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TOPDRIVE SOLUTIONS
Mud Pump Expendables
Top Drive Expendables
Shaker Screens
Mud Valves
RCDs
Premium designed the **Sur-Drive™ Epicyclic Swivel System** to address multiple problems that drillers have had with their top drive washpipe cartridge assemblies. These seal systems are one of the most common causes of downtime for a drilling rig. Premium’s unique epicyclic design, takes a new approach to these problems by slowing down the internal speeds within the cartridge, for any given top drive rotational speed. At the slower rotational speeds, seal life and other problems are significantly reduced.

**RPM on Packing Seals Reduced**
A planetary gear is integrated into the lower housing. The carrier holds the washpipe and by design rotates 40% slower. This allows the rotational speed to be split 60/40 between lower and upper housings. This raises the Pressure-Velocity values for your existing seals which increases seal life.

**Self-Aligning**
The Sur-Drive Cartridge Assembly system has a unique feature for self-centering during installation which compensates for lateral misalignment between the gooseneck and main shaft pilots.

**Hammerless Installation**
The Sur-Drive cartridge assembly can be inserted horizontally and secured into place with two hub clamps by permanently installing our adapter hubs.

**Sealed Gear Box**
All gear box components are submerged in gear oil which provides constant lubrication and eliminates the need for costly, space consuming roller bearings. Rotary shaft seals are used to keep the oil in, and the dirt out.

**Packing Seals are Pre-Compressed**
The Sur-Drive Cartridge Assembly allows for the seals to be compressed on the ground prior to installation by way of eight low torque screws. No special tools are needed to compress these seals.

**Competitively Priced**
Our true through-bore versions do very well versus ceramic seal based washpipe assemblies costing tens of thousands of dollars more.

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### Premium Oilfield Technologies

Manufactures a conventional Cartridge Assembly with washpipe and packing options for 5,000 and 7,500psi applications. All of our parts are compatible with the OEM equivalents on a part to part and unit to unit basis.

- Washpipes are chrome plated and ground to insure proper sealing and reduced friction
- Washpipe Packing is available in 5000psi standard temp or 7500psi high temperature options.
- Washpipe packing is molded using rubber impregnated fabric to increase durability and longevity.

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### Item # | Part Description | TDS/Tesco/National ** | Canrig
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1B | 5K Washpipe Assembly | 401-0025 | 401-0031
1C | 7.5K Washpipe Assembly | 401-0027 | 401-0033
2A | 5K Washpipe Packing * | 401-0040
2B | 7.5K HT Washpipe Packing * | 401-0041
3 | Holding Nut | 401-0010
4 | Spacer Holding Ring | 401-0011
5 | Packing Housing Assembly | 401-0013
6 | Lower Packing Spacer | 401-0016
7 | Middle Packing Spacer | 401-0017
8 | Upper Packing Spacer Assembly | 401-0019
9 | Washpipe Packing O-Ring | 3N7-2348

* Includes item #9
** Fits all models of Varco TDS series as well as Lewco DTD500-National PS350/500-Bowen TD350PBE- Tesco EMI 400

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**Sur-Drive™ Epicyclic Swivel Cartridge**
Available in 3” and 4” ID Sizes

**Patent Pending**