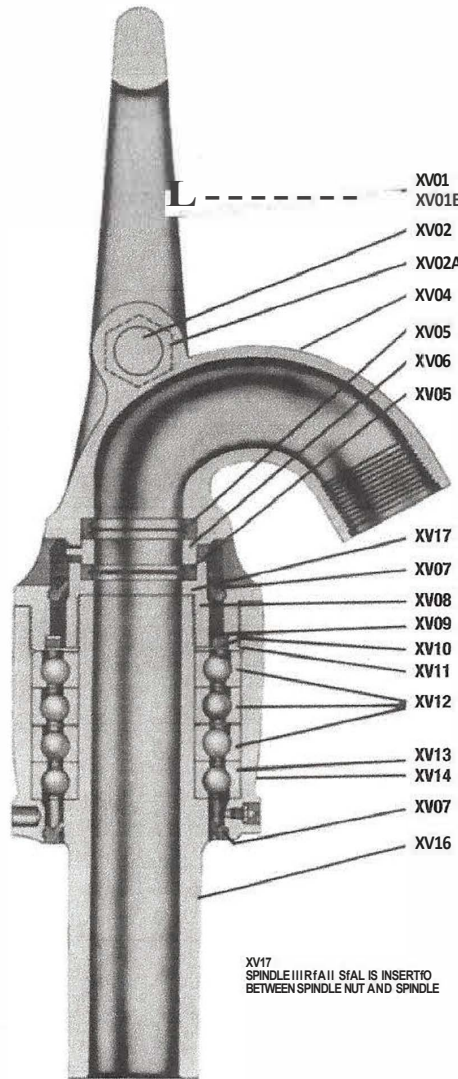


NDS Home Page

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Swivel

10XV, 15XV, 20XV, 25XV, 30XV



Light swivels for circulating large volumes of fluid, for drilling water wells, geophysical drilling and core drilling

These (5) five sizes of *XV* Swivels were designed to fulfill a need for small, light-duty swivels that would facilitate the circulation of more drilling fluid than conventional models. They are short, compact and require little space.

These swivels, except the 10XV can be equipped with elevator shanks. The bearings are angular-contact type ball bearings. Weight of the drill pipe (downthrust) is carried on a triplex unit.

The (3) three bearings in this unit are flush ground on the faces and matched so that each bearing will support its share of the load.

Reverse loads (upthrust) are absorbed by a single bearing that is mounted opposed to the triplex unit.

The type of bearings and the manner in which they are mounted provide ample radial capacity and stabilize the swivels.

The packing unit consists of two molded, composition rubber rings. An extremely hard wear ring (wear bushing) is placed between the two rubber rings. These rubber rings and the wear bushing replace the washpipes and stuffing boxes that are used in conventional swivels.

These swivels can be repacked, within a few minutes, without "breaking out" any connections. Adjustment of the packing is not required and no means of adjustment is provided.

The 10 *XV* Swivel is applicable to small water well, geophysical and core drilling rigs. This swivel has a stiff bail.

The 15 *XV* Swivel is suited to medium size water well, geophysical and core drilling rigs.

The 20 *XV* Swivel operates efficiently on medium and large water wells, large core drilling and geophysical drilling rigs.

The 30 *XV* Swivel is ideal for large water well rigs and is extremely useful when reaming down for pit and underreaming, prior to graveling operations. Centrifugal pumps are frequently used for circulating through this swivel.

This swivel is not recommended for high-speed rotation because the large diameter packing may fail due to generation of frictional heat.

Instructions for Lubricating

There is a grease fitting set in a recess, near the bottom of the bearing housing. This fitting is to lubricate the bearings.

Use only a good grade of neutral mineral grease that is free of all substances such as graphite or mica. Either soda soap base or lime soap base greases are satisfactory.

Lubricate every 2-3 hours of operation. If too much grease is used, the excess will squeeze out past the upper housing seal.

A slight amount of grease may be thrown from the swivel when new and after each time it is lubricated. This is of no consequence.

Features in Brief

- Oversize watercourses permit circulation of more drilling fluids.
- Molded rubber composition packaging eliminates the usual stuffing boxes.
- Hardened wear bushings eliminate conventional washpipes.
- Packaging and wear bushings are quickly renewable.
- Multiple ball bearing units provide ample thrust and radial capacities.
- Sealed housings protect the bearings and retain lubricant
- Grease lubrication of the bearings is accomplished through a readily accessible fitting.
- Choice of conventional bail or elevator shank.

To Repack Swivel

1. Remove housing lock bolt, XV15.
2. Unscrew bearing housing, XV14, (5) five turns off gooseneck, XV4. This is a left hand thread. Do not back off more than (5) five threads.
3. Remove two packings, XV5, and wear bushing, XV6.
4. Insert new parts.
5. Screw housing back light, then replace lock bolt. This completes repacking.

Note: Trunniorpins can be added to use on pulldownrigs.

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KING OIL TOOLS

Parts List for Type 10XV Swivel

Part Number	Name of Part	Number Required	WT/lbs. Each	Spares for One Year Service
N10XV04	Gooseneck	1	17	...
N10XV05	Packing	2	1/8 (2)	8
N10XV06	Wear Bearing	1	1/4	2
N10XV07	Housing Seal	2	1/4 (2)	2
N10XV08	Spindle Nut	1	2	...
N10XV09	Shield Seal	1	1/8	...
N10XV10	Bearing Shield	1	1/4	...
N10XV11	Bearing Retainer Wire	1	1/16	...
N10XV12	Bearing**	1 set (4)	4 1/8	1 set
N10XV14	Bearing Housing	1	9 1/2	...
N10XV15	Housing Lock Bolt	1	1/8	...
N10XV16	Spindle	1	7	...
N10XV17	Spindle Thread Seal	1	...	2

Parts List for Type 15XV Swivel

Part Number	Name of Part	Number Required	WT/lbs. Each	Spares for One Year Service
N15XV01	Bail	1	16	...
N15XV01E	Elevator Shank*	1	32	...
N15XV02	Bail Gudgeon Pin	1	3	...
N15XV03	Bail Pin Nuts	2	1 (2)	...
N15XV04	Gooseneck	1	28	...
N15XV05	Packing	2	1/4 (2)	8
N15XV06	Wear Bushing	1	1/2	2
N15XV07	Housing Seal	2	3/8 (2)	2
N15XV08	Spindle Nut	1	3 1/2	...
N15XV09	Shield Seal	1	1/4	1
N15XV10	Bearing Shield	1	3/8	...
N15XV11	Bearing Retainer Wire	1	1/8	...
N15XV12	Bearing**	1 set (4)	7 1/2 (3)	1 set
N15XV14A	Bearing Housing	1	16	...
N15XV15	Housing Lock Bolt	1	1/4	...
N15XV16	Spindle	1	15	...
N15XV17	Spindle Thread Seal	1	...	2

Parts List for Type 20XV Swivel

Part Number	Name of Part	Number Required	WT/lbs. Each	Spares for One Year Service
N20XV01	Bail	1	21	...
N20XV01E	Elevator Shank*	1	38	...
N20XV02	Bail Gudgeon Pin	1	4	...
N20XV11A	Bail Pin Nuts	2	1 (2)	...
N20XV04	Gooseneck	1	43	...
N20XV05	Packing	2	1/4 (2)	8
N20XV06	Wear Bushing	1	1	2
N20XV07	Housing Seal	2	1/2 (2)	2
N20XV08	Spindle Nut	1	4 1/2	...
N20XV09	Shield Seal	1	3/8	1
N20XV10	Bearing Shield	1	1/2	...
N20XV11	Bearing Retainer Wire	1	1/8	...
N20XV12	Bearing**	1 set (4)	9 3/4 (3)	1 set
N20XV14	Bearing Housing	1	28	...
N20XV15	Housing Lock Bolt	1	1/4	...
N20XV16	Spindle	1	28	...
N20XV17	Spindle Thread Seal	1	...	2

Type XV Swivels Weight and Dimensional Data

Type Swivel	Weight lbs.*	Length Overall	Working Length	Lower Conn., Drill Pipe Thread, LH	Hose Connection	Diameter Watercourse	Bail Opening
10XV	40	21"	17"	2 3/8" O.D., 8-V	1 1/2" NPT	1 1/2"	2 1/8" x 2 3/8"
15XV	95	32"	27"	2 7/8" O.D., 8-V	2" NPT	2"	3 3/4" x 8"
20XV	155	34"	29"	3 1/2" O.D., 8-V	2 1/2" NPT	2 1/2"	4 1/4" x 8"
30XV	205	39"	33"	4 1/2" O.D., 8-V	3" NPT	3"	5" x 8" or 6" x 14"

*Swivels, boxed for export, weigh approximately: 10XV, 70 lbs.; 15XV, 140 lbs.; 20XV, 200 lbs. 30XV, 260 lbs.

Capacity and Safety Data

Type Swivel	Capacity, lbs. at 100 R.P.M.	Static Load Limit, lbs.	Safe Depth (Feet) With Drill Pipe			
			2 3/8" 6.65 lbs.	2 7/8" 10.4 lbs.	3 1/2" 31.3 lbs.	4 1/2" 16.6 lbs.
10XV	15,000	30,000	1,500
15XV	27,000	50,000	2,700	1,800
20XV	36,000	70,000	3,600	2,400	1,800	...
30XV	50,000	90,000	5,000	3,300	2,600	2,100

Parts List for Type 25XV Swivel (For Parts Only)

Part Number	Name of Part	Number Required	WT/lbs. Each	Spares for One Year Service
N20XV01	Bail	1	21	...
N20XV01E	Elevator Shank*	1	38	...
N20XV02	Bail Gudgeon Pin	1	4	...
N20XV03	Bail Pin Nuts	2	1 (2)	...
N20XV04	Gooseneck	1	43	...
N20XV05	Packing	2	1/4 (2)	8
N20XV06	Wear Bushing	1	1	2
N20XV07	Housing Seal	2	1/2 (2)	2
N20XV08	Spindle Nut	1	4 1/2	...
N20XV09	Shield Seal	1	1/2	...
N20XV10	Bearing Shield	1	1/2	...
N20XV11	Bearing Retainer Wire	1	1/8	...
N20XV12	Bearing**	1 set (5)	16	1 set
N25XV14	Bearing Housing	1	33	...
	Housing Lock Bolt	1	1	...
N25XV16	Spindle	1	32	...
N20XV17	Spindle Thread Seal	1	1/8	2

Parts List for Type 30XV Swivel

Part Number	Name of Part	Number Required	WT/lbs. Each	Spares for One Year Service
N30XV01	Bail	1	26	...
N30XV01E	Elevator Shank*	1	71	...
N30XV02	Bail Gudgeon Pin	1	6 1/2	...
N30XV02A	Bail Pin Nuts	2	1 (2)	...
N30XV04	Gooseneck	1	56	...
N30XV05	Packing	2	1/4 (2)	8
N30XV06	Wear Bushing	1	2	2
N30XV07	Housing Seal	2	1/2 (2)	2
N30XV08	Spindle Nut	1	6	...
N30XV09	Shield Seal	1	1/2	...
N30XV10	Bearing Shield	1	3/4	...
N30XV11	Bearing Retainer Wire	1	1/8	...
N30XV12	Bearing**	1 set (4)	24	1 set
N30XV14	Bearing Housing	1	42	...
N30XV15	Housing Lock Bolt	1	1/4	...
N30XV16	Spindle	1	37	...
N50KG17	Spindle Thread Seal	1	...	2

* When ordering elevator shank, state size of elevator.

**Downthrust Bearings, when being renewed, should be replaced with full matched sets. Never renew one or two bearings in an old set.