Operator’s & Safety Manual

MANUAL PIPE CHAIN CUTTER
PN 8000

AUTOMATIC PIPE CHAIN CUTTER
PN 8001
THANK YOU.
Thank you very much for purchasing this product. Read this instruction manual thoroughly to insure correct, safe and effective use of the machine. Read the manual first to understand how to operate and maintain the machine. Make sure you read, understand and take all the necessary safety precautions.

SAFETY PRECAUTIONS
This product is designed to be safe, but it can cause serious accidents if not operated correctly. Those who operate and repair this machine must read this manual thoroughly before operating, inspecting, and maintaining the machine. Keep the manual near the machine so that anyone who operates the machine can refer to it as necessary.

• Don’t use the machine without the instruction manual.
• Use the machine only after you completely understood the contents of the manual.
• If an explanation in the manual is difficult to understand, contact our sales and service office.
• If the manual becomes lost or damaged, place an order with our company or sales service office for a new one.
• When transferring this machine to a new owner, be sure to hand over this manual to him as well.

QUALIFICATIONS
Operators and repair staff of this machine must completely understand the contents of the instruction manual and they must be qualified and educated to handle this equipment.

MACHINE SAFETY
• The machine casing is mainly made of aluminum alloy to reduce weight. For this reason, be careful not to drop heavy items on the machine, or not to drop the machine when carrying it, since the alloy is not designed to withstand such impact.
• When fixing a tip to the torch, tighten the nut with wrenches included, in addition, avoid damaging the taper of the tip for this may cause backfire.
• Never disassemble this machine other than during maintenance and inspection. Otherwise, malfunction will result.
• Never modify this machine, it is very dangerous.
• When changing the direction, make sure that the direction switches are in the middle (stop) position.

SAFETY CLOTHING
• Be sure to wear protective gloves, googles, helmet, and safety shoes during operation.
• Follow the best practices and safety guidelines.

SAFETY PRECAUTIONS BEFORE OPERATION AND TRANSPORT
• Inspect the machine for damage before each use.
• Read this instruction manual before operating the machine.
• Mount and center the machine correctly and confirm correct motion before operation.
• Prior to operation, check your surroundings to avoid accidents.
• Never move the machine while the preheat flame is on.
• When operating the machine overhead, take care of spatter that may injure people below.
• When connecting the hose, be sure to prevent the machine wheel from being impacted or knocked by any objects. Otherwise the broken surface of the wheel will cause vibration of machine body when wheel is running.
• The loosening of the chain will result in shifting of the machine. Proper adjusting of the chain is required.
• Keep hands away from moving parts.
• Be careful not to drop the machine while fastening the chain or when changing new chain.
• Don’t use distorted or rusted chain, will result in failure of mesh between teeth and gear.
• The chain length should match the diameter of the pipe.
• Don’t damage the running wheel. A damaged wheel will cause distortion on cutting face and discrepancy between starting and ending point.
• When you stop using the machine, don’t put machine on pipe.
• When moving the machine, be sure to hold the handle of the machine.
• Maintain the machine periodically.

GAS CUTTING SAFETY PRECAUTIONS
Strictly observe the safety rules and precautions to ensure the safety of gas cutting operations. Operators and supervisors MUST keep safety in mind.

PREVENTION OF EXPLOSION
• Never cut pressurized cylinders or hermetically sealed containers.
• Ensure sufficient ventilation for gas cutting to protect the air quality.

PRESSURE REGULATOR SAFETY PRECAUTIONS
• Before operating, check pressure regulators for correct operation.
• Ask a skilled engineer to perform maintenance and inspection services.
• Do not use malfunctioning pressure regulators or pressure regulators from which gas is leaking.
• Do not use pressure regulators smeared with oil or grease.

HIGH PRESSURE GAS CYLINDER SAFETY PRECAUTIONS
• Never use broken cylinders or cylinders from which gas is leaking.
• Install cylinders upright and take measures to prevent them from falling.
• Use cylinders only for specified purposes.
• Install cylinders in a place free from heat, sparks, slag, and open flame.
• Contact the distributors if the container valves cannot be opened. Never use a hammer, wrench, or other tool to forcibly open the valves.

SAFETY PRECAUTIONS FOR HOSES
• The oxygen hose is used for oxygen gas only.
• Replace cracked hoses or other hoses damaged by sparks, heat, unshielded fire, etc.
• Install hose without twisting.
• Don’t hold hoses when moving the machine.
• Periodically check the hoses for damage, leakage, fatigue, etc.
• Cut the hoses to minimum possible length. Short hoses reduce hose damage and pressure drop, as well as reduce the flow resistance.
SAFETY PRECAUTIONS FOR FIRE

- Keep a fire extinguisher in sight while in use.
- Keep flammables away from the cutting area to avoid splashing sparks.
- Before bringing the hot steel plates, as well as hot cut parts or scrap, to flammables, you must cool them down.
- Never cut metal which flammable materials are stuck to.

SAFETY PRECAUTIONS FOR SKIN BURNS

- Do not perform cutting near flammables. (Move flammables away from sparks)
- Do not cut containers filled with flammables.
- Do not keep lighters, matches, and other flammables nearby.
- Flames from the torch will burn the skin. Keep your body away from the torch and tip and check the safety before operating the switches and valves.
- Always use the appropriate personal protection equipment.
- Correctly tighten the tip to prevent backfire
- When fixing a tip to the torch, tighten the nut with two wrenches included.
- If the tip is tightened excessively, it will be heated during cutting and cause it to be tightened more making it difficult to remove the tip.
- Avoid damaging the taper tip because it may cause backfire.
- Check any leakage of gas from the connection part of the distributor, horses and torch with soapsuds.
- You must not use oil or grease on the connection of the oxygen pipe to avoid backfire, this may lead to explosion.

Check the following when igniting:

- Place the torch on the torch holder before igniting.
- Always wear the required PPE (gloves, helmet, goggles, etc.)
- Check for any obstacles, dangerous materials and flammables near or in the direction of cutting.
- Check the gas pressure. (The pressure must be in the right range.)

1. Gas distributor - Controls the flow of preheating oxygen, fuel gas and cutting oxygen, forming a cutting flame.
2. Wing nut - Controls the chain tension.
3. Handle - Drives the machine.
4. Torch slide handle - Moves the torch right and left.
5. Lateral bar
6. Torch
7. Up/down handle - Moves the torch up and down.
8. Wheel
9. Sprocket - Engaged with the chain. The sprocket rotates to move the machine.
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Specifications
Weight Machine 19 lbs.
Length 16.25 in.
Wheel width 8.26 in.
Height 16.25 in.
Effective pipe cutting diameter Ø 114-Ø 600
Thickness of pipe to be cut 2 in.
Cutting shape 1 shape cutting and V bevel cutting (up to 45 degrees)
Drive system Manual
Range of vertical torch movement 2 in.
Range of lateral torch movement 4 in.

Accessories
Tip 102 (for acetylene) 106 (for propane) #0,1,2 1 pc each
Tip Cleaner 1 set
Lighter 1 pc.

Ignition and Flame Adjustment
First cut the gas supply in and put hoses in order to make the machine move freely.

Open the fuel gas valves ¼ a turn, the preheating oxygen valves ½ a turn, and light the torch with an igniter.

Then, open the preheating oxygen valve gradually until a white cone of the standard flame gas has been obtained. (The incandescent area should be uniform and about 5-6 mm in length.)

Open the cutting oxygen valve fully. Readjust the flame if its state has changed. A disorderly flow of cutting oxygen will adversely affect the quality of the cutting surface. In such case, close the preheating oxygen valve and fuel gas valve. You should clean the tip with a suitable needle while the cutting oxygen is flowing.

Appropriate distance between the end tip and cutting surface: Acetylene gas…..8-10mm or ¼ - 3/8 inches

Neutral flame ensures a good quality of cutting surfaces. (Oxygen flame may be used for groove cutting.) Oxygen flame causes short cutting-oxygen current, allowing slugs to adhere, melting the upper edge of the cutting surface, and causing adverse effects on the cutting surface. Similar defects will occur when the pressure of cutting oxygen is too high.

METHODS OF CUTTING AND PIERCING
• Cut from the end of pipe.
• Pierce pipe before cutting.
• Drill a hole before cutting
Prevention of Backfire
Backfires may cause serious accidents or fires. Be careful to prevent such disaster. When backfire occurs, you should find the cause. Inspect and maintain the machine correctly before using the machine again.

The following are causes of backfire:

1. Improper gas pressure adjustment
2. Overheated tip
3. Clogging in tip
4. Damages to the tapered section of tip or torch will cause backfire.

Prevention of Flashback
Flashback could cause fire and damage of the machine. If there is a hissing sound in the torch, you should quickly take the following action:

1. Close the preheating oxygen valve.
2. Close the fuel gas valve
3. Close the cutting oxygen valve

If the flashback occurs, you should find the cause and take appropriate action before using the machine again.
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Assembly Info and Part #’s for Guide Band and Beveling Machines
Manual Pipe Chain Cutter - PN 8000

Note: Machine Shown is PN 8001
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LOCATIONS OF DATA LABELS:
Data labels are placed on the machine for correct operation. Carefully read the labels and follow the instructions on them when operating the machine.

Never remove the labels and keep them clean and legible at all times.
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OUTLINE OF MACHINE

1. Drive wheel - Four drive wheels can make the machine move steadily along the pipe wall.

2. Chain - The machine is run along the rail by the chain’s driving.

3. Torch up/down knob - Changes the height.

4. Rack bar - Changes the horizontal position of the torch.

5. Torch - Cutting thickness: 6-50 mm

6. Gear box - Adjust speed

7. Hose - Two hoses form one set. One hose is used for oxygen pre-heating, and the other hose is for preheating fuel and cutting oxygen.

8. Fixing knob - Screwing down this knob can fix parts and hoses.

9. Gas distributor - Distributes gas into pre-heating oxygen, pre-heating fuel and cutting oxygen separately.

10. Clutch lever - Controls the running of the machine.

11. Main body of machine.

12. Principle shaft

13. Sliding rack

14. Butterfly wing nut - Used to control the extent of loosening or tightening between the machine and the pipe.
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Assembly Info and Part #’s for Guide Band and Beveling Machines

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Order of Assembly

Assembled
Automatic Pipe Chain Cutter - PN 8001

PN 8006

Note: Machine Shown is PN 8001

PN 8006