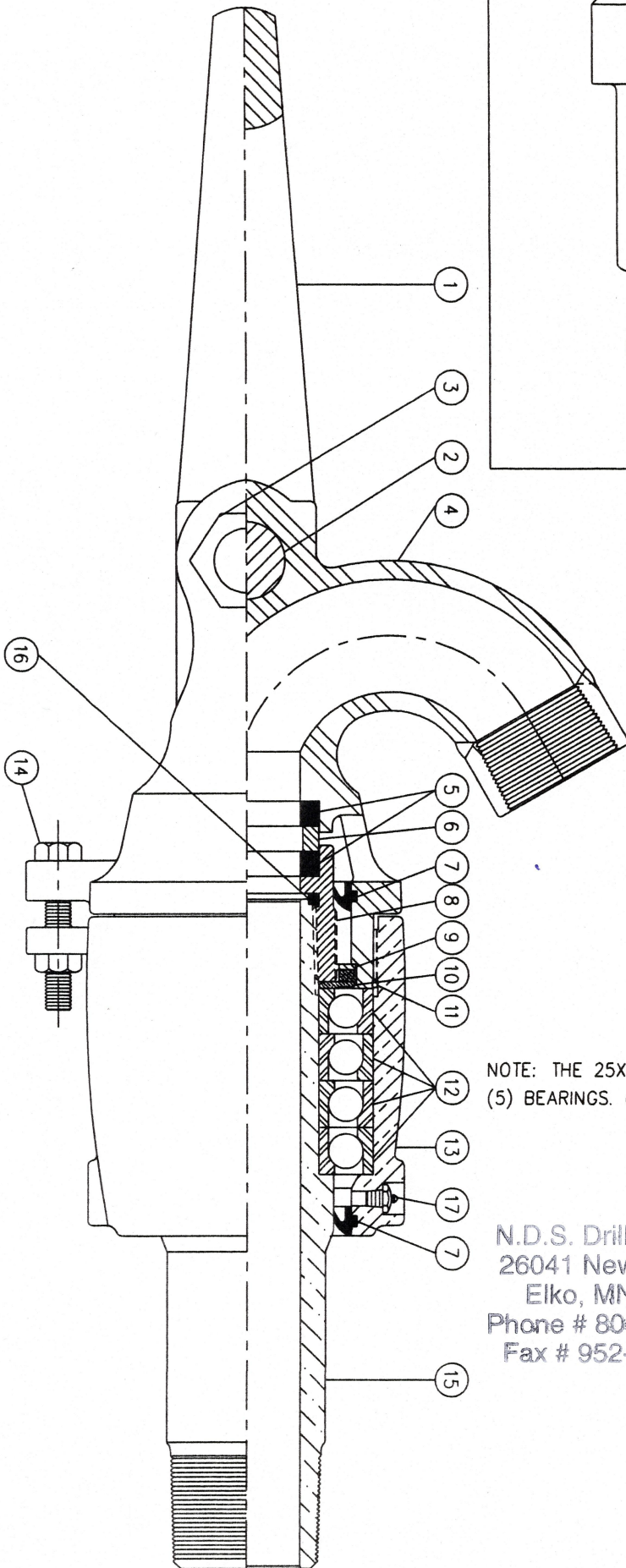


OPTIONAL
ELEVATOR
SHANK



NOTE: THE 25XV SWIVEL HAS
(5) BEARINGS. (1 UP , 4 DOWN)

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

UNSPECIFIED TOLERANCES	
MACHINING	$\pm .1$
FABRICATION	$\pm .2$
MACH. FINISH	$\sqrt{.25}$
MACHINING CONCENTRICITY	.005 TR
ALL DIMENSIONS	SEE
REMOVE ALL SHARP	EDGES

		PART: 15XV THRU 30XV SWIVEL		DATE: 8-21-84
		PART No.: N/A		DWN: SJ
MATERIAL: N/A		REVISIONS		APPR: FRB
A	ECN #256 6/18/96	C		SCALE: .406
B		D		DRWG. NO. M-982

GENERAL MAINTENANCE

XV AND PXV TYPE SWIVELS

AS NEEDED:

Replace packing when leaking occurs.

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

TO REPLACE:

1. Remove housing lock bolt/nut (item 14).
2. Unscrew gooseneck (item 4) about 4-5 threads.
Gooseneck has a LEFT HAND THREAD.
3. Through the window in the gooseneck remove the wear bushing (item 6) and the packing (item 5).
4. Replace with new packing (item 5) and wear bushing (item 6). NOTE: When the packing is replaced, it should receive some resistance when seated in the packing bore of gooseneck and/or spindle nut. If the packing fits loosely, the packing bores require repair. See step 4 of MAJOR REPAIR.
5. Reverse step 1 and 2 to complete.

DAILY:

Lubricate bearings (item 12) with a high quality grease, while spindle is rotating. (Refer to recommended lubricants chart on separate sheet)

The zerk fitting (item 17) located in the lower portion of the bearing housing (item 13) allows for complete filling of the bearing housing. Lubricate until grease by passes the upper housing seal (item 7). This is normal and insures the bearings are completely lubricated.

THREE MONTH:

The upper and lower housing seals (item 7) should be replaced every three (3) months. Always replace these housing seals as sets. The housing seals are high wear items serving to retain lubrication in the bearing housing (lower housing seal) and to retard leaking drilling fluids (should packing leak) from entering bearing housing (upper housing seal).

NOTE The #1 cause of bearing failure in a swivel is no lubrication followed closely by drilling mud entering bearing housing, contaminating the bearing lubrication.

TO REPLACE;

1. Follow step 1 thru 5 in MAJOR REPAIR.
2. Reverse to complete.
3. Lubricate bearing housing as described in DAILY of GENERAL MAINTENANCE.

MAJOR REPAIR

XV AND PXV TYPE SWIVELS

As with any piece of equipment, repair is inevitable. The following will describe the steps required to disassemble, check and repair a XV or PXV type swivel.

1. Remove swivel from rig. (May not be necessary).
2. Remove housing lock bolt and nut (item 14).
3. Unscrew and remove the gooseneck (item 4) from the bearing housing (item 13). Gooseneck has a LEFT HAND THREAD.
4. Remove the upper housing seal (item 7), shield seal (item 9) and packing (item 5) from the gooseneck. Inspect for visual damage and wear. A chart showing the dimensions of depth and OD of packing bores is provided. If measure of these areas are off a little as $1/64^{\text{th}}$ (.0156) packing life will be reduced. When measurement of these areas are off $3/64^{\text{th}}$ to $1/16^{\text{th}}$ the part must be repaired or replaced.
5. Remove the bearing retainer wire (item 11) from the bearing housing (item 13) and remove the bearing housing. The bearing housing slides off the bearings (item 12) by being forced toward the lower connection threads on the spindle (item 15).
6. Secure the spindle (item 15) holding back up in the tong area provided between the lower connection threads and the lower seal surface. With a pipe wrench, unscrew the spindle nut (item 8) from the spindle. Spindle nut has a LEFT HAND THREAD. Remove the spindle thread seal (item 16) and the packing (item 5) from the spindle nut. Inspect and repair or replace.
7. Remove the bearing shield (item 10) and the (4) bearings (items 12) from the spindle.
8. The unit is now disassembled. Clean all parts, repair or replace all parts showing damage or wear.
9. Reverse steps 1 thru 7 for reassembly.
10. When bearings are replaced on the spindle, pay special attention the bearing stack. The pulldown or upthrust bearing(s) are always closet to the lower connection thread, while the hoisting or downthrust bearings are always next to the spindle nut.

XV type swivels: (refer to assembly drawing)

Standard stack is one (1) upthrust with three (3) downthrust bearings.

PXV type swivels: (refer to assembly drawing)

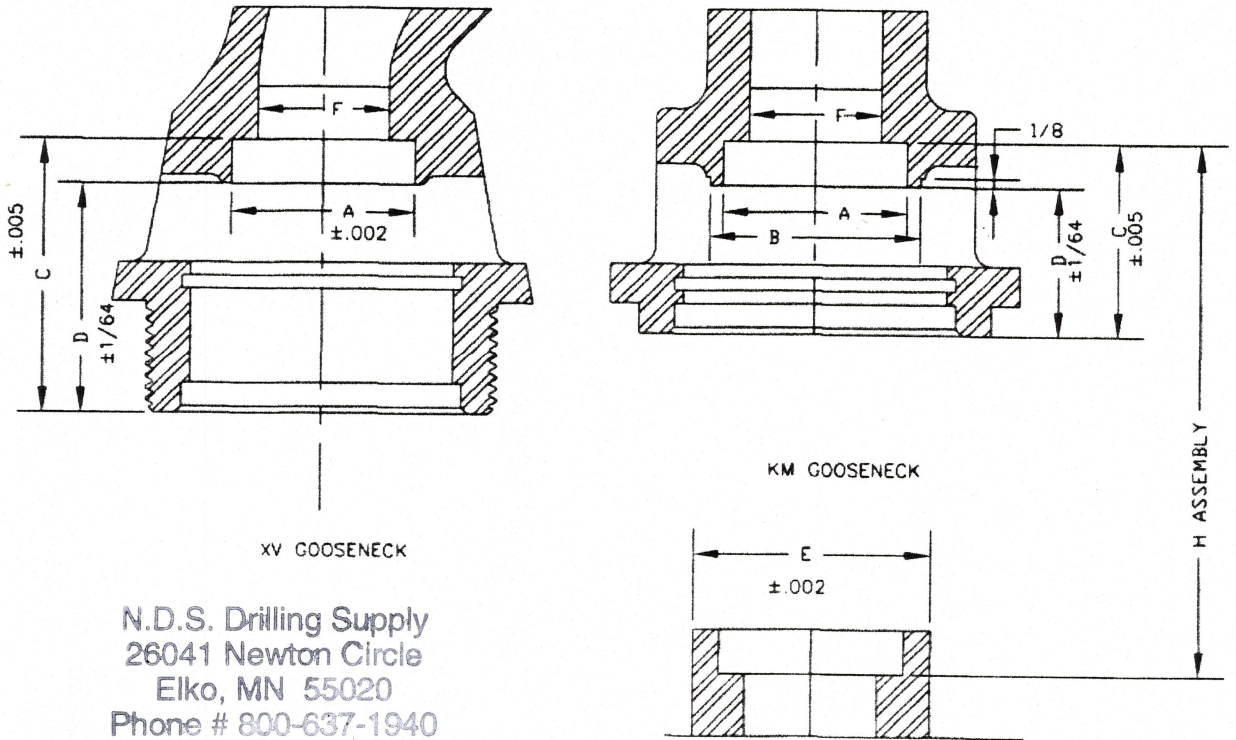
Standard stack is two (2) upthrust with two (2) downthrust bearings.

11. After completion of reassembly lubricate bearing housing per procedure described in DAILY OF GENERAL MAINTENANCE.

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

XV & KM GOOSENECK REWORK

SWIVEL MODEL	A	B	C	D	E	F	G	H
1J	1.630							
2J								.969
5EL	2.567		2.469	1.968	2.875	1 15/16		1.171
10XV	2.248		3.625	3.062		1 1/2		1.519
15XV	2.825		4.156	3.50		2		1.528
20XV	3.390		4.375	3 21/32		2 1/2		1.748
30XV	3.965		4.812	4		3		2.219
2KM	2.062	2 3/8	2.562	2.281	2.625	1 1/4		1.312
10KM	2.250	2 11/16	2.608	2.281	3.438	1 1/2		1.405
15KM	2.815	3 3/16	2.734	2.281	3.438	2		1.641
3BL								1.782



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

KING OIL TOOLS, INC.

XV REWORK