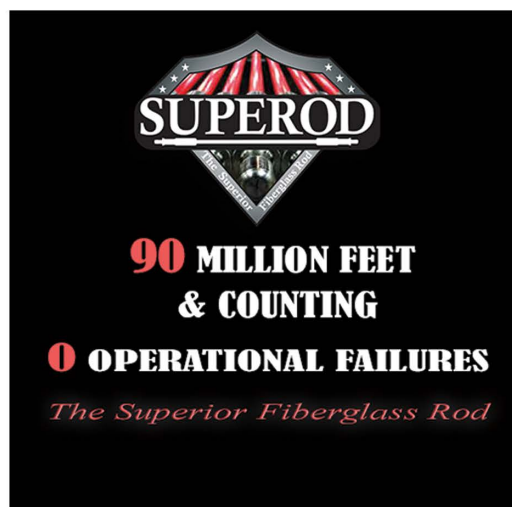




Superior Design &
Application Engineering
from the
Pioneers of Fiberglass Rods



www.Superod.com

Handling Procedures Loading / Unloading

Crated rods should always be lifted and transported using a spreader bar attached to the crates with nylon straps. Place straps between crate pairs at middle and ends. Using a spreader bar allows movement of the crate via crane, forklift, gin pole truck, etc. Crates should be handles steadily and not allowed to swing out of control during the moving operations.

When stacking crates, each succeeding crate should be placed to rest squarely on the lower crate.

Uncrated **Superod**® should be handled individually, taking care not to throw or drag the rods. They should be laid straight with wood spacers thick enough to prevent each rod from touching other rods.

Inspect for damage, each undamaged threaded pin should be covered with a thread protector.



Long Term Storage

Superod®s should be sorted by size, and stored in a protected area to avoid damage. For storage three months or longer, protection from sunlight should be provided.

Threads should be cleaned, lubricated, and thread protectors applied on stored **Superod**®s on wood spacers or racks, away from direct ground contact, pavement, concrete, or flooring.

Plant crated **Superod**®s may be stacked directly on level ground. Crates are built to prevent direct rod ground contact.



Installation, Pulling, & Reinstallation

Place **Superod**®s close to well head, with placement minimizing potential damage. Remove metal straps with care to prevent damage to rods or personnel. Remove thread protectors and apply proper thread lubrication prior to installation of couplings.

Do not drag **Superod**®s. Carefully pick up and tail-in to avoid damage to the rod body or end fitting.

To align threaded pin connection, hang straight to avoid cross threading into the coupling. Should cross threading occur, break joint out, tap and die threaded pin and coupling, re-apply lubrication.

Use a steady speed, not fast, into the hole. Watch for tight spots or sudden slow down due to reaching fluid levels in tubing.

Always use a rod table with rubbers to prevent damage, scraping on sides. Do not "slap" elevators on **Superod**®s.

Elevators and rod wrenches should be of proper size and good mechanical condition. Damage may result from forcing the elevator onto the rod. In this case, the latch should be manually opened to keep the elevator from cutting or gouging the **Superod**®.

Properly calibrated power tongs providing the correct amount of circumferential displacement (CD) appropriate to **Superod**® size. CD is the distance measured from a line scribed when the joint is shouldered hand tight before application of power tongs. Re-check calibration after every 30 **Superod**®s and recalibrated for changes in rod size or type. Over-torqued connections can damage the coupling faces and strip threaded connections.

Break out connections with proper coupling and rod wrenches. Cheater bars may be used when the joint does not break using ordinary methods. Difficult to break joints should not be hammered. Any hammered elements should be removed from service.

For reinstallation, inspect key areas for damage: the threaded collar and collar shoulder. Damaged components should not be returned to service. Apply proper lubrication to inspected and cleaned pins prior to installation.

Any **Superod**® with damaged fiberglass fibers (cuts/grooves) or end fitting damage should be removed from service.

Procedures to Unseat & Remove Pump from Well Bore

During the unseating and pulling operations, **Superod®**s may be subject to tensional forces, and may possess a significant amount of energy. Sudden release is unpredictable and hazardous.

When pulling on rods, crew should be off the floor and out of the way. It is better to use a steel rod on top of the string if heavy pulling is to be done.

Adequate safety measures are to be observed at all times. Standard personal protective equipment (PPE) is to be worn by all persons involved, at all times. Tools and equipment should be in good working order. Shear tool rated value should be determined prior to operations of the pulling unit.

Pulling methods assume that removal of surface equipment has been accomplished (nippling down), the polish rod is pulled and removed, and the attachment of the rod string to the pulling unit is accomplished by appropriate methods.

Throughout an attempt to unseat the pump, any method described, or any combination of methods described, may be used in combination to achieve unseating the pump.



METHOD A

- Apply lift to achieve and determine string weight value.
- Apply lift to contact top of pump.
- Mark exposed rod at top of rod table.
- Apply 4 to 6 point (4,000 to 6,000 lbs. indicated) above string weight in additional tension.
- “Drop” rod string back to mark on rod table in an attempt to jar the pump away from the seating nipple.
- A successful unseating will be known as rod string is lifted beyond mark at rod table with no additional increase in indicated tension value.
- If the pump remains seated, an increase in indicated tension will be observed. The above procedures can be repeated multiple times.
- With continued failure to unseat, the amount of applied tension may be increased in intervals of 2 to 4 points (2,000 to 4,000 lbs. indicated) over the previous attempts, with the maximum applied tension remaining less than the shear tool rating.
- With unseating accomplished, pull rod string using standard procedures.

METHOD B

- Apply lift to achieve and determine indicated string weight, value, or, in the event of continuing from Method A, return the rod string to its original position.
- Apply lift to achieve tension of string weight plus 10 or 12 points (10,000 to 12,000 lbs. indicated). Hold position, apply brake, and hold tension for 2 to 5 minutes.
- Should pump not unseat during the interval, return rods to original position, this procedure may be repeated several times.
- It is possible to increase the applied tension during subsequent attempts, with the maximum applied tension remaining less than the shear tool rating.
- A successful unseating will be known as indicated tension values begin to decrease as the pump becomes unseated.
- If the pump remains seated, there will be no change in indicated tension values.
- With unseating accomplished, pull rod string using standard procedures.

If the pump remains seated, the operator may attempt Method A, or a combination of methods to achieve a successful unseating. In the event that there is no successful pump unseating, an alternate method may be employed, thus:



METHOD C

- Apply lift to achieve and determine indicated string weight, value, or, in the event of continuing from Method A or Method B, return the rod string to its original position.
- Apply lift to achieve tension above string weight value of shear tool rating minus 3,000 lbs.
- Hold position, apply brake, and hold tension for 10 to 15 minutes.
- Should pump not unseat during the interval, return rods to original position, and this procedure may be repeated several times.
- A successful unseating will be known as indicated tension values begin to decrease as the pump becomes unseated.
- If the pump remains seated, there will be no change in indicated tension values.



Fishing Procedures for Fiberglass Sucker Rods

Should it be necessary to fish a fiberglass rod string, do not try to fish the rod body. An overshot fishing tool of the proper size, will fish the metal end fitting. A spiral grapple style tool will catch the end fitting body. If there are

several feet of rod body left in the well, a hollow pump barrel of adequate length is needed to swallow the fiberglass rod body, with a proper sized overshot attached, (to catch the end fitting or end fitting wrench square) will usually do the job. **We do not fish Superod®s!**

Modern **Superod®** Suckerods do not broom-out when the body breaks. Rather, several splinters may occur which will be guided into the hollow fishing tool with a properly designed cut-lip guide. The mechanics of fishing a broken **Superod®** is as routine as fishing steel rods.

Normally, it is safe to use fiberglass sucker rods to reach the fish, but they are much lighter and it may be difficult to force the overshot over the fish.

1. Determine the size of the rods and tubing.
2. Check the table that gives tubing sizes and rod sizes that indicate the proper overshot and grapple to be used.
3. Other parts needed to complete the fishing tool are:
 - a. Pump Barrels (enough feet to swallow the rod) 1-1/2” to 2” diameter depending on the tubing size. 1-1/2” barrels to fit 2-3/8” tubing and 2” barrels to fit 2-7/8” tubing.
 - b. Pump Barrel Connectors (1-1/2” or 2”) as many needed to connect pump barrels to reach the length of tool needed.
 - c. A Three-Wing open cage and top connector is needed to attach fishing tool to the rods, it will be run into the tubing. The Three-Wing Connector is open, allowing fluid to travel through to the fishing tool as it runs into the barrels.
 - d. A cross-over connector is needed to attach the pump barrels to the overshot. There are three sizes that can be used. Obtain the proper size by screwing it into the overshot and the pump barrels.
 - e. Assemble the fishing tool on location. (Always clean and oil all the threads on each piece of equipment.)
4. Use a steel rod at the top of the rod string to fish with and unseat the pump. Never use a pipe wrench on the fiberglass sucker rod body or end fitting.

It is necessary to turn the fishing tool clockwise as it is going down over the splintered rod. The culprit guide on the end of the fishing tool is designed to kick the splinters inside the tool as it is being turned. It is possible to miss a splinter and need to pickup and start over until all the splinters are on the inside of the fishing tool.
5. If the fish cannot be caught by turning the tool clockwise, pick up about 30’ and drop the rods quickly.

This procedure has to be repeated to break the splinters and allow the overshot to catch the end fitting of the **Superod®** Suckerod.