



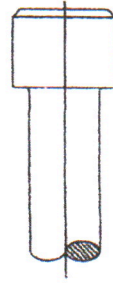
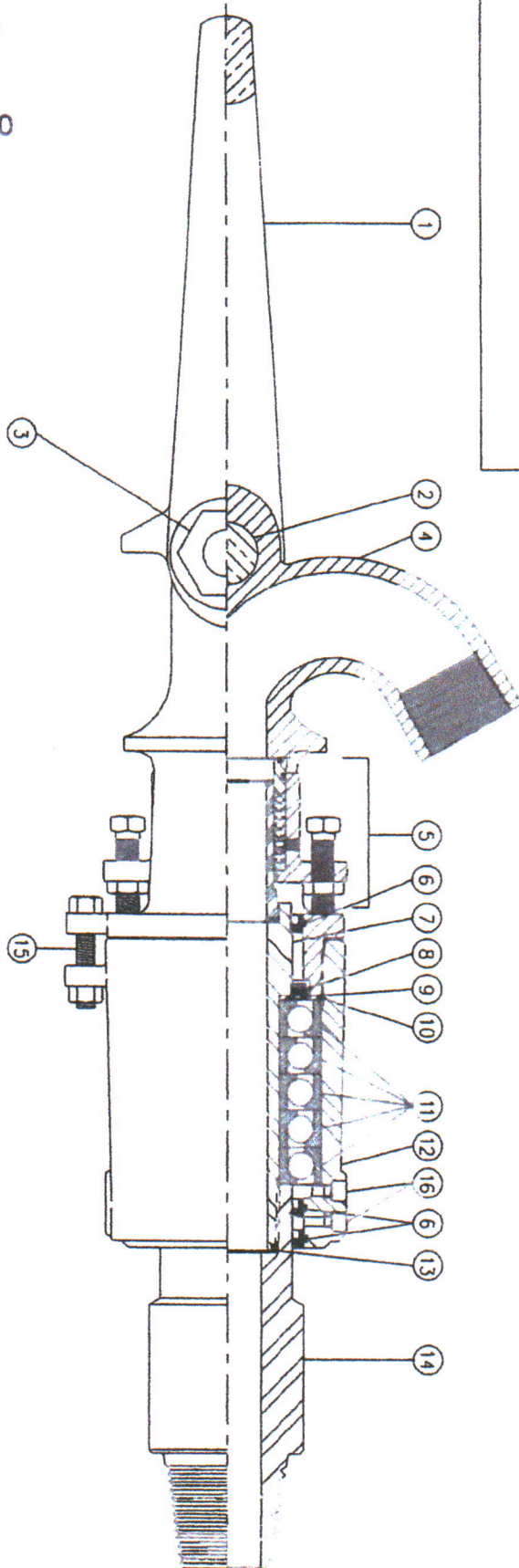
KING SWIVEL

MODEL KG

PARTS AND SERVICE MANUAL

N.D.S. Drilling Supply
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Elko, MN 55020
Phone #952-461-3400
Fax # 952-461-3403

N.D.S. Drilling Supply
 26041 Newton Circle
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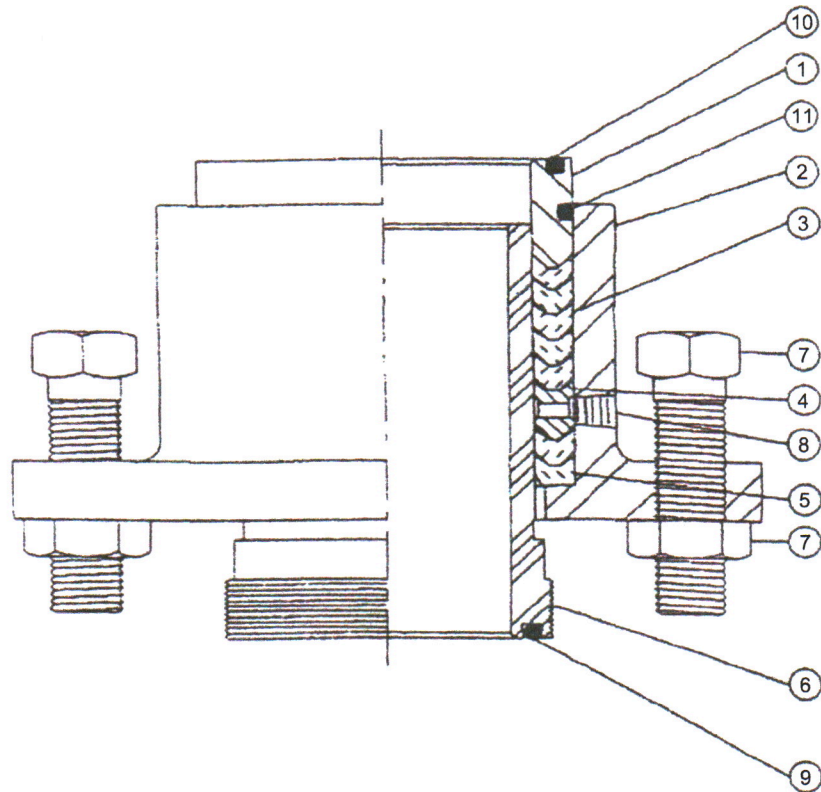


OPTIONAL
 ELEVATOR
 SHANK

UNSPECIFIED TOLERANCES			
MACHINING	A	± .005	
FABRICATION	A	± .01	
WASH. FINISH			
MACHINING DIMS. ± .005 IN			
ALL DIMENSIONS IN INCHES			
UNLESS OTHERWISE SPECIFIED			

PART: KG SWIVEL		DATE: 5/22/96
MATERIAL:		DWN: FRB
REVISIONS		APPR: LTY
A EON #233 5/22/96		SCALE: .25
B		

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- 1) N50KG19 ---- PACKING GLAND
- 2) N50KG18 ---- STUFFING BOX
- 3) N50KG20 ---- PACKING RING (6 PER SET)
- 4) N50KG21 ---- LANTERN RING
- 5) N50KG22 ---- PACKING SEAT RING
- 6) N50KG25 ---- WASHPIPE
- 7) 14C24-SHB ---ADJUSTING SCREW
- 8) 14C-JN -----ADJUSTING NUT
- 9) XAC-1610 ---- GREASE FITTING
- 10) XNC-NS-339 -- O-RING #339
- 11) XNC-NS-344 -- O-RING #344
- 12) XNC-NS-346 -- O-RING #346

REPACKING INSTRUCTIONS FOR ALL KG'S

NOTE: The packing is chevron type. This is a V-form ring packing providing a pressure lip seal. The packing is adjusted ONLY for packing wear, NEVER the first thing done when the unit starts leaking. The packing should be greased (one or two shots) every other joint of drill pipe. This is always done while the unit is rotating. (SEE BOTTOM NOTE)

A. IF THE PACKING ASSEMBLY STARTS TO LEAK

1. Find the location of leak on packing box.
 - a. If between KG-19 (Packing Gland) and KG-4 (Gooseneck) face, replace O-Ring #344.
 - b. If between KG-19 (Packing Gland) and KG-18 (Packing Box), replace O-Ring #346.
 - c. If from lower part of packing box, grease the packing box while the unit is rotating. This will usually stop the leak. (SEE BOTTOM NOTE)
2. If this fails to stop the leak, the packing will have to be adjusted or replaced. Adjust packing only enough to stop leakage.

B. REPLACE PACKING

1. Loosen and remove packing nuts and unscrew the adjusting screws until each is flush with bottom of packing box.
2. Drop the packing box down until the hex in packing box touches the hex on the washpipe. Turn the stem until the hexes interlock with one another. Slide the packing box over the washpipe and rotate to the right. After the washpipe is unscrewed, remove the complete assembly from the unit.
3. With a punch and hammer, drive the KG-25 (Washpipe) out of packing assembly. Remove the KG-19 (Packing Gland), KG-20 (Packing), KG-22 (Lantern Ring), and KG-22 (Packing Seat Ring). Inspect the washpipe for deep grooves that are cut by the packing. If grooves are present, the packing will have to be replaced.

C. ASSEMBLING PACKING BOX

1. Place the packing box on a table, hex down. Place the seat ring in first, V-cut looking up.
2. Place one piece of packing in box, then the lantern ring.
3. Install the remaining packing.
4. Put O-rings in the packing gland and place in box.
5. Turn the packing box over, and insert the washpipe until hexes become interlocked. Put O-ring #339 in bottom of washpipe.
6. Replace assembly in unit and tighten washpipe. (The reverse of steps 1 to 3)
7. When adjusting the packing box, keep the adjusting screws as even as possible. Uneven screw adjustment will cause abnormal packing wear.

NOTE: If the unit becomes hard to rotate after greasing, take a sharp object and touch grease-fitting ball to relieve pressure build-up. This should be done while unit is rotating.

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30, 40, and 50KG SWIVEL DISASSEMBLY and REPAIR INFORMATION

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1. Remove SWIVEL from rig and move into a clean working area.
2. Remove one of the two (2) bail pin nuts (Right Hand Thread).
3. Remove bail pin and bail/elevator shank.
4. Unscrew the two (2) adjusting screws and remove the adjusting screw nuts.
5. Slide packing box assembly down. packing box will slide over washpipe (may need to rotate spindle). The packing box has an internal hex while the washpipe has an external hex, these hexes form the break-out/make-up wrench for removing washpipe.
6. Unscrew washpipe and remove the packing assembly. (Left Hand Thread).
7. Remove housing set screw or housing lock bolt and nut.
8. Unscrew gooseneck from bearing housing (Left Hand Thread).
9. From bearing housing remove the bearing retainer wire.
10. Slide bearing housing down until head of spindle is exposed.
11. Hold back-up on the lower connection, unscrew the bearing spindle (Left Hand Thread).
12. Remove the bearing housing from spindle assembly. May also remove the bearings from bearing spindle.
13. Remove bearings from bearing housing and/or bearing spindle.
14. Remove spindle thread seal from lower connection and bearing shield from spindle.
15. From gooseneck remove the housing seal and shield seal.
16. From bearing housing remove the housing seal(s).
17. Separate the parts in the packing assembly.
18. Clean and inspect all removed parts for wear and damage. Replace all worn and/or damaged parts.
19. Reverse these steps to re-assemble.

KG SWIVEL MAINTENANCE

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DAILY MAINTENANCE:

1. Lubricate the BEARINGS through the upper GREASE FITTING located in the lower part of BEARING HOUSING. Swivel should be warm (after running about one (1) hour and rotating while lubricating. Lubricate until grease exits the UPPER HOUSING SEAL.
2. Lubricate the lower GREASE FITTING until grease exits the LOWER CONNECTION seal surface.
3. Remove all excess grease from exterior of swivel.
4. Lubricate the PACKING through the GREASE FITTING provided in the PACKING BOX. This should be done every hour to hour and half while the swivel is operating. ALWAYS LUBRICATE PACKING WHILE THE SWIVEL IS ROTATING.
5. Check for leakage and repair when found.
6. Check for wear and/or damage. DO NOT USE IF WORN AND/OR DAMMAGED.
7. Check all threads for tightness. BAIL PIN NUTS, KELLY CONECTION, AND HOSE CONNECTION.

MAINTENANCE AS NEEDED:

1. Replace HOUSING SEALS (Upper and Lower) about every three months.
2. Replace PACKING when all adjustment is exhausted and swivel begins to leak.
3. Replace any and all parts showing heavy wear and/or damage.

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KING SWIVEL **LUBRICATION INSTRUCTIONS**

The lubrication of King Swivels is accomplished with a Central Bearing Oil Reservoir and various alemite grease fittings for all other components requiring lubrication

Before using Swivels, the Central Bearing Reservoir should be checked and filled with recommended lubricant if necessary. New Swivels are shipped with or without lubricant, depending upon customer requirements, destination and mode of transport, and should be checked before use. The proper lubricants, intervals and capacities are given in the chart below.

RECOMMENDED LUBRICANTS		
MANUFACTURER	CENTRAL BEARING OIL RESERVOIR	ALL GREASE POINTS
GULF	MULTI-PURPOSE GEAR LUBRICANT 80	GRAPHITE GREASE No.3
HUMBLE	PEN-O-LEAD EP No.2	ESSO VAN ESTAN No.3
SHELL	SHELL SPIRAX 80	BARBATIA No.2 GREASE
MOBIL	MOBILE COMPOUND BB BELOW 60°F(16°C) DD ABOVE 60°F(16°C)	MOBILPLEX EP No.1
TEXACO	MEROPA LUBRICANT No.1	2XG GRAPHITE GREASE
ALTERNATES	OR EQUIVALENT- HYPOID LUBRICANTS ARE NOT RECOMMENDED	OR EQUIVALENT
LUBRICATION INTERVALS	CHANGE BEARING OIL EVERY 30 DAYS OF OPERATION	GREASE EVERY 4 HOURS WHILE IN USE AND WHENEVER SWIVEL IS TO BE STACKED