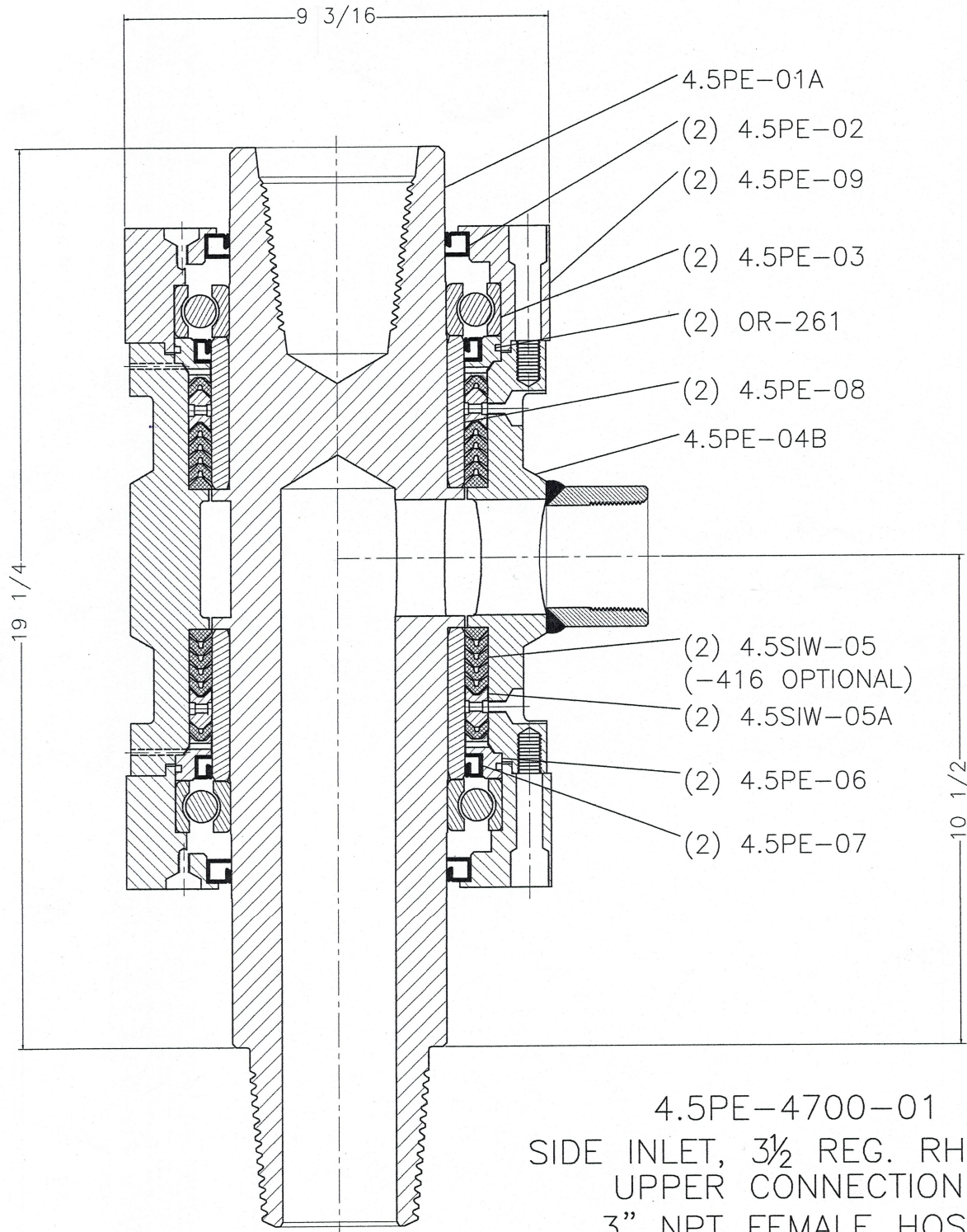


4.5PE



4.5PE-4700-01
 SIDE INLET, 3½ REG. RH BOX
 UPPER CONNECTION,
 3" NPT FEMALE HOSE
 CONNECTION,
 3½ IF RH PIN LOWER
 CONNECTION

N.D.S. Drilling Supply
 26041 Newton Circle
 Elko, MN 55020
 Phone # 800-637-1940
 Fax # 952-461-3403

BILL OF MATERIAL

Item #	Part Number	Description	# req.
1	4.5PE-01	Stem, state connection size and type	1
2	4.5PE-02	Seal, Outer Housing	2
3	4.5PE-09CS	Bolt, Bearing Housing	16
4	not used		
5	4.5PE-03	Bearings	2
6	4.5PE-09	Housing, Bearing	2
7	4.5PE-07	Seal, Inner Housing	2
8	4.5PE-06	Top Gland	2
9	4.5PE-04	Housing, Packoff	1
10	4.5SIW-05	Packing Set	2 set
11	4.5PE-08	Sleeve, Wear	2
12	4.5SIW-05A	Ring, Lantern	2
13	OR-263	O-ring, Top Gland	2

Maintenance Information
For
4.5PE Side Inlet Swivel

Daily Maintenance

1. Inspect swivel every day (start of each shift) for outward damage and/or leakage, repair prior to using.
2. Check the eight (8) screws in the upper and lower part of the swivel, to insure they are not loose.
3. Lubrication the upper and lower bearing cases until grease exits the weep hole(s). A weep hole is located between the lower zerk fitting (bearing case) and the upper zerk fitting (packing assembly) on each end of the swivel. BEARING SHOULD BE GREASED WITH THE SPINDLE ROTATING.
4. Lubricate the packing (upper and lower) every 3-4 hours.

Packing Maintenance

The 4.5PE is a fixed packing unit with no packing adjusting. When the packing begins to leak, grease the packing set that is leaking. This additional grease will normal stop the leakage. Repeat this process until greasing will no longer control leakage. At this time the packing will require changing.

Packing Replacement and Major Repair

1. Before beginning any repair on this swivel, insure that the swivel is at a safe working height and that the fluid / airflow has stopped.

TO DIS-ASSEMBLE

If servicing the upper packing / bearing area the swivel must be unscrewed for the top head drive. If servicing the lower packing / bearing area the swivel must have all saver subs and/or drill pipe unscrewed.

The ends of this swivel are alike, so we will discuss the upper end and the same will apply to the lower end.

1. Remove the six (6) Hold Down Screws, Item # 3
2. Remove the Bearing Housing, Item # 6, the Outer Seal; Item # 2 is inside this housing and the Bearing, Item # 5 may be removed when this housing is removed.
3. Remove the Bearing, Item #3 if not removed with the Bearing Housing.

4. Remove the Top Gland, Item # 8
5. Remove one of the packing rings (4.5SIW-05)
6. Remove the Lantern Ring, Item # 12
7. Remove the balance of the packing rings (4.5SIW-05), four pressure rings and one male adapter.
8. If the Housing Seal(s) are going to be changed, remove the Outer Seal, Item# 2 from the Bearing Housing, Item # 6 and the Inner Seal, Item # 7 from the Top Gland, Item # 8.
9. Clean and inspect are removed parts. Replace are worn items, ALWAYS replace the packing when unit is disassembled.
10. Inspect the Wear Sleeve, Item # 11, replace if deep grooves are present. Deep grooves are greater than a 1/16" per side.

To remove the Wear Sleeve(s), the unit must be completely disassembled (upper and lower section torn down and the stem, Item #1 must be out of the Pickoff Housing, Item# 9. The wear sleeve(s) are glued and heated on to this stem. The wear sleeve(s) is to be heated to 575-625 degrees and the wear sleeve(s) can be driven off the stem. After stem cools remove the remaining glue. Apply the primer to the stem, heat wear sleeve(s) to 500-575 degree, and apply the glue to the stem. Install wear sleeve onto stem, be sure the wear sleeve is properly seated on the stem. Allow the stem to completely cool before resuming assembly.

11. To re assemble reverse steps #10 to #1.