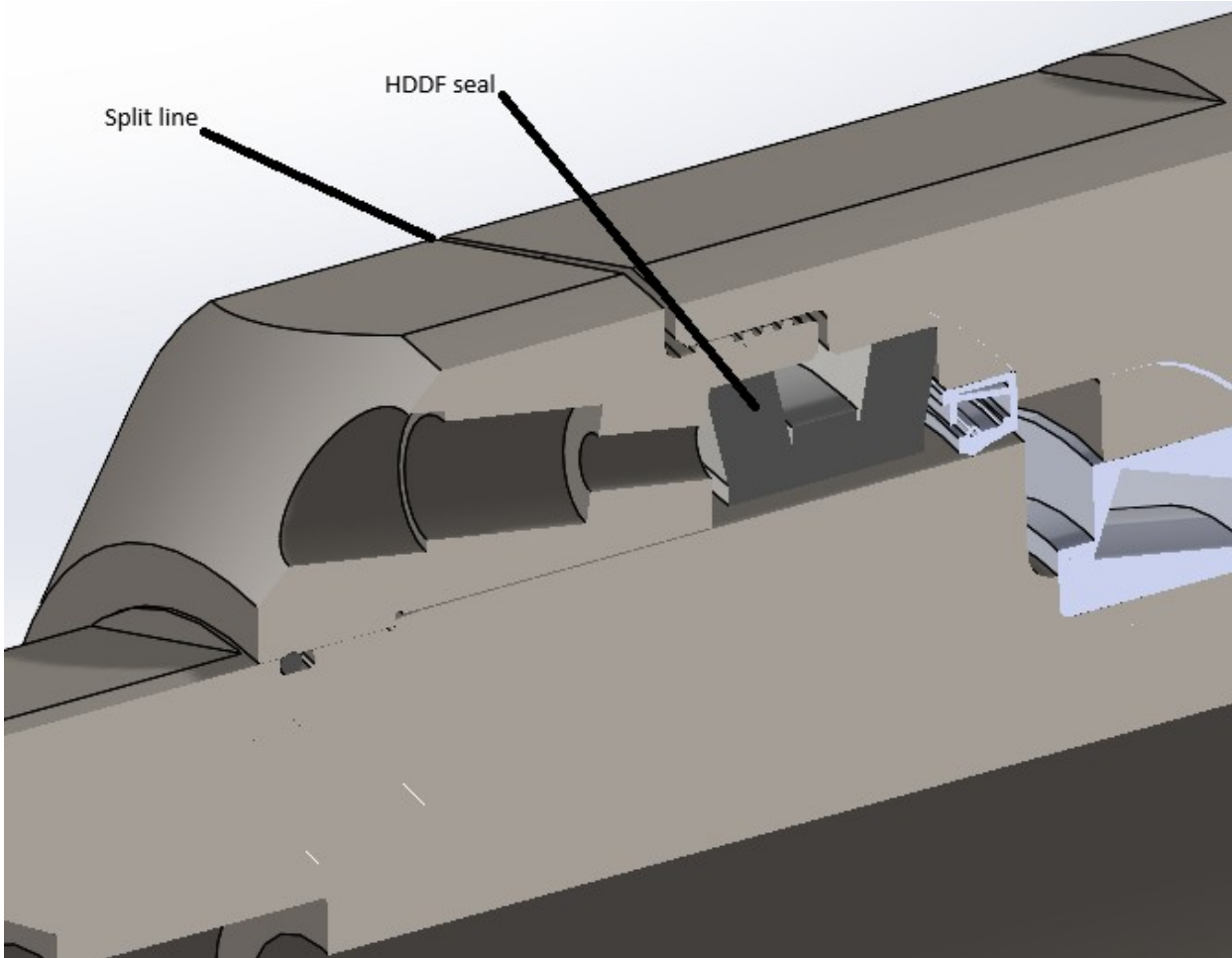
5. Check to make sure relief valve is not plugged. Grease should purge from seal cover relief valve hole;



Grease may also purge from the drilling mud relief valve:



If grease purges from split line, HDDF seal may have become unseated. DO NOT operate swivel until the seal is re-seated. Seal cover will need to be removed and seal re-seated.



6. Re-install grease relief valves, all pipe plugs and locking sleeve prior to use.



Do not apply side load or bending loads to the swivel. Doing so will shorten the life of the mechanical components and sealing components of the swivel and may result in swivel failure. Support the swivel on the rig if possible to prevent excess bending or vibration.



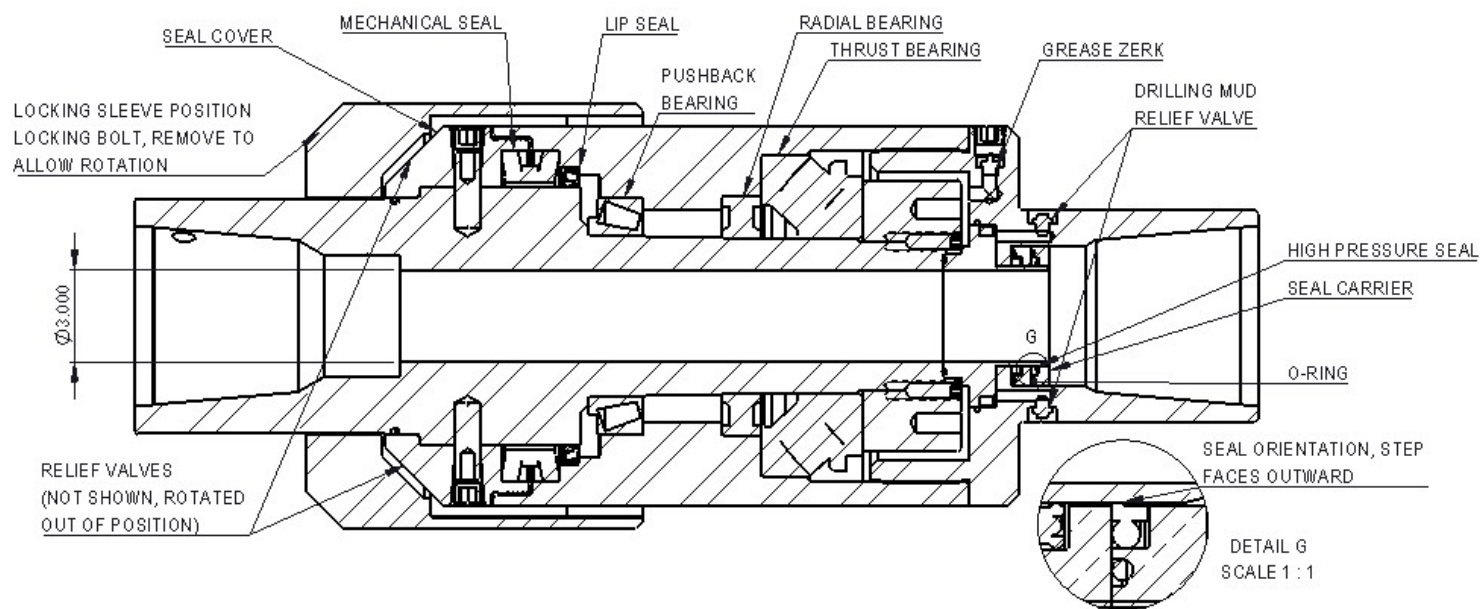
The seals on these swivels may be inspected and replaced in the field by removal of the seal cover. A replacement seal kit is available. Each kit contains a mechanical seal, lip seal, extractor tool, and a set of instructions for removing and replacing the seals. The high pressure seal may be ordered as a separate item.



Factory rebuild services are available for the MAXI DUB-Swivel®. With this service we will replace bearings, seals, and any other worn parts, as well as offer a conditional continuation on our warranty. Assembly of this product is complex and we strongly recommend use of this service. For re-build information call the factory toll free at **1-888-794-8357**.



After 6 hours of operation, or if there is drilling fluid escaping from the drilling mud relief valve at any time, the pressure seal should be inspected and serviced if required. Stop operation, unscrew the box end from the drill line, unscrew the seal carrier, and inspect the high pressure seal and o-ring for wear or damage. Replace as required, paying attention to the seal orientation required on the drawing below. Ensure neverseize is applied to the brass threads and re-install the seal carrier, ensuring the o-ring on the outer diameter of the brass is in place.



Product Registration and Warranty Activation



**Design &
Manufacturing Ltd.**

SERIES 00508 MAXI DUB-Swivel®, Locking Thru-Bore



Registration and Warranty Activation

Warranty Service – Filling out and returning this form will activate your potential warranty coverage for the product and will allow for more efficient warranty service in case there is a problem with your product.

Registering your product will allow us to contact you in the unlikely event a safety notification is required.

Product Part Number: _____

Product Serial Number: _____

Purchase Date: _____

Company Name: _____

Company Address: _____

City: _____

State/Province: _____

Zip/Postal Code: _____

Phone (Office): _____

Phone (Cell): _____

Email Address: _____

As an authorized representative of the above listed company, I _____ have read and understood the Operating instructions required for this product.

Signed: _____ Date: _____