



# OPERATION MANUAL TURBO II Rigid CHAIN CUTTER 2250



\*\*\*\*\*SAVE THIS MANUAL FOR REFERENCE IN THE FUTURE\*\*\*\*\*

## **WARRANTY**

The Turbo II Rigid chain cutter is warranted for one year from purchase against manufacturers defect.

## **GENERAL SAFETY RULES**

!!Failure to read and follow these instructions may result in serious injury!!

- Dress properly – Do not wear loose clothing
- Always wear the proper eye protection
- Maintain the cutter with care. Keep the cutter clean and ...for better and safer performance.
- Never use any grease, oil, gasoline, brake fluids, or any other solvent to clean or lubricate the cutter.
- Never operate a tool under the influence of alcohol, drugs or any other medication
- Use only recommended parts and accessories listed. The use of parts and accessories not listed may result in damage or personal injury

## **SPECIFIC SAFETY RULES**

- ALWAYS remember to thoroughly clean the pipe prior to using the chain cutter. Remove all rocks, sand, dirt, and other debris as best as possible.
- ALWAYS make sure to check the cutter for any loose or missing parts prior to use.
- ALWAYS check the size of the pipe
- ALWAYS check the size for which the chain cutter is set up for, this includes the chain and skid.
- It is recommended that while operating the cutter, it be observed by sewer inspection cameras
- NEVER test the operation of the cutter outside of a properly closed pipe.
- ALWAYS make sure the cutter is fully inside of the pipe before turning on.

## SPECIFIC SAFETY RULES

- ALWAYS reel the cutter back to the manhole while it is still spinning to avoid the chain getting hung up on an offset
- NEVER pull the cutter out of the pipe with the hose reel.

## CHANGING THE SIZE OF THE SKID

To use the Turbo Rigid chain cutter in different sized pipes 6" - 12" the guide skid must be changed to the appropriate size

1. Start by placing one guide skid fin in a vise if possible.
2. Remove the HP swivel from the extension pipe.
3. Place a wrench on the stainless-steel collar that the HP swivel is connected to while also placing a wrench on the swivel itself.
4. Hold the wrench on the stainless-steel collar in place and turn the wrench on the swivel counter-clockwise to loosen.
5. Once the swivel is removed, the extension pipe is next
6. Take a crescent wrench and place on one guide skid fin to hold the chain cutter in place.
7. Use another wrench to turn the extension pipe collar counter-clockwise to loosen.
8. Remove the pipe from the skid and pull the body out from within it.
9. Place body into the new skid evenly so the guide skid fins fit into the predetermined slots on the body.
10. Use **Blue Loctite** on the threads of the new extension pipe and thread into the body clockwise.
11. Tighten using the two wrenches, one on the guide skid fins and one on the collar
12. Use **Blue Loctite** and Teflon tape on the threads of the HP swivel and thread into the stainless-steel collar clockwise.
13. Tighten using the two wrenches, one on the stainless-steel collar and one on the HP swivel

## OPERATION

***Applications include:*** Roots, grease and scale

1. Very important to double check the size of the pipe to make sure the cutter is set up appropriately.
2. Connect HP hose to the rear of the chain cutter at the swivel and tighten thoroughly.
3. Carefully lower the cutter into the **DOWNSTREAM** manhole so that the cutter moves against the flow of water
4. Use a hook rod to insert the cutter into the pipe if necessary
5. Turn the water pump on once the cutter is completely inside of the sewer pipe.
6. Increase the RPM's enough to enable the cutter to move up the line to the obstruction.
7. Listen carefully as the cutter will make a high pitch squeal, this indicates the cutter is spinning
8. Once the cutter has reached the obstruction increase the pressure up to 2000.
9. As the high pitch squeal bogs down to a hissing sound the cutter will need to be brought back towards the manhole enough for it to regain its momentum and continue to cut.
10. Never ram the cutter into an obstruction
11. Only continue upstream once the cutter easily passes thru the last cut area to avoid any hang-ups.
12. Be sure to bring the Turbo Chain Cutter back to the manhole while the cutter is in operation to avoid a stationary piece of chain getting caught on something
13. Stop the water pump when the cutter is about 5 – 8 feet away from the manhole.
14. Pull the remaining hose and cutter completely out of the pipe by hand. Using the hydraulics from the truck will damage the skid.

## CHAIN REPLACEMENT

Replacement chain comes in two different forms. Chain w/ bits cut to length ready to be attached to the quick-change chain retainer and 6ft bulk chain for the slide thru retainer.

### CHAIN REPLACEMENT FOR QUICK CHANGE CHAIN RETAINER

The quick-change chain retainer has three tabs that allow chain to be attached to it.

1. Attached one piece of chain to each tab, if the chain has a bit make sure the cutting edge is pointed counter-clockwise.
2. Apply ***Blue Loctite*** to the bolt
3. Slide- thru the chain and tab
4. Tighten nut as tight as possible by hand.

### CHAIN REPLACEMENT FOR SLIDE THRU RETAINER

The slide thru chain retainer can be used with chain cut to the exact pipe size or it can be used with a slightly smaller piece of chain to give the cutter a tapered effect.

1. Determine the type of setup, tapered or exact size
2. Use bolt cutters to cut the chain to the appropriate size
3. Slide the cut chain thru the slot in the retainer
4. Center the piece of chain within the retainer so that the cutter is balanced and there is equal links on both sides
5. Use ***Blue Loctite*** on both set screws and tighten them as tight as possible by hand.

## CHAIN CUTTER MAINTANENCE

Turbo Chain Cutters are designed to be a low maintenance and require no lubrication. Never use any oil, gasoline, brake fluids, or any other solvent to clean or lubricate the cutter.

1. Rinse cutter completely off when done using, paying special attention to the center pipe making sure there is no debris on it.

## REMOVING FRONT INSERTS

1. Depending on the cutter setup loosen either two set screws at the base of the slide thru retainer or five in the cross-cutter head.
2. Use one punch provided and insert into the base of the slide thru chain retainer or side of cross cutter head.
3. Use the second punch provided and Insert into the hole on the side of the quick-change chain retainer.
4. Hold the punch in the quick-change chain retainer stationary while turning the punch in the cutting head counter-clockwise. Once loose remove completely.
5. Remove the remaining items (quick change chain retainer, spacer and turbine) from the shaft.
6. After all items have been removed the front inserts will be exposed.
7. Remove the inserts with the allen wrench provided by turning counter-clockwise. Slight heat may need to be applied if they don't unscrew easily but be careful not to overheat
8. Use **Blue Loctite** and repeat the steps in reverse to install the inserts

## REMOVING THE REAR INSERTS

1. Locate the rear inserts in the body
2. Using the punch provided, turn the inserts counter-clockwise. Slight heat may need to be applied if they don't unscrew easily but be careful not to overhead.
3. Use **Blue Loctite** and repeat the steps in reverse to install the inserts.

## **Maintenance (continued)**

### **HP SWIVEL**

The HP Swivel should be regularly checked for connectivity and proper function. It should swivel smoothly with little to no friction. The HP Swivel is the only item on the chain cutter that may require grease lubrication.

- 1.** Locate the set screws on the swivel
- 2.** Remove both set screws by turning counter-clockwise