



FORTRESS CYCLOPS 500

Setting Tool

The Fortress Setting Tool is a gas operated, oil-free setting tool, designed to replace the standard and disposable wireline setting tools. Its patented design includes a proprietary dampening stage and dual bleed off to safely and efficiently set any downhole tool that is designed to be run on the 2 1/8" MSST setting tool.



SPECIFICATIONS

Size	500
Stroke Length	8.5"
Setting Force	30,000 lbs
Overall Length	55.19"
OD	2.125"
Weight	31 lbs

FEATURES

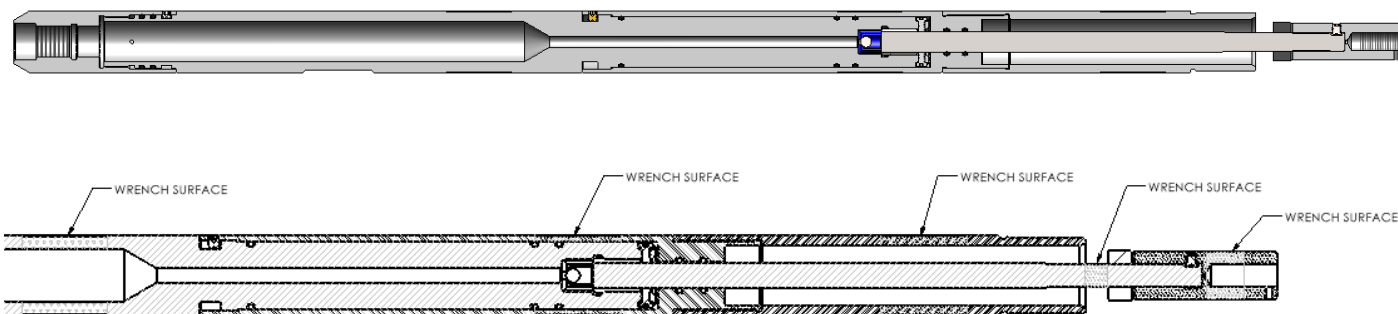
- Utilizes the GO 1 7/16" firing head and igniter
- Utilizes Cyclops 500 specific power charge
- Compatible with 2 1/8 MSST GO wireline adapter kits
- No Oil
- Anti-preset shear screws
- Redundant, self-bleeding mechanisms
- Compact design can be easily handled by 1 person
- Emergency Bleed off mechanism



Fortress Downhole Tools

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Cyclops BOM

- 1 Tension Cushion
- 2 Run Ready Dampening Stage
- 3 Power Charge Chamber
- 4 Upper Pressure Sleeve
- 5 Tension Mandrel
- 6 Tension Mandrel Adapter
- 7 Lower Pressure Sleeve
- 9 1/4-20 Set Screw
- 10 1/4-20 Socket Head Set Screw
- 11 3/8-16 Brass Shear Screw
- 13 318 Nitrile O-Rings
- 14 328 Nitrile O-Rings

Running Instructions

Pre-Run

- 1) Remove Cyclops Setting Tool from the "ready" tool box on location.
- 2) Install power charge into the ID of the Cyclops Setting Tool.
- 3) Place the plastic bag, glove, or dust cover over the top sub and tape into place. This will protect the tool ID from debris and also prevent moisture from getting into the tool ID with the power charge.
- 4) Prior to running, remove the protective covering and inspect the O-rings and tool ID for debris on the O-rings or inside of the tool.
- 5) Grease the firing head O-rings using O-ring grease.
- 6) Thread the top of the tools onto the firing head and torque to a minimum of 500 ft-lbs.
- 7) Install the WLAK for the frac plug and the frac plug per the manufacturer's requirements.
- 8) Pick up the BHA per wireline operations requirements and run in hole.

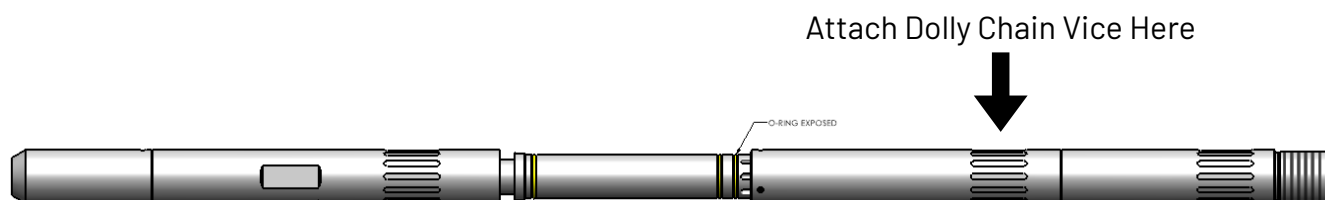
Attach Dolly Chain Vice Here



Wrench here for installation
onto the firing head

Post-Run

- 1) Once the tool enters the tool trap, set down gently on the tool trap in order to prevent re-setting the o-ring seals, potential trapping residual lubricator pressure in the tool.
- 2) Lower the tool out of the lubricator and identify whether all 3 of the external O-rings are exposed.
 - a) If the O-rings are all exposed, then the tool is completely bled off and there is no potential for trapped residual lubricator pressure.
 - b) If the lower O-rings are shrouded by the upper pressure chamber, then the tool should be treated as though there is residual lubricator pressure. See emergency bleed off section below.
- 3) Lay down the BHA for disassembly.
- 4) Completely remove the Cyclops Setting Tool from the BHA.
- 5) Remove burnt power charge debris from the Cyclops Setting Tool.
- 6) Remove the WLAK from the bottom of the Cyclops Setting Tool.
- 7) Place the used tool in the supplied "used" tool box on location facing with the firing head end facing outward.



Wireline Adapter Kit Removal Procedure

- 1) When removing the WLAK from the used setting tool, the position of the sleeves may vary.
 - a. If the tool is in the fully stroked position, screws on the inner adapter or tension mandrel can be accessed by removing the lower pressure sleeve.
 - b. If the tool must be stroked back into the running position to access the WLAK screws, DO NOT STRIKE OR DROP THE SETTING TOOL ON THE TOP CONNECTION.
- 1) Option 1 (after laying down the BHA and removing the tool) :
 - a. Cut the three (3) O-rings on the OD of the pressure chamber.
 - b. Place the pressure chamber in a vice.
 - c. Using the setting sleeve of the WLAK as the impact point, bump the bottom of the sleeve to stroke the tool back.
- 2) Option 2 (with BHA suspended vertically, prior to laying down):
 - a. Cut the three (3) O-rings on the OD of the pressure chamber.
 - b. Lower BHA onto the WLAK setting sleeve, allowing the weight of the BHA to stroke the tool back.

	CAUTION	Depending on the design of the frac plug WLAK, the screw access holes in the setting sleeve and end of the inner adapter can cause a pinch point when stroking the setting tool. Keep hands and fingers away from these holes during all handling operations.
	CAUTION	<p>The photographs show the tool joint from different angles. Arrows point to specific holes on the tool joint, indicating potential pinch points.</p>

Emergency Bleed Off Procedure

- 1) Hold a wrench on the GO 1.50 firing head assembly.
- 2) Mark across the threaded connection between the firing head and pressure chamber so that you can count the rotations.
- 3) While holding back up on the pressure chamber, slowly unscrew the firing head until you hear the pressure start to bleed through the hole. Only rotate the firing head a maximum of 10 rotations.
- 4) This will allow the O-rings on the firing head to come off seat and the pressure will bleed off through the top threads of the pressure chamber cap.
- 5) Once the pressure is completely bled off, continue removing the setting tool from the firing head.

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