

Increase Runtime & Profitability with the Norris Sure-Spin HTSG™ Rod Rotator (patent pending)

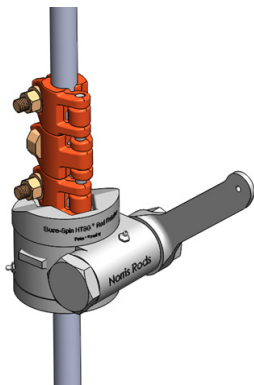
At Norris, we design rod lift accessories that allow customers to solve problems in unconventional wells. The new Norris patent pending Sure-Spin HTSG™ Rod Rotator mitigates rod, tubing, coupling, and guide wear reducing costly well intervention.

Today's Problems

- Uneven on rod string and tubing wear in deviated wells
- Torsional binding due to excessive rotary speed causing one-sided rod string wear and holes in tubing
- Excessive repair components and complicated assembly with existing rod rotators

Engineered Solutions

- Patent pending Slow Gear Rod Rotator with highest output torque in the market (1200 ft-lbs.) for highly deviated wells
- Slowest rate of rotation - 25% slower than the closest competitor
- Best system for mitigating paraffin accumulation and tubing wear when paired with guided rods and couplings
- 30% less componentry used than competitor's assemblies



Engineered for uniform, circumferential guide and coupling, wear, the Sure-Spin Rod Rotator can overcome five times the torsional drag offered by competitors. The internal shear pin prevents excessive rotational force on the rod string.

The Norris Sure-Spin Rod Rotator design was load tested to 150% of the maximum recommended polished rod load. Magnetic particle inspection revealed excellent mechanical and structural integrity.

Comparison Table

| Comparison Table | Other Rod Manufacturers | Norris Sure-Spin HTSG™ Rod Rotator |
|-------------------------------|-------------------------|------------------------------------|
| 90 lever pulls per revolution | 145-154 | 200 |
| Max. rated output torque | 240 | 1200 |
| Max. recommended load (lbs.) | 36,500 - 40,000 | 40,000 |
| Polished Rod Sizes (in) | 1 1/8 - 1 3/4 | 1 - 1 3/4 |

HOW THE SURE-SPIN HTSG™ ROD ROTATOR CAN HELP YOU

Norris's Sure-Spin Rod Rotator is designed for all deviated applications, where conventional rotators have failed to perform. Patent-pending polished rod clamp lock-in inset system of the Sure-Spin Rod Rotator effectively drives the rotation of the rod string for the most challenging unconventional wells.

WHAT SETS US APART FROM OTHER ROD ROTATORS

When working with deviated wells, a conventional friction-driven rod rotator with flat top caps do not work. As a result, excessive one-sided wear on guides and sucker rod connections occur, creating holes in the tubing, ultimately increasing costly workover operations, and causing interruptions to productions. With the Sure-Spin Rod Rotator, Norris has developed a special worm shaft indicator bolt to monitor the worm shaft drive, and ensuring the bearings are working properly.



FASTER SERVICE TIME

The unique Sure-Spin Rod Rotator gear set and the bearing system will reduce the disassembly, service, and assembly process to less than half the time than other manufacturers.



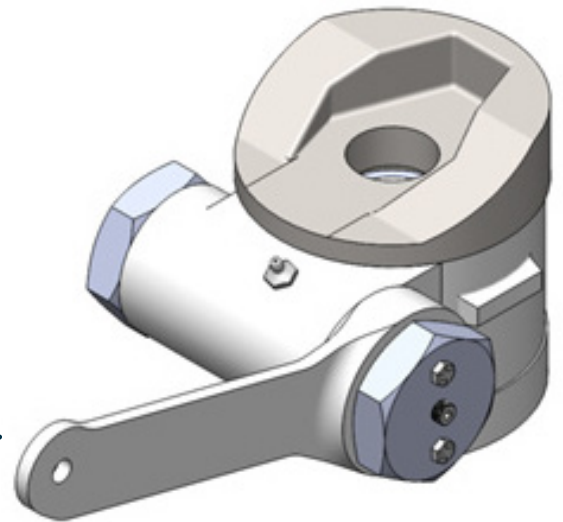
ENHANCED MATERIALS

U.S. made high-strength alloy steel with surface treatment paired with the Sure-Spin special metallurgy critical components significantly increases service life compared to conventional rod.



VERSATILE PRODUCT

The Sure-Spin Rod Rotator has the capabilities to be retrofitted for a wireless sensor that can be monitored from Apergy's XSPOC.



CONTACT US

Our relationship with the oilfield operator does not end when our rod-lift products enter the wellbore. In fact, that relationship will continue to grow over the product's complete life-cycle, with our highly trained Technical Service and Sales staffs just a phone call or email away should you require any assistance, from system design to troubleshooting to completing a product's delivery and installation.

NORRIS

4801 W. 49th St.
Tulsa, OK 74107
Phone: +1 918-445-7600
Fax: +1 918-445-7632
Email: nor.sales@apergy.com

The standard Sure-Spin HTSG™ Rod Rotator will fit the following Harbison-Fischer's clamp models: 13, 13-D, 13-T, and 25. If you would like HTSG caps for H-F's model 40 polished rod clamp please contact a Harbison-Fischer Sales Representative for your customized order.