

# Top Drive Solutions



Premium Oilfield Technologies has been supplying high quality products, worldwide, to the oil and gas industry since 2003. Our extensive line of trusted well service products are interchangeable and performance enhancing for longer life.



NO  
TIME  
FOR  
DOWNTIME

## ACCESSIBILITY

Premium has worldwide locations and operations in all of the U.S. major shale plays. Our geographic positioning allows us to directly and quickly supply our products to customers.

## CONVENIENCE

We take convenience to the next level with our managed rig site inventory and consignment service. Technical sales representatives visit customers on a regular basis, ensuring that needs are being met and equipment is running smoothly.

## INNOVATION

Our team of experienced engineers are constantly looking for ways to improve existing products. We have developed a full line of performance enhancing technologies to save time and money.





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## Global Drilling Machine™ The Next Generation of Top Drive Performance

Premium Oilfield Technology is proud to offer our Global Drilling Machine [GDM] innovative top drive systems paired with responsive service, parts sourcing and field support. These next generation, performance-focused top drives are available in 150 ton through 1000 ton.

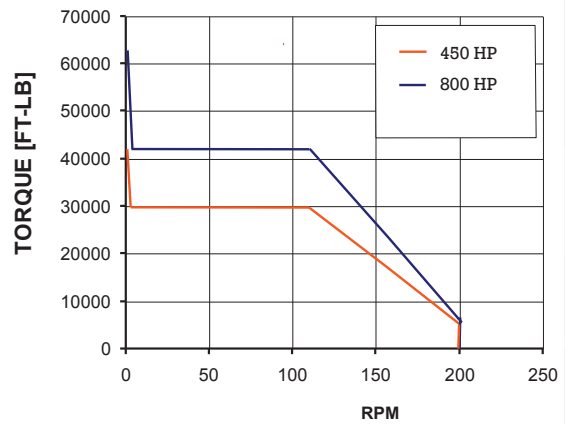
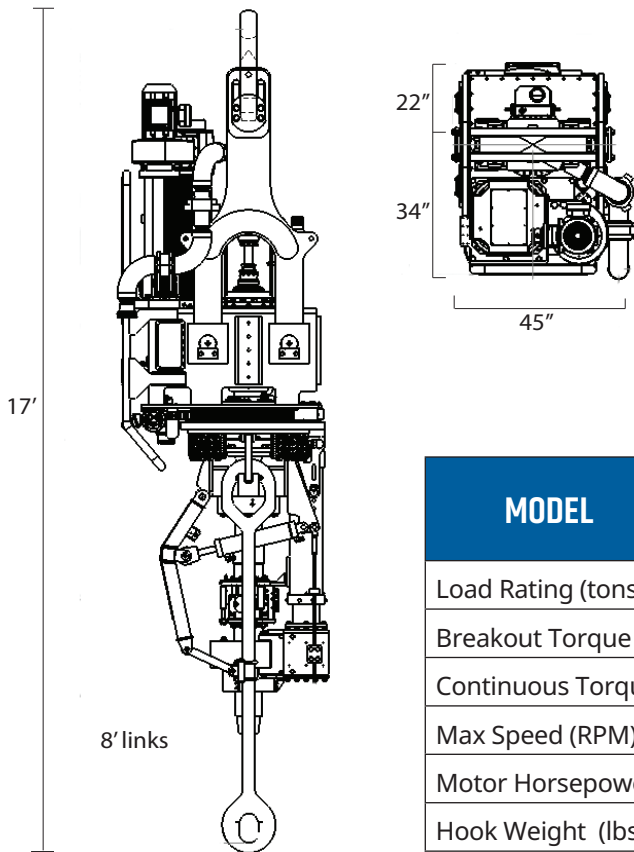
Each GDM is manufactured in the U.S. under API 8C License No. 8C-0161, using the highest quality components. We have the specialized technical expertise to provide a superior brand of repair and maintenance on the most utilized top drives today; NOV/Varco, Tesco, Canrig and more. In addition to our GDM line, Premium is the premier source for used and refurbished top drive systems. We provide fast-turn repairs, expedited parts ordering, and 24/7 service.

# GDM 275/375

The GDM 275/375 top drive system is an ideal combination of small dimensions and high performance. We can customize to meet any drilling needs, and offer two A/C motor combinations for best value. The gearbox features strong, helical gears that operate with more torque, longer life and quieter operation.

## FEATURES INCLUDE:

- ◆ Perfect balance between compact design and powerful torque
- ◆ Dominating the small top drive class
- ◆ Simple to maintain and efficient to operate



MODEL	GDM275	GDM375
Load Rating (tons)	275	375
Breakout Torque	42,500	60,000
Continuous Torque	30,000	42,000
Max Speed (RPM)	200	200
Motor Horsepower	450 HP	800 HP
Hook Weight (lbs)	20,000	25,000
Mud Path	5,000 psi (OPTIONAL 7,500 psi)	
	STANDARD 3" (OPTIONAL 4")	

# GDM 500/650



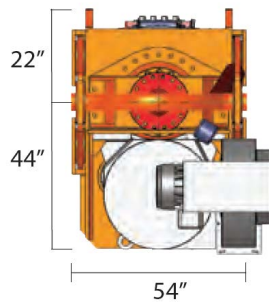
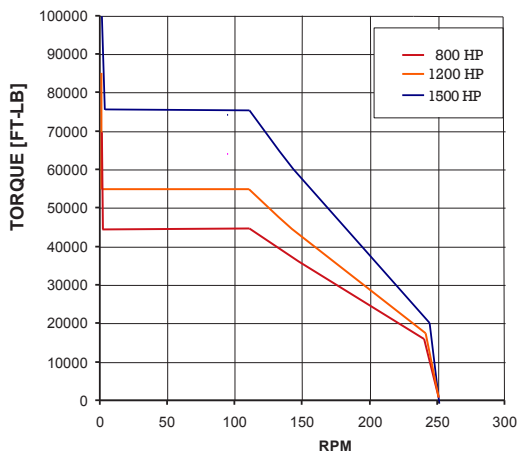
## GDM 500/650

The GDM 500/650 is our most advanced top drive system. It features a powerful, upgraded gearbox design that can handle any drilling demands.

The GDM 500/650 creates the most torque in its class. It comes standard with built-in predictive, preventative maintenance software to get the most out of your investment.

### FEATURES INCLUDE:

- ◆ Different power options; A/C and D/C drilling motors
- ◆ 7 5/8" main shaft that can be re-threaded up to three times
- ◆ Designed for rugged use in extreme climates



Model	800 HP	1200 HP	1500 HP
Load Rating (tons)	500 TON	650 TON	650 TON
Breakout Torque	70,000	85,000	100,000
Continuous Torque	45,500	55,000	76,000
Max Speed (RPM)	250	250	250
Motor Horsepower	800 HP	1,200 HP	1,500 HP
Hook Weight (lbs)	33,000	38,000	38,000
Mud Path	5000 Psi (OPTIONAL 7500 Psi)		
	STANDARD 3" (OPTIONAL 4")		

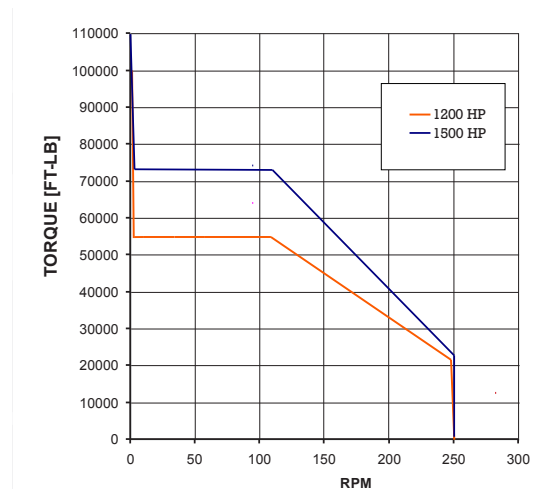
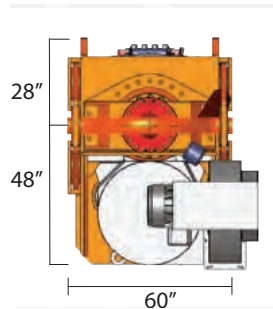
# GDM 750/850

## GDM 750

The GDM 750 is designed to be the toughest and most powerful top drive available at the best price. As the first true 750 ton unit (not just a 500 ton with more torque boosting power), the GDM 750 gearbox is virtually indestructible. It comes available in two A/C motor options to meet your drilling needs.

## GDM 850

The GDM 850 is the original Global Drilling Machine model, introduced to set new standards for performance and power. It is a combination of a heavy-duty top drive and a portable top drive all in one.



MODEL	1200 HP	1500 HP
Load Rating (tons)	750 TON	850 TON
Breakout Torque	100,000	110,000
Continuous Torque	55,000	73,500
Max Speed (RPM)	250	250
Motor Horsepower	1,200 HP	1,500 HP
Hook Weight (lbs)	39,000 LBS	44,000 LBS
Mud Path	7500 psi (OPTIONAL 5000 Psi)	
	STANDARD 4" (OPTIONAL 3")	

# Top Drive Washpipe Solutions

## Sur-Drive™ Epicyclic Swivel System

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.

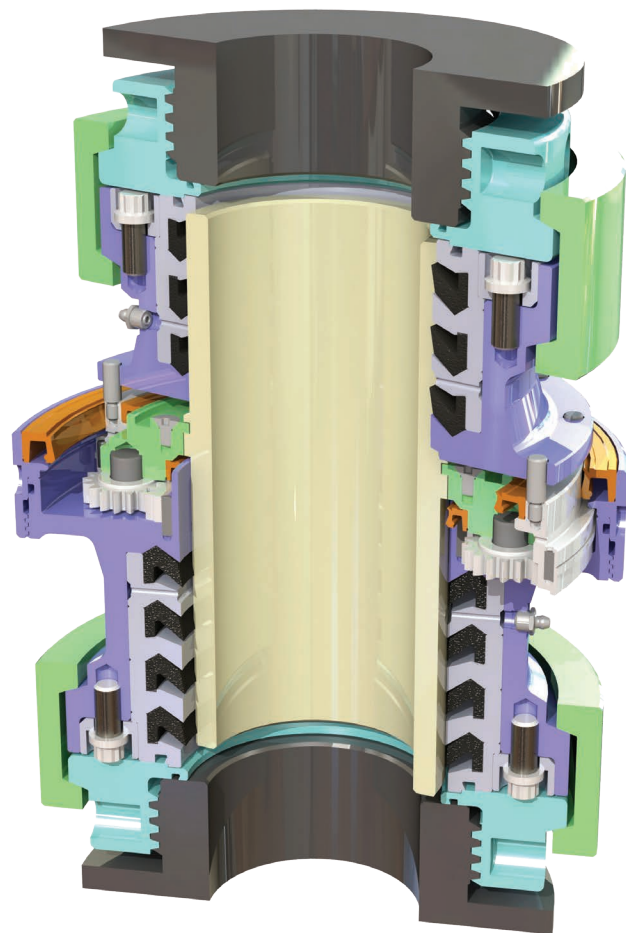
### PRE-COMPRESSED PACKING SEALS

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.

# SUR-DRIVE™



Sur-Drive™ Epicyclic Swivel  
Available in 3" and 4" ID Sizes

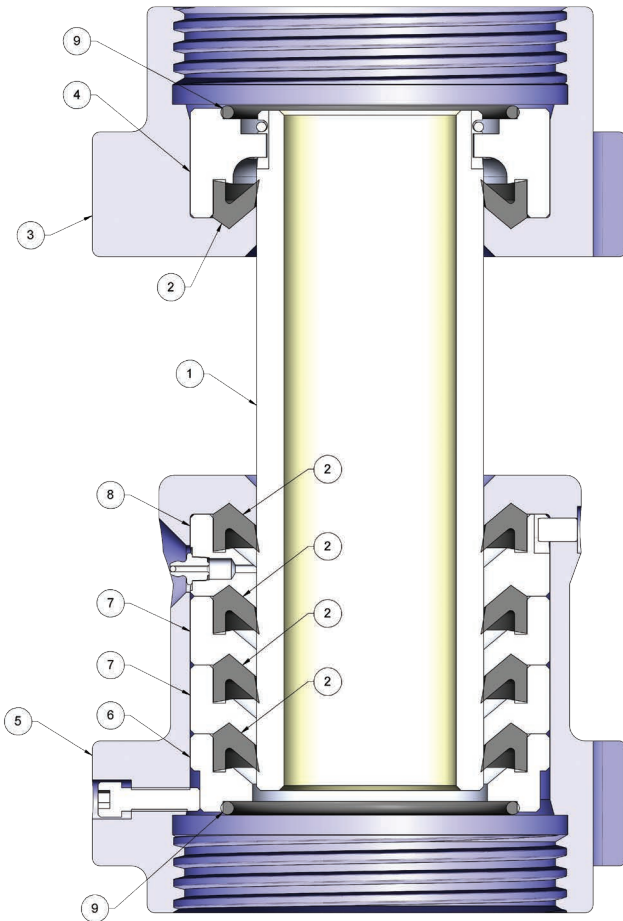
Patent Pending



## Conventional Cartridge Assembly

Premium manufactures a conventional cartridge assembly with washpipe and packing options for 5,000 and 7,500 psi 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 5000 psi standard temperature or 7500 psi high temperature options
- ◆ Washpipe packing is molded using rubber impregnated fabric to increase durability and longevity



Item #	Part Description	TDS/Tesco/National **	Canrig
		3" ID	
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 DDTD500-National PS350/500-Bowen TD350PBE- Tesco EMI 400

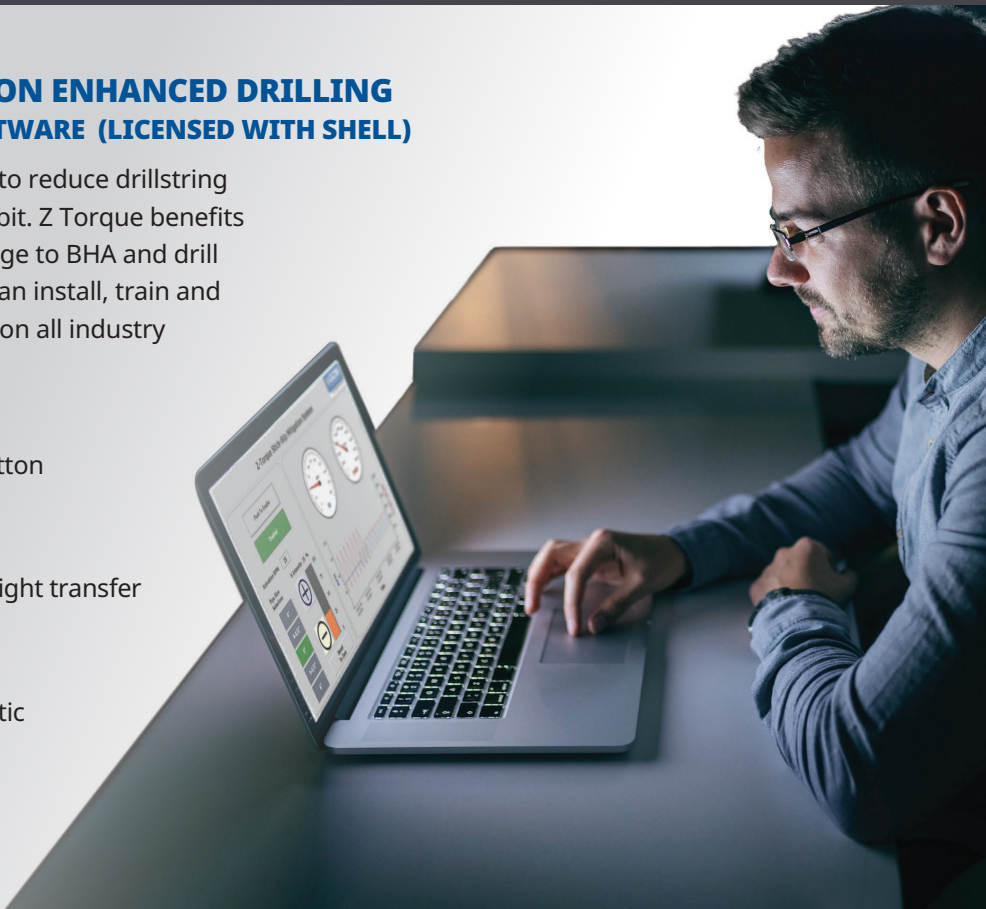
# Top Drive Upgrades

## Z TORQUE AND FRICTION REDUCTION ENHANCED DRILLING REDUCE STICK-SLIP WITH THE LATEST SOFTWARE (LICENSED WITH SHELL)

Premium offers the latest Z Torque technology to reduce drillstring vibration and provide better control of the drill bit. Z Torque benefits include faster, smoother drilling with less damage to BHA and drill bits, resulting in less tripping. Our technicians can install, train and monitor Z Torque stick-slip mitigation software on all industry standard top drives.

### BENEFITS INCLUDE:

- ◆ Optimized drilling results at the push of a button
- ◆ Up to 50% faster directional drilling through curves and laterals
- ◆ Improved tool face control and increased weight transfer through drillstring oscillation
- ◆ Installs on all OEM top drive makes/models
- ◆ Friction reduction software calculates the static friction of the wellbore for optimal drilling



## TDS 11 HI-TORK UPGRADE PACKAGE

The Premium engineered TDS 11 Hi-TORK performance upgrade increases motor horsepower and available torque.

- ◆ Two motors: (2 x 600HP = 1200HP)
- ◆ Proprietary high torque gear box
- ◆ High capacity lube cooling system
- ◆ Customizations to fit all styles of drives, masts and operating systems

## TDS 11 CARRIAGE SLIDER PACKAGE

- ◆ Eliminate dangerous dropped object risks
- ◆ No more costly bogie rollers or damaged track



# Top Drive Service and Support

Premium Oilfield Technologies provides the most extensive top drive, automated equipment, software and spare parts support worldwide. We maintain an experienced in-house engineering and design team that support manufacturing operations and work with our customers to develop innovative solutions.

## 24/7 TOP DRIVE FIELD SERVICE

Our expert field technicians offer 24/7 responsive, on-site service anywhere in the world. Premium fully complies with all industry licensing, including API Spec 8C.

- ◆ Support all makes/models of top drives, catwalks, service loops, pipe handlers and more
- ◆ Installation, commissioning and on-site training options available
- ◆ Preventative maintenance: equipment audits, recommendations, repairs



## STRATEGIC SPARE PARTS

Our extensive inventory of long lead-time parts and OEM replacement parts are stocked in all drilling regions, making us a dependable source for our customers when they need it most.

- ◆ RLAs
- ◆ Shotpin assemblies
- ◆ Quills
- ◆ Grabber assemblies
- ◆ Service loops
- ◆ Exchange program

## TOP DRIVE REPAIRS AND RECERTIFICATIONS

We are the only service organization in the industry with decades of specialized experience on all OEM makes and models of top drives, iron roughnecks and other automated equipment for repairs, rebuilds, reapplications and recertifications.

- ◆ Emergency repairs and turnkey service
- ◆ Custom designed and portable dynamometers
- ◆ Remote troubleshooting and onsite services

## CORPORATE

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## NORTH AMERICA FIELD SALES, SERVICES AND REPAIR OFFICES

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Wyoming / Leduc, Alberta

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