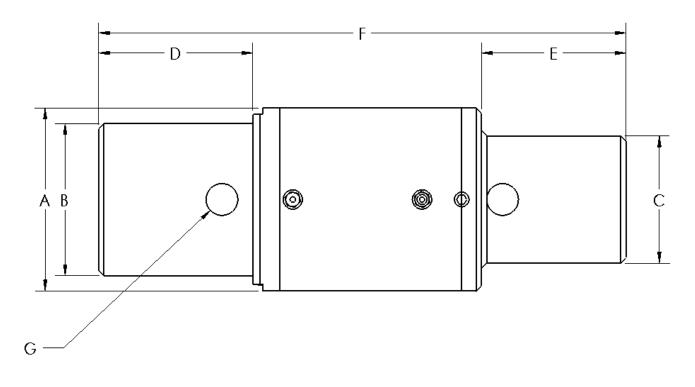
OPERATING SPECIFICATIONS DCD Design & Manufacturing Ltd.

SERIES 00508 DUB-SWIVEL® STYLE 9

- 1. The DUB Swivel[®] is specifically designed for directional drilling applications. It is intended for coupling the auger to the utility being installed. The swivel permits rotation of the auger while protecting the utility from twisting. It is intended primarly for pushing (compression) and limited pulling (tension).
- 2. The style 9 swivel has a female hex located on both ends.



Part Number	Safe Working Limit (Compression)	Ultimate Load (Compression)	Max Rotational speed	Box Thread	A	в	с	D	E	F	G	Net Weight	
0050	8-940	80,000 lb 356 kN	400,000 lb 1,779 kN	90RPM	3-1/2 Custom	6-15/32" 164 mm	5-3/8" 137 mm	4-1/2" 114 mm	5-15/32" 139 mm		18-11/16" 475 mm	1-1/8" 29 mm	96 lb 44 kg

Dimensions and weights subject to change without notice.

The Safe Working Limit is calculated using a 5:1 safety factor based on the ultimate load.

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

OPERATING INSTRUCTIONS

DCD Design & Manufacturing Ltd. SERIES 00508 DUB-SWIVEL® STYLE 9



OPERATION

1. Install the swivel onto the hex ends and install a locking pin through the -1/8" hole (locking pins not included).

SAFETY

The DUB Swivel[®] is designed to operate only within its specified safe working limit (see *Operating Specifications*). Operation of the 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 <u>used under compession and tension to the limits</u> <u>specified, and in a straight line</u>. 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 compression or 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 components with only DCD parts. The primary seal should give you years of reliable service, and is designed to be replaced in the field when required. Replace components on this swivel only with DCD original components. 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 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



After each use, 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 lubricate the seal and metal. Failure to do so will allow mud to dry inside the cavity above the seal.



Assess the condition of the swivel checking for wear and external damage. Check for axial and radial play in the bearings. During operation or during re-greasing, if drilling fluid or water is purged from the grease relief valve, the primary seal may have failed. The secondary seal will still protect the bearings, however, inspect, and if necessary, replace the primary seal as soon as possible.



Lubricate the swivel with **lithium-based grease** containing an extreme pressure (EP) additive (the swivel has been factory lubricated with **Renolit S2TX** grease). Do not mix with calcium or other based greases. Use a hand-operated grease gun with slow pumping action and check to make sure relief valve is not plugged. **Do not remove the relief valve or replace with an additional grease nipple!** Lack of proper lubrication will shorten the life of the bearings.



Factory rebuild services are available for the 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**.

