



## Transforming the Artificial Lift Industry Since 1996

### LEGACY

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Our founder, the late Bob Payne, invented the sucker rod reclamation process and knew that putting together the right team, with the right mission, vision, and strategy in place, would allow TRC to become the “go to” company when producers need sucker rod expertise. We take pride in our technical expertise in applying the shot peening process to relieve stress and improve fatigue life in sucker rods. Leading through the development of continuous innovations in our field is the legacy we strive to achieve every day at TRC.



# About Us

## A HISTORY OF EXCELLENCE

TRC was founded in 1996 by Bob Payne, the inventor of the sucker rod inspection process and founder of Rodco/ICO in the 1970s, along with a group of other historians in the sucker rod and pipe inspection industry. These historians came out of retirement after realizing there was a great need for an experienced, service-oriented sucker rod company.

TRC has maintained a legacy of expertise and innovation from its inception to today, with an eye toward tomorrow. We provide solutions to major and independent oil and gas producers with technically competent, cost-effective solutions, giving us the opportunity to add value to your organization with our vast array of products and services.



## PHILOSOPHY

Our Board of Directors gave our corporate officers a single directive: “Transform the sucker rod reclamation industry.” The Board had a vision: “That there would be a day when oil and gas production engineers would call TRC for expert advice on how to lower their lifting cost.” Our corporate officers told our management teams that they had a mission: “Provide the very best valued sucker rod in terms of lowest net cost and longest service life.”

Our management teams devised a strategy that we believe accomplishes our mission and allows us to achieve our vision. Separate independent corporations were formed to service you in the best way we know how.

We practice a highly decentralized management style. The presidents of our corporations are given a great deal of autonomy and have a high level of independent responsibility

for their businesses and their performance. We believe that independent operations are better able to serve you by focusing closely on their products and reacting quickly to your needs. In addition, this makes it easier to measure their performance. Our team’s performance continually exceeds expectations, and everyone is encouraged to think outside the box at all times. When you do business with TRC, you are dealing with a single source, eliminating the headache of dealing with multiple, unrelated vendors.

This philosophy will reduce your internal costs, as your price per service will be reduced, and accountability becomes very identifiable. It simply makes sense! Give yourself more time, put more money in your bank account, and if something goes awry, you will not see any more vendors pointing their fingers at each other. Give us the authority to help you, and we will shoulder the responsibility.

# TRC is committed to helping reduce the oil & gas industry’s carbon footprint and protecting the environment.

## ENVIRONMENTAL BENEFITS AND COST SAVINGS OF PURCHASING TRC’S REMANUFACTURED SUCKER RODS

**Reduced CO2 emissions & energy consumption** – Remanufacturing typically uses 80% less energy than manufacturing new products. Sucker rods remanufactured using TRC’s proprietary processes provide substantially lower Global Warming Potential (GWP) when compared to any other rods in the market.

**Reduced raw material consumption** – If nothing changes, the global demand for raw materials will exceed the earth’s capacity. TRC preserves 100% of the steel in the original product through its remanufacturing processes, allowing operators to remanufacture their rods over and over again. Operators remanufacturing their sucker rods through TRC are contributing to the circular economy. TRC’s remanufactured sucker rods perform equal to or better than new rods while minimizing resource depletion.

**Reduced cost to operators** – Choosing remanufactured products over new products provides a significant cost savings without sacrificing quality. TRC’s remanufacturing services will typically provide operators a 70% savings on their own sucker rods compared to purchasing new sucker rods. Purchasing TRC’s remanufactured sucker rods will usually enable operators to obtain a 30% cost savings versus buying new rods. TRC’s are sold with a 30-month written warranty, the longest in the industry.

## CUSTOMER RECOGNITION AND AVOIDANCE EQUIVALENCIES DETAIL

TRC provides our customers with Certificates of Recognition that detail how their purchase of remanufactured sucker rods impacts the environment. Avoidance equivalencies are represented to help our customers understand how their purchases play a role in ongoing environmental, social, and governance metrics and goals.





# Core Products

## REMANUFACTURED SUCKER RODS

TRC was founded to inspect sucker rods. However, our continual innovations over the years have led to our ability to remanufacture sucker rods.

Through our proprietary shot peening method and by developing other new, innovative processes, TRC is continually improving the industry. Years of testing have proven that TRC's processes extend the typical fatigue life of your rods by over 50% versus new rods by reducing the amount of residual stress in the rods.

### SOME OF THE ADVANTAGES OF BUYING TRC REMANUFACTURED SUCKER RODS INCLUDE:

- Longer fatigue life at a lower cost
- Shot peened rods reduce:
- Fatigue failures
- Stress corrosion cracking
- Hydrogen embrittlement
- 30-month written warranty
- All sizes and grades available

### WHAT IS REMANUFACTURING?

remanufacture

[ree-man-yuh-fak-cher]

Remanufacturing is the process of returning a used product to at least its original performance with a warranty that is equivalent to or better than that of the newly manufactured product.

- The Centre for Remanufacturing & Reuse (CRR)



## NEW STEEL SUCKER RODS

TRC is a proud distributor of all brands of new steel sucker rods manufactured by ChampionX in their Tulsa, Oklahoma facility. TRC chose to collaborate with ChampionX because of the company's long-standing commitment to quality, technical expertise, and innovation.



The TXUnited sucker rod leverages TRC's shot peening expertise and engineering legacy to add another integral product to TRC's lifecycle sucker rod program. The goal of the product's development was to create a new sucker rod to fit into TRC's existing sucker rod lifecycle management program that will lower the carbon footprint and reduce the net cost of ownership over the life of the sucker rod.

TRC uses its proprietary shot peening process and expertise to finish TXUnited rods manufactured in Tulsa, Oklahoma by ChampionX. The TXUnited rod offers long-lasting durability and can be manufactured over and over again, reducing greenhouse gas emissions and lowering net costs for customers.



Engineered to last, Norris rods have built a reputation as the best sucker rods on the market today, allowing wells to produce at optimum levels longer. Norris steel sucker rods and pony rods are manufactured to the highest quality standards to ensure reliable, consistent operation in every well application.



UPCO sucker rods are manufactured in ChampionX's Tulsa, Oklahoma facility and offer customers with a cost-effective, reliable solution. The rods are certified to be manufactured to API specifications and carry a limited two-year warranty.

## FIBERFLEX® FIBERGLASS SUCKER RODS

We proudly manufacture Fiberflex® fiberglass sucker rods. Fiberflex® rods are the only fiberglass rods manufactured in the USA which are API monogrammed as well as being API Q1 and ISO 9001:2015 certified. Simply put, Fiberflex® fiberglass sucker rods continue to set the standard in the industry.

### WHY CHOOSE FIBERFLEX®:

The only US manufactured API monogrammed fiberglass rod

Largest and strongest rod body in the Industry

25-month written warranty is the longest in the Industry

Proven reliable endfitting design

Total traceability on all components

Competitively priced

Available sizes: 1 1/4", 1", and 7/8"



## SUCKER ROD COMPARISON CHART

BRAND	ORIGINAL MANUFACTURER	SHOT PEEN?	WARRANTY
TXUNITED	CHX	Yes, Shot Peened by TRC	Lifetime
NORRIS	CHX	Yes, Nor-Peened by Norris	Lifetime
UPCO	CHX	No, Shot Blasted	2 Year
TRC REMAN	Varies	Yes, Shot Peened by TRC	30 month





# Gas Lift

## SUPER SONIC TOOL (SST)

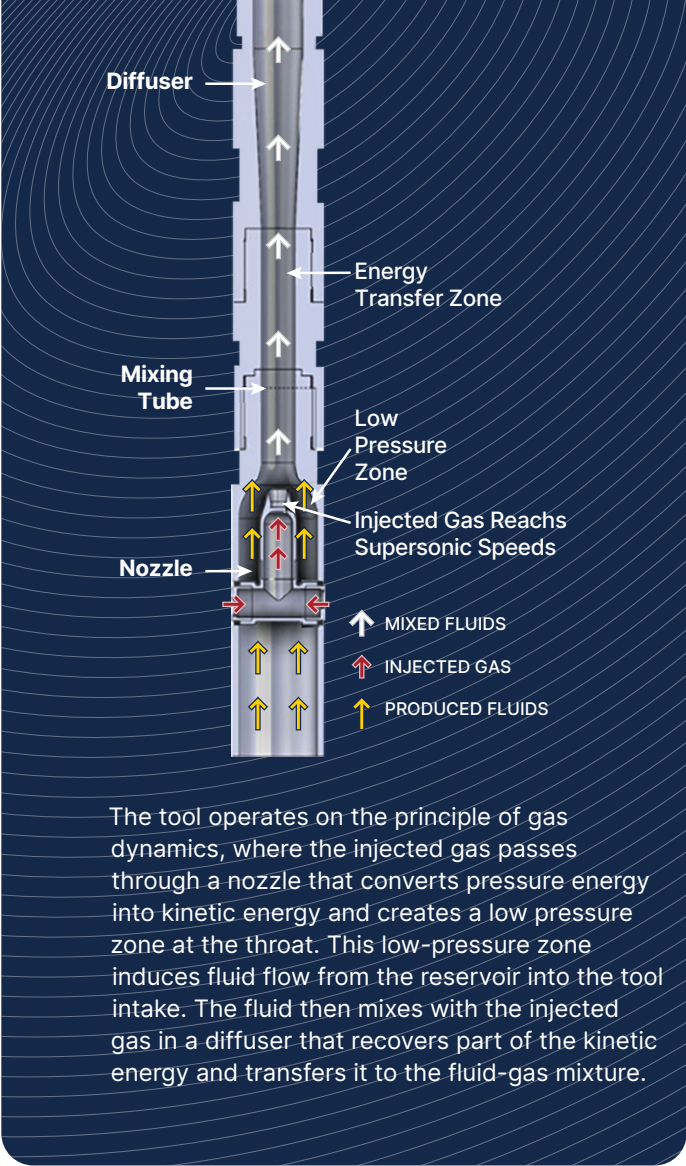
TRC Valves portfolio is focused on the entire gas lift ecosystem with an emphasis on reduction in carbon intensity and increasing efficiency—with patent-pending processes, design and enhanced materials built into our robust gas lift products and sub-assemblies along with industry leading Super Sonic technology, boosting production capability and lowering lift gas required for your gas lifted wells.

**Proven for boosting Gas Lift efficiency in your customers’ existing wells.**

**Boost production/reduce FBHP** over what you can get with standalone optimized gas lift.

**Reduce lift gas required by >30% or more** of what would be required for standalone optimized gas lift while sustaining the same optimum production, freeing up compressor capacity and lift gas to use or reprioritize elsewhere.

No moving parts, no wellhead modifications, no electrical devices, **no babysitting or changes in your gas lift operating principals**, high-production volume capability (not limited like PAGL or GAPT).



The tool operates on the principle of gas dynamics, where the injected gas passes through a nozzle that converts pressure energy into kinetic energy and creates a low pressure zone at the throat. This low-pressure zone induces fluid flow from the reservoir into the tool intake. The fluid then mixes with the injected gas in a diffuser that recovers part of the kinetic energy and transfers it to the fluid-gas mixture.



# Pumping Units

## WHY TRC PUMPING UNITS?

Established as a natural extension and complement to the TRC Services, Inc. leading portfolio in the sucker rod reclamation and remanufacturing space, TRC Pumping Units, Inc has been formed to deliver the same high-value products and services focusing on surface pumping units.

### UNPARALLELED EXPERTISE

Led by a core team of seasoned pumping unit industry veterans, we have developed a unique process to identify, inspect and rebuild selected pumping units to meet or exceed original manufacturers specifications.

### BEAM PUMPING PROBLEM SOLVERS

Based on decades of experience ranging from hands-on to managing extensive populations of beam pumping units in major and independent operators’ fleets, we have refined the definitive best practices coupled with leading-edge technology to produce the highest quality product possible.

### INDUSTRY LEADING WARRANTY

Operators can be confident in their investment decision as TRC stands behind any product sold across our entire rebuilt beam pumping unit portfolio.

### SAVINGS

Along with the cost savings versus new pumping units, rebuilt pumping units use fewer raw materials than new products and far less carbon emissions. Rebuilt beam pumping units make economic sense and can help operators achieve their corporate sustainability effort goals.

## ROBUST GAS LIFT PRODUCTS & SERVICES



### INCONEL BELLOWS

Inconel 625 has 60% greater tensile and 75% greater yield strength than Monel 400



### LASER WELDING

All our valves connections are laser welding as opposed to other OEMs which use brazing, eliminating weak point on valves due to soft filler metal used.



### TUNGSTEN CARBIDE STEM AND SEATS

Above industry standard (Monel), Tungsten Carbide Stem and Seat provides more robust material for handling erosion



### ENHANCE SEALS AND O-RING

Above industry standard (Viton), AFLAS Seal and O-ring comes standard in our valves. Durability, corrosion and temperature resistance



### EXTENDED WARRANTY AND COST COMPETITIVE

18 Months No Hassle Warranty  
Lowest Net Cost



### FASTER REFURBISHMENT

Interchangeable sub-assembly bringing used valve back to new quickly with low carbon impact

**Convert your used gas lift to TRCv Robust today with our patent pending sub-assembly kit**

## TRC PUMPING UNIT CORE PRODUCTS

Pumping units and parts to keep your well producing



**CERTIFIED REBUILT PUMPING UNITS**



**FIELD RUN PUMPING UNITS**



**PUMPING UNIT RENTAL**



**PUMPING UNIT SPARE PARTS**

## TRC PUMPING UNIT CORE SERVICES

TRC Beam Pumping expertise you can trust to investigate, analyze, repair, and more



**PUMPING UNIT REPAIR SERVICES**



**PUMPING UNIT FAILURE ANALYSIS**



**SURPLUS PUMPING UNIT ACQUISITION**



**ROD STRING DESIGN**



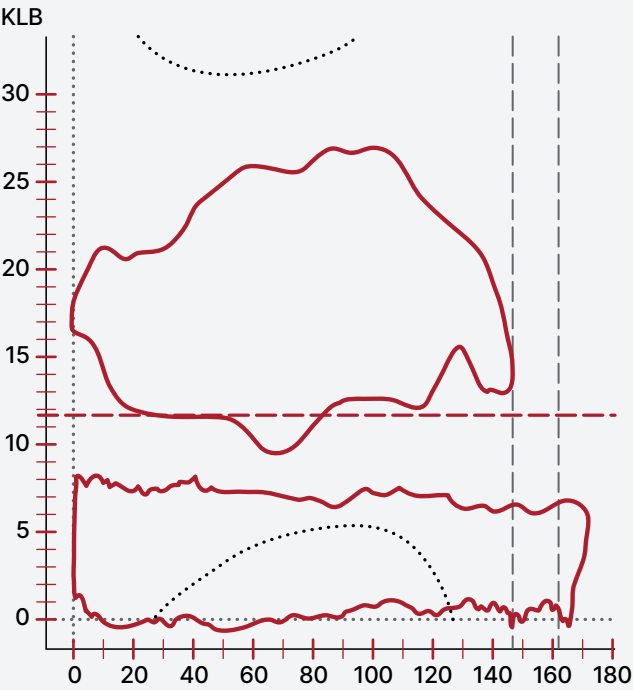
# Pump-Rite

## EXTENDING ROD AND PUMP LIFE

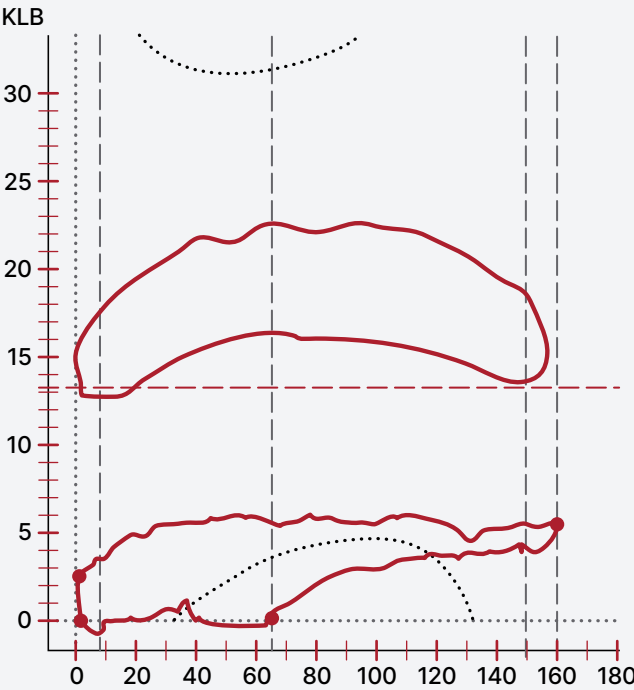
TRC invented a new tool that offers better pump efficiency, a reduction in POC down time, and an increase in production. Pump-Rite was originally developed to prevent fiberglass rods from going into compression. The objective was to ensure fiberglass rods were spaced as far down as possible without tagging. The unexpected result was a substantial increase in production on both steel and fiberglass rod strings.

Pump-Rite replaces the static carrier bar with an automated dynamic spacing tool. A sensor on the tool detects the first signs of tagging and raises the sucker rod string to eliminate compression damage. The control system also monitors the POC state on each stroke and automatically respaces the rod string to maximize pump fillage. For pumping units with variable speed drives, Pump-Rite can maintain optimum spacing over a broad range of pumping speeds while preventing tags due to changes in rod string stretch.

The Pump-Rite system can adapt to a wide variety of pump and rod string configurations through flexible operating parameters. The tool provides continuous data logging with remote access for monitoring, control, and statistical performance evaluation. An automatic lubrication system minimizes maintenance requirements for the primary drive mechanism.



Pump Fillage: 39%  
EPT= 61.13 in  
Pump Disp: 257 BBL/D



Pump Fillage: 96%  
EPT= 167.57 in  
Pump Disp: 700 BBL/D



# Core Services

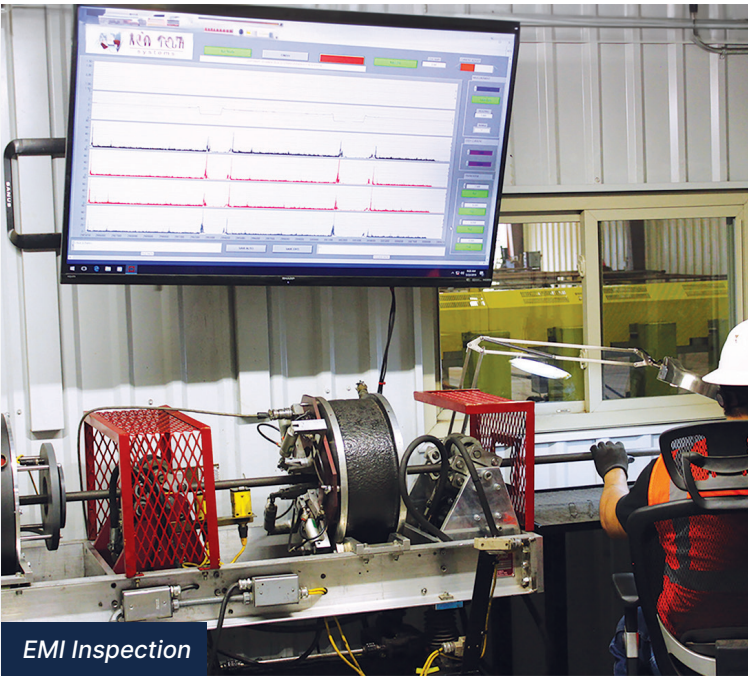
## SUCKER ROD REMANUFACTURING

Through its proprietary shot peening method and by developing other new, innovative processes, TRC is continually improving the industry. Years of testing have proven that TRC's remanufacturing processes extend the typical fatigue life of your rods by 50-100% by reducing the amount of residual stress in the rods. TRC's historical, weighted average recovery rate stands at 61%.



### TRC'S REMANUFACTURING PROCESS INCLUDES:

- Perform a NORM (Naturally Occurring Radioactive Material)
- Inspect load and documentation to generate work order number
- Cleaning of contaminants
- Rod guide removal
- Rod straightening
- Coupling removal
- Pin cleaning
- Shot peening
- Thread gaging and parallelism check
- EMI inspection of the rod body
- Wet magnetic particle inspection of the end area
- Demagnetization of the rod
- Immersed in corrosion inhibitor
- Thread lubricant applied and thread protectors installed
- Palletized and color coded according to steel grade and API inspection classification
- Inspection report itemizing recoveries and rejects
- 30-month written warrant







# Core Services

## NEW STEEL SUCKER ROD INSPECTION

New rods are measured with calibrated precision instruments to ensure conformance to all API Spec 11B specified dimensional tolerances, as well as detection of rejectable process-of-manufacture conditions such as forging flaws, machining flaws, thread rolling flaws, and bar rolling flaws. Pin and coupling thread forms are verified with API P-6, P-8, B-2, and B-6 gages. Body straightness is verified with total indicator runout (TIR) measurement.

Historically, our reject rate for new sucker rods has ranged between 2% and 12%. Typically, every string of new rods that is inspected will have rejects, with some strings having over a 20% reject rate.

In addition to identifying reject rods in a new string, our inspection process will reduce the residual stresses in your rods which resulted from the manufacturing process, and we will improve the corrosion resistance of your rod. Through our shot peening process, we will increase the case hardness by the pre-stress compression applied at the surface of your rod.

## FIBERGLASS SUCKER ROD INSPECTION

When you pull your fiberglass rod string out of the well, send them to TRC where we will do a complete inspection of your rods and store them until they are ready to be put back into service.

TRC was granted a U.S. patent (US9840893) on our fiberglass inspection process.

### TRC'S INSPECTION PROCESS INCLUDES:

- Deliveries are counted and assigned a work order number
- Coupling removal
- Cleaning of entire rod from pin end to pin end
- Performing a thorough visual inspection of rod
- Performing multiple pull tests to ensure rod will hold intended loads
- Performing a wet magnetic particle inspection of the endfittings
- Measuring and verifying dimensional tolerances
- Gaging the endfitting threads
- Thread lubricant applied and thread protectors installed
- Coating the entire steel endfittings with corrosion inhibitor
- Palletizing the fiberglass rods
- Inspection report itemizing recoveries and rejects



Pull testing fiberglass rods during inspection

## FIELD TECHNICIAN SERVICES

Many improper activities can cause sucker rod damage so severe that failure can result in just a few days following initial installation. A well-trained, experienced technician can ensure that proper and consistent procedures are followed when installing your rods.

The minimal expense incurred by having a TRC technician on location is sure to pay off in terms of longer run times without unnecessary downtime, rod replacement, and pulling cost.

To ensure optimal life of your sucker rods, we offer reliable, well-trained technicians to protect your investment. TRC has decades of experience and can perform a variety of critical services, including:

- Supervising the installation of your steel sucker rods
- Ensuring fiberglass rods are installed properly and spaced correctly
- Monitoring and evaluating installation and pulling unit crews
- Lowering the rods for better pump efficiency
- Raising the rods from tagging to prevent premature failures
- Fishing failed rod strings
- Programming and repairing pump off controllers
- Fluid level & dynamometer testing



We offer reliable, trained technicians.



## WELL ANALYSIS & OPTIMIZATION

TRC's technicians are highly trained to utilize Echometer's state-of-the art wireless fluid level and dynamometer testing equipment and the powerful Total Asset Monitoring software. The Echometer equipment provides the basis of TRC's well analysis service. Well analysis provides a clear picture of the many variables that could impact production and potentially help mitigate lost production due to unexpected equipment failures. We recommend that every well is routinely evaluated to ensure that the well is always producing at optimal levels without damaging equipment.

Well productivity, reservoir pressure, overall efficiency, equipment loading, and well performance are derived from the combination of measurements of surface pressure, acoustic

liquid level, and dynamometer cards. These data points allow for an immediate analysis of the well's operating condition and position TRC to make recommendations in real time that can help you optimize well productivity and, ultimately, maximize production and profitability.

Whether your operation includes one well or many wells, it is easy and economical to implement TRC's well optimization services. We will work with you to create a plan that makes the most sense based on your needs.

Subscription-based services are available for multiple wells that can significantly reduce the cost per well. This allows for a more robust data set across operations that can help identify best practices.



# Supporting Products

## PREDATOR TOOLS GAS SEPARATORS



Downhole Gas Separators

TRC is an authorized distributor of Predator, the first 100% guaranteed downhole gas separator. The patented gas separator enables operators to increase production as a result of consistently higher pump fillage and less downtime. Predator gas separators utilize a multi-cylinder system designed for high-volume applications and are suitable for wells producing up to 2,000 BPD and 2Mcfd.

## WSI WELLHEAD SYSTEM



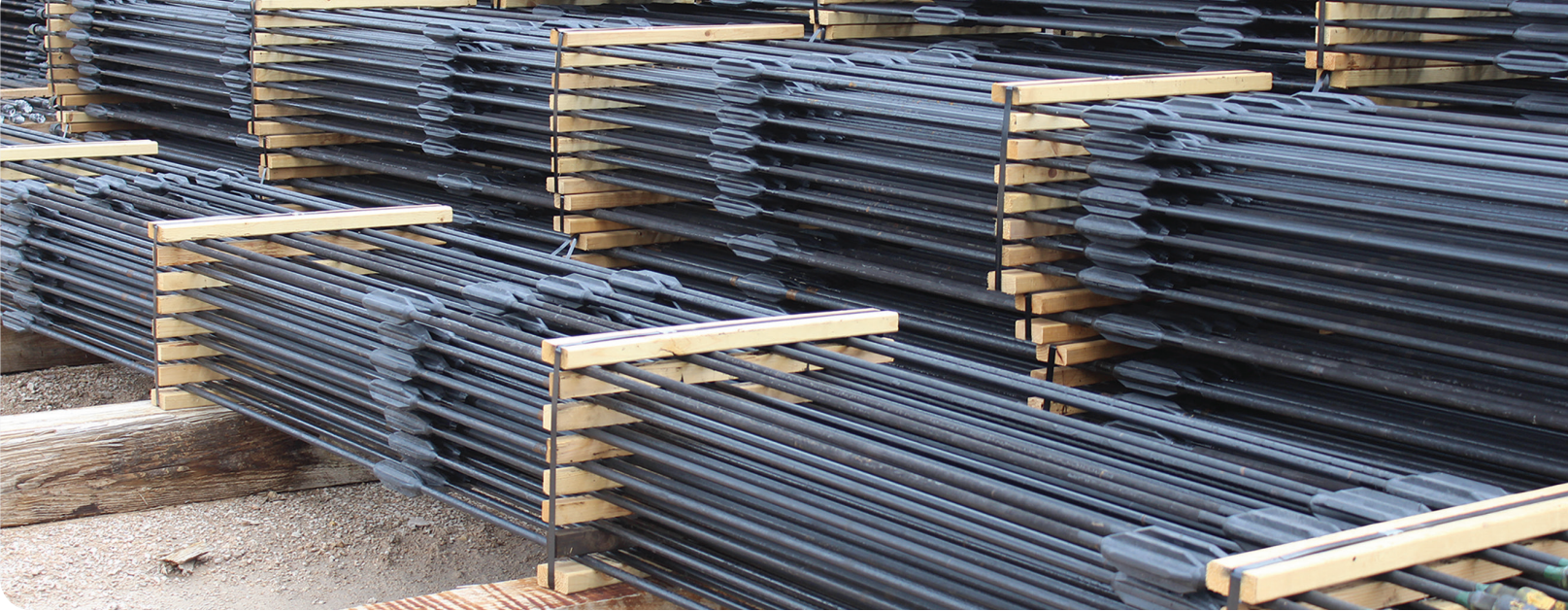
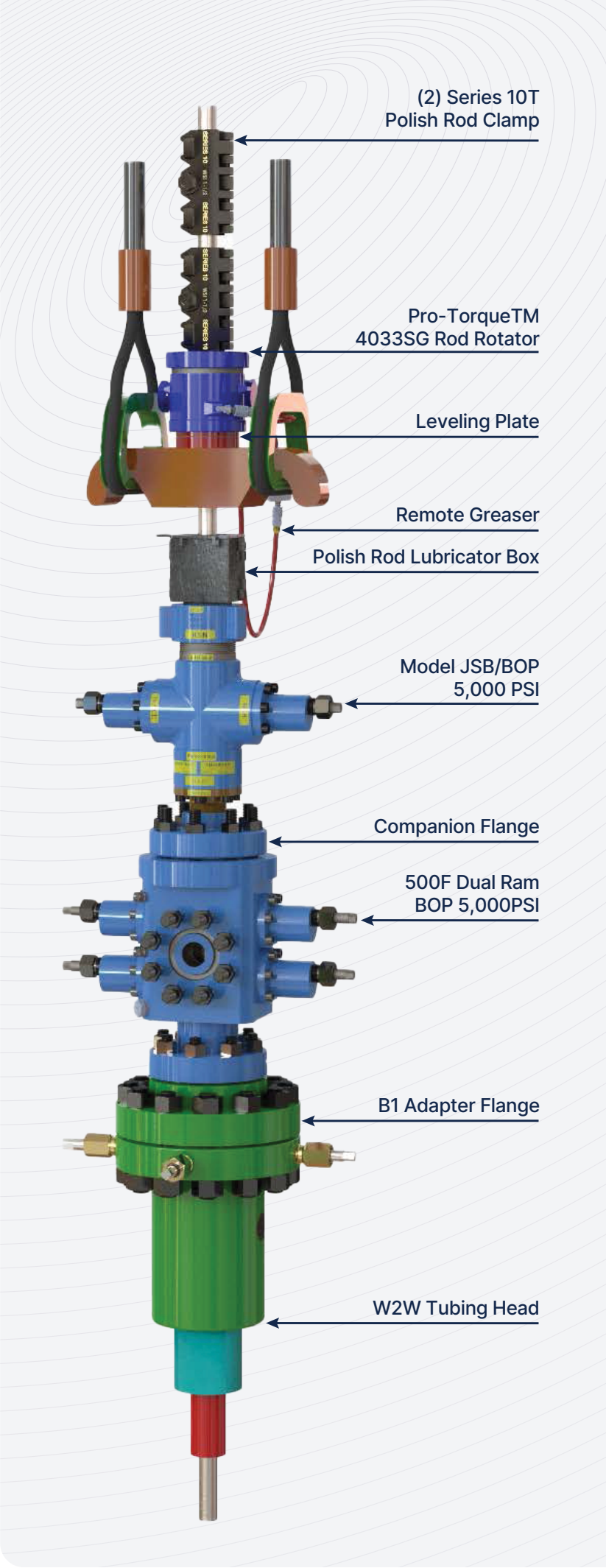
The Global Wellhead System Authority

TRC remains vigilant in our efforts to provide our customers with a one-stop shop for products, services, and professional industry expertise related to their beam pumping systems. TRC has partnered with Wellhead Systems Inc. to distribute surface hookup equipment. WSI is the leading manufacturer in the industry for all ALS tree equipment. WSI specializes in high-quality independent wellhead equipment per API 11-1W and API 5B, sizes 2-3/8" to 13-3/8". A product unmatched, WSI uses high-quality CNC machines to manufacture their parts in the USA and has a quality assurance program second to none. TRC and WSI support the industry's efforts to improve ESG ratings. Using WSI equipment can reduce your carbon footprint by 66% per well.

## LIGHTNING PRODUCTION SERVICES



Deviated rod pumped wells pose extra challenges. TRC and Lightning Production Services teamed up to provide advanced technologies using LightningRod Continuous Rod and LightningFlo Lined Tubing. Together, we provide operators with cost-effective solutions that extend rod and tubing life and significantly reduce operating costs.



## ROD GUIDES

The simplest solutions are often best. Sucker rod guides not only clear the production path in your well, but also protect more costly artificial lift equipment including sucker rods, couplings, and tubing from wear.

TRC has a long history which utilizes our combined experiences in sucker rod inspection and tubing wear mitigation to obtain maximum savings for you through greater rod and tubing service life, decreased workover costs, and reduced well downtime.

TRC offers a complete array of conventional and premium guides for steel and fiberglass sucker rods to match a wide range of production applications for the most demanding wells, including high water cuts, high temperatures, corrosive and abrasive wells.

Let TRC's rod string design services identify and recommend the correct rod guides to solve tubing wear problems. Rod guide design, placement, and material selection are crucial for obtaining the best overall performance from the engineered system.





# Supporting Products

## PUMP OFF CONTROLLERS

It's no secret that automation and control will improve your rod lift operations, but knowing what technology you need is key. TRC offers a full portfolio of SMARTEN™ rod lift automation solutions to address all your automation needs, including pump-off controllers (POCs), integrated variable speed drives (VSDs), as well as communications and accessories to maximize well performance.



## DESERT ENERGY FISHING TOOLS

TRC is the owner of the Desert Energy line of fishing tools. Widely recognized as one of the best fishing tools on the market, its slip-wedge activation holds on strong, without deformation, making it durable and reliable.



Widely recognized as one of the best fishing tools on the market.

The Desert Energy line of fishing tools are currently produced for 2 3/8" and 2 7/8" tubing sizes. The slips are made in various sizes to help you catch the rod you want. The flexibility of this tool and its ease of use make this product one of the best available.

## SUCKER ROD MAKE-UP KITS

TRC offers a convenient Make-up Kit for use at the rig. The kit assists you in proper identification of the rods, provides for proper and speedy removal of thread protectors, protection against galling of threads and corrosion, and allows for proper measurement of circumferential displacement of connections. Using these tools gives the rods their best chance for proper service life in the well as far as the connections are concerned.



TRC Sucker Rod Make-Up Kits assist in multiple uses at the rig.

## SHEAR TOOLS & ON/OFF TOOLS

For wells using TRC's sucker rods, our shear tools or on/off tools should be run one or two rods above your pump to enable efficient rod retrieval. Our shear tools are made to separate at predetermined tensile loads, while our on/off tools are made for an easy left-handed release. Both options allow for rods to be retrieved without the need to pull tubing. The remaining rods and pump can be subsequently pulled from the well, ensuring the integrity of the rod string.

# Supporting Services

## PUMP OFF CONTROLLER REPAIR

In order to manage your well right during pump-off conditions, you need to make sure your POC is operating optimally. Our Field Technicians will make sure your POC is doing what it is supposed to do.

## IN-PLANT COUPLING INSTALLATION

TRC recommends that you utilize our technicians to install couplings on your rods in our plants prior to transport to your location. This is a low-cost service which will save you money while at the same time improving the rods' performance. The service is performed in a controlled environment, ensuring a proper make-up.

## SUCKER ROD STRING DESIGN

Let the sucker rod experts design your next sucker rod string. TRC has decades of experience designing sucker rod strings utilizing Theta RodStar. Proper rod string design is essential to preventing premature failures, and it is a service we provide free of charge to our customers.



## FLUID LEVELS & DYNAMOMETERS

Utilizing TRC's fluid level and dynamometer services is an economic means to learn what is happening downhole in your well. TRC uses state-of-the-art wireless Echometer equipment combined with the powerful Total Asset Monitoring (TAM) software for data acquisition and analysis.

TRC is capable of shooting fluid levels for all forms of artificial lift, including rod lift, gas lift, ESP, PC pump, and plunger lift as well as shut-in wells.

## FAILURE ANALYSIS

TRC offers detailed failure analysis of sucker rods, sucker rod couplings, sinker bars, pony rods, and polished rods. This service includes N.O.R.M. level measurement, sodium arsenite reagent iron sulfide detection test, injection molded guide removal, specimen sectioning and cleaning, high resolution conventional photography, optical and digital microscopic examination, fiber-optic high resolution digital microscopic photography, digital automated staging hardness test, and wet fluorescent magnetic particle examination. The process is performed by experienced specialists, proficient in fracture mechanics, utilizing state-of-the-art industrial laboratory equipment.







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