USB-USA

OPERATION MANUAL
TURBO 0 CHAIN CUTTER
2000

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

WARRANTY

The Turbo 0 chain cutter is warrantied 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 (con't)

- 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

The Turbo 0 chain cutter can be used as is for 4" pipe but can also be used in a 6" pipe with the appropriate guide skid.

Adding the skid

1. Place body into the new skid evenly
2. Use ***Blue Loctite*** on the threads of the new extension pipe and thread into the body clockwise.
3. Tighten using the two wrenches, one on the guide skid fins and one on the collar

Removing the skid

1. Start by placing one guide skid fin in a vise if possible
2. Place a wrench on the extension pipe's stainless-steel collar
3. Take a crescent wrench and place on one guide skid fin to hold the chain cutter in place and so the skid doesn't bend
4. Turn the wrench on the extension pipe collar counter-clockwise to loosen.
5. Remove the pipe from the skid and pull the body out from within it.

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
3. Carefully lower the cutter into the **DOWNSTREAM** manhole so that the cutter moves against the flow of water

OPERATION (con't)

4. Depending on the application, push the hose with the cutter attached up to the obstruction and then turn on the water pump. If that is not possible skip to step 5.
5. Once the cutter is completely in the sewer pipe turn on the water pump and increase the RPM's enough to enable the cutter to move up the line to the obstruction.
6. Listen carefully as the cutter will make a high pitch squeal, this indicates the cutter is spinning
7. Once the cutter has reached the obstruction increase the pressure
8. 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.
9. Never ram the cutter into an obstruction
10. Only continue upstream once the cutter easily passes thru the last cut area to avoid any hang-ups.
11. 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
12. Stop the water pump when the cutter is about 3 – 5 feet away from the manhole
13. Pull the remaining hose and cutter completely out of the pipe by hand.

CHAIN REPLACEMENT

This can be done different ways. USB offers pre-cut chain to length w/ bits ready to be attached, or 4ft bulk chain and/ or bits for DIY wielding.

CHAIN REPLACEMENT FOR CHAIN RETAINER RING

The chain retaining ring holds the chain on the cutter. To attach the chain the user must punch the barrel from the chain thru the ring.

1. Measure from the center of the ring to half your desired final dimension (ex. 2" from center = 4" final diameter)

CHAIN REPLACEMENT FOR CHAIN RETAINER RING (con't)

2. Using an inside link from the chain as your starting point, measure and cut enough chain to meet the measurement from step 1" (ex. 2" from center = 1 ¾" piece of chain or two inside and two outside links)
3. Preparing the chain to be attached to the ring, the user must punch out the pin first, then the barrel but try not to punch the barrel all the way thru the chain.
4. Slide- thru the chain and tab
5. Punch the barrel thru the chain and the ring so that it is flush

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.

INSTALLING SLIDE THRU CHAIN RETAINER

The slide thru chain retainer threads onto the shaft clockwise. Everything but the turbine should be removed from the shaft prior to installation.

1. Loosen the set screws in the cross-cutter head on the cutter.
2. Use one punch provided and insert into the side of cross cutter head.
3. Use the second punch provided and Insert into the hole on the side of the chain retainer.
4. Hold the punch in the chain retainer ring stationary while turning the punch in the cutting head counter-clockwise. Once loose remove completely.

5. With only the turbine left on the shaft, thread the Slide Thru Chain Retainer clockwise onto the shaft and tighten as tight as it can be. A pipe wrench to hold the turbine maybe necessary.

SHORTENING CUTTER

The Turbo 0 Chain Cutter can be shortened slightly in applications where overall length is an issue. Remove the cutter head and instead use the washer and elastic stop nut that was included with the cutter in its place.

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 the slide thru retainer or the set screws 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 chain retainer.
4. Hold the punch in the chain retainer ring stationary while turning the punch in the cutting head counter-clockwise. Once loose remove completely.
5. Remove the remaining items (chain retainer ring, 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

CHAIN CUTTER MAINTANENCE (con't)

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 allen wrench 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.