

Plasma 375 Plasma Cutter Kit Assembly & Operating Instructions



READ ALL INSTRUCTIONS AND WARNINGS BEFORE USING THIS PRODUCT.

This manual provides important information on proper operation & maintenance. Every effort has been made to ensure the accuracy of this manual. These instructions are not meant to cover every possible condition and situation that may occur. **We reserve the right to change this product at any time without prior notice.**

IF THERE IS ANY QUESTION ABOUT A CONDITION BEING SAFE OR UNSAFE, DO NOT OPERATE THIS PRODUCT!

HAVE QUESTIONS OR PROBLEMS? DO NOT RETURN THIS PRODUCT TO THE RETAILER - CONTACT CUSTOMER SERVICE.

FOR CONSUMER USE ONLY - NOT FOR PROFESSIONAL USE.

KEEP THIS MANUAL, SALES RECEIPT & APPLICABLE WARRANTY FOR FUTURE REFERENCE.

GENERAL PRODUCT SPECIFICATIONS

SPECIFICATIONS

Single Phase 230V-60HZ
25A Max
Output 120V DC
Duty Cycle 35% at 40A
No-load Voltage 340V
Air Pressure 4.5 CFM@ 60 PSI
Cuts 3/8" Mild Steel, 1/4" Aluminum,
1/4" Stainless Steel, 1/4" Galvanized Metal,
1/8" Copper, 1/8" Brass
Working Air Pressure Range = 40-90 psi

Pilot Arc Feature Cuts Expanded Metal

IGBT Inverter Plasma Cutter With Thermal
Overload Protection & Built-in Gas Regulator

FEATURES:

Includes 18.5 Ft Cutting Torch
10 Ft Earth Cable With Clamp
3 Pieces Nozzle
3 Pieces Electrode

Insulated Gate Bipolar Transistor (A solid state switch device (with no moving parts) that is used in order to allow power flow in the ON state and to stop flow when it is in the OFF state. Works by applying voltage to a semiconductor component, therefore changing its properties to block or create an electrical path)



⚠ WARNING

This product contains chemicals known to the State of California to cause cancer and birth effects or other reproductive harm.

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READ ALL INSTRUCTIONS AND WARNINGS BEFORE USING THIS PRODUCT.

FOR CONSUMER USE ONLY – NOT FOR PROFESSIONAL USE

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

This manual contains important information regarding safety, operation, maintenance and storage of this product. Before use, read carefully and understand all warnings, cautions, instructions and labels. Failure to do so could result in serious personal injury, property damage or even death.

IMPORTANT SAFETY RULES

COMMON SENSE AND CAUTION ARE FACTORS WHICH CANNOT BE BUILT INTO ANY PRODUCT. THESE FACTORS MUST BE SUPPLIED BY THE OPERATOR.

WARNING

Keep your work area clean and well lit. Cluttered work benches and dark work areas may cause accidents or injury.

Keep bystanders, children and visitors away while operating the compressor. Distractions can cause you to lose control.

CAUTION

Do not force tool. Use the correct tool for your application. The correct tool will do the job better and safer at the rate for which it is designed.

Store idle tools out of reach of children and other untrained persons. Tools are dangerous in the hands of untrained users.

WARNING

Use common sense while operating this welder.

Do not use this tool if you are:

- Feeling tired or are under the influence of alcohol or drugs.
- Wearing loose clothing or jewelry. Keep long hair pulled back and away from moving parts.
- Overreaching or have improper footing. Handling the tool in this way could cause serious injury.
- Wear the proper safety equipment, such as safety goggles, dust masks, non-skid shoes, etc.
- Check to be sure all adjusting keys or wrenches have been removed before use.

WARNING

Safety glasses and ear protection must be worn during operation. Wear eye protection (see ANSI Z49.1 safety standard) while cutting to protect your eyes from harmful UV and IR ray's.

Read the manual carefully. Learn the tool's applications and limitations, as well as specific potential hazards peculiar to it.

Ground all tools. If the tool is equipped with three-pin plug, it should be plugged into a three-pin electrical socket. Never remove the ground pin.

Avoid body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerators. There is an increased risk of electric shock if your body is grounded.

Do not expose tool to moisture. Don't use this tool in damp or wet locations: Keep out of rain.

Do not abuse cord. Never use the cord to carry tools or pull the plug from an outlet. Keep cord away from heat, sharp edges or moving parts. Replace damaged cords immediately. Damaged cords increase the risk of electric shock.

Don't overreach. Keep proper footing and balance at all times when operating this tool.

Disconnect the tool from power source before making any adjustments, storing, servicing, or changing accessories. This will reduce the risk of starting the tool accidentally.

Do not force tool. Use the correct tool for your application. The correct tool will do the job better and safer at the rate for which it was designed.

⚠ WARNING

Do not use the tool if the switch does not turn it on and off. Any tool that cannot be controlled with the switch is dangerous and must be repaired.

Check for damage. Check your tool regularly. If part of the tool is damaged it should be carefully inspected to make sure that it can perform its' intended function correctly. If in doubt, the part should be repaired. Refer all servicing to a qualified technician. Consult your dealer for advice.

Keep away from flammables. Do not attempt to operate this tool near flammable materials or combustibles. Failure to comply may cause serious injury or death.

Store idle tools out of the reach of children and untrained persons. Tools may be dangerous in the hands of untrained users.

Maintain tools with care. Keep tools sharp and clean. Properly maintained tools, with sharp cutting edges, are less likely to bind and are easier to control.

Never exceed the pressure rating of any component in system.

Protect material and air lines from damage or puncture. Keep hose and power cable away from sharp objects, moisture, chemicals, oil, etc.

Check condition of hoses before each use. Do not use a damaged hose. If hose is damaged, replace immediately.

Read, understand and comply with all warning labels on unit.

Keep harmful arc rays shielded from the view of others.

Mount the plasma cutter on a secure bench or cart that will keep the welder secure and prevent it from tipping over or falling.

Check all cables, power cord and torch to be sure the insulation is not damaged. Always replace or repair damaged components before using the plasma cutter.

Check all components to ensure they are clean and in good operating condition before use.

Do not operate the plasma cutter if the torch is wet. Do not immerse the plasma torch. Do not stand in water while using this plasma cutter. These components and the plasma cutter must be completely dry before attempting to use it.

Keep the plasma cutter in the off position when not in use.

Connect ground lead as close to the area being cut as possible to ensure a good ground.

Do not allow any body part to come in contact with the material being cut, or to the ground or electrode from another plasma cutter or welder.

Do not cut if you are in an awkward position. Always have a secure stance while cutting to prevent accidents. Wear a safety harness if working above ground.

Do not drape cables over or around your body.

Wear eye protection (see ANSI Z49.1 safety standard) while cutting to protect your eyes from harmful UV and IR ray's.

⚠ WARNING

Wear proper gloves and protective clothing to prevent your skin from being exposed to hot metals, UV and IR rays.

Do not overuse or overheat your plasma cutter. Allow proper cooling time between duty cycles.

Keep hands and fingers away from moving parts.

Do not point the Plasma torch at any body part or at anyone else.

Always use this plasma cutter in the rated duty cycle to prevent excessive heat and failure.

DESCRIPTION

⚠ WARNING

Plasma cutting equipment produces fumes or gases which contain chemicals known to the state of California to cause birth defects and, in some cases, cancer. (California Health & Safety code section 25249.5 et seq.)

Gas Pressure Display

The built-in gas display is used for reading the output gas pressure when cutting.

Gas Pressure Adjustor

It is used for adjusting the gas pressure. The gas pressure can be read from the gas pressure display on the front panel. Normally, the pressure should be adjusted between 55-90psi. When cutting, this light is on to show the unit is on working mode.

Cutting Current Adjustor

Variable adjust the output cutting current. The higher output matches the thicker metal. The maximum cutting thickness is up to 3/8" for this unit. Please note that the maximum cutting thickness varies depending on the material type you are cutting.

Low Gas Indicator Light

This light will be on when the gas flow is low.

Ground Cable Connection

Connect the ground cable to the positive (+) receptacle on the front of the plasma cutter. The ground cable clamp connects to your work piece.

Torch Control Cable Connection

The black cable on the torch connects to the 3-Prong receptacle on the front of the machine. Push on to snap in place. This is the control cable for the torch.

Torch Arc Starting Cable Connection

This connector is for the red cable of the torch. It is used to help the arc starting.

Torch Connection

Connect the torch to the negative (-) receptacle.

Protection Indicator Light

When the unit is in thermal overload, is over voltage or lacking voltage, the indicator will be on and the machine will stop working. When the unit is cooled down and voltage stabilizes, the unit will return to work automatically.

Power Indicator Light

This light will turn on when the input power cord is plugged into the power supply and the power switch on the back of the plasma cutter is in the "ON" position.

Gas Hose Connection

The gas hose connection is on the back panel of the plasma cutter. This connection requires a 1/4 inch NPT connection (not supplied). The other end of the gas hose connects to an air compressor or compressed air supply.

Power Switch

It is the on/off switch. After the machine is connected to the input power supply, turn on this switch. The power indicator on the front panel will turn on.

Power Cord

There is a 50 amp plug on this cable. Plug this into a 230V, 50amp circuit breaker power supply

INSTALLATION

⚠ WARNING

Power requirement AC single phase 230 (220-240V) 60HZ fused with a 50 amp time delayed fuse or circuit breaker is required. DO NOT OPERATE THIS UNIT if the ACTUAL power source voltage is less than 170 volts AC or greater than 250 volts AC.

High voltage danger from power source! Consult a qualified electrician for proper installation of receptacle. This cutter must be Grounded while in use to protect the operator from electrical shock.

Do not remove grounding prong or alter the plug in any way. Do not use any adapters between the cutter's power cord and the power source receptacle. Make sure the POWER switch is OFF when connecting your cutter's power cord to a properly grounded 230 VAC, 60Hz, 1 phase, 50 amp input power supply.

INSTALLING THE CUTTING TORCH

1. Prepare all the necessary components.
2. Screw in the electrode to the cutting torch.
3. Slide on the diffuser.
4. Line the electrode and nozzle and slide on.

Install the cover to the torch and screw on.

INSTALLING THE TORCH

Connect the red cable with the red terminal on the front side of the plasma cutter. onnect the torch control cable to the black, round, 3-pronged connector on the front of the plasma cutter. Be certain to properly align the notch in the connector with the groove in the plug.

Connect the torch to the negative (-) receptacle.

Connect the grounding cable to the positive (+) receptacle.

OPERATION

WARNING

High voltage danger from power source! Consult a qualified electrician for proper installation of receptacle at the power source. This cutter must be grounded while in use to protect the operator from electrical shock. If you are not sure if your outlet is properly grounded, have it checked by a qualified electrician. Do not cut off the grounding prong or alter the plug in any way and do not use any adapters between the cutter's power cord and the power source receptacle. Make sure the POWER switch is OFF then connect your welder's power cord to a properly grounded 230 Vac (220v-240v), 60Hz, single phase, 50 amp power source.

Check the plasma cutter to see if it has been connected correctly and is in good working condition and that it complies with safe operation requirements.

Switch on the power supply switch of the cutter to observe if the operation is normal. If it is normal, the fan should start up and the Power Supply Indicator Light should be on. If there is no compressed air or the air pressure is low the Low Pressure Indicator Light will be on.

Adjust the air supply valve until the air pressure is up to the cutting torch requirement. (Lowest pressure should be no less than 50 PSI), the Low Pressure Indicator Light will not be lit up in those conditions.

Adjust the air flow to be sure it is consistent.

Pull the torch trigger. The cutting operation begins after the cutting plasma pilot arc is made.

Metal Sheet Cutting

Put the torch's nozzle at the start of the work piece. Turn on the torch switch to ignite the plasma pilot. After the work piece is cut thorough, move the torch along the cutting direction uniformly. The cutting speed is determined by watching to see if the cutting goes all the way through. If the speed is too fast, the work piece won't be cut thorough, or if too slow, the cut quality would be affected, excessive warping may occur, or the arc could stop.

When you've completed the cutting process, turn off the torch; the plasma pilot arc will stop.

Metal Mesh Cutting

Fix the work piece and connect the earth cable with the work piece.

Put the cutting nozzle onto the work piece, lift torch up slightly from the work piece and turn on the switch to cut.

Unnecessary igniting of the pilot arc in the air will reduce the life-span of the torch's electrode.

It is best to start cutting at the edge of the work piece, unless you are piercing the work piece.

Keep a space between the nozzle and the work piece. Pressing the nozzle on the work piece could cause the nozzle to stick, reducing the smoothness of the cutting action creating an undesirable result.

Keep the torch's nozzle vertical against the work piece, and watch to be sure the arc is moving along the cutting line.

⚠ WARNING

For thin materials reduce the amperage setting to get the best cutting quality, reduce excessive warping and to extend the life of the electrode and nozzle.

Do not rapidly switch the torch trigger on and off; this will damage the pilot arc system and work piece.

The plasma cutter's working air pressure range is 40-90psi. The internal pressure switch will shut off when air pressure falls below 50psi. The switch only works when the pressure rises to 50psi or above.

Every 4-8 hours, check the air filter on your air supply and remove excess moisture. Too much moisture in the cutter or torch may lead to operational trouble.

Always unplug the power supply before checking for and removing moisture.

Never allow a person with a cardiac pacemaker close to the working area without the permission of a doctor. The magnetic field produced by plasma cutters during operation can disrupt pacemakers and similar devices.

Never clean the slag off the torch head by hitting it against a hard object.

SERVICE

Tool service must be performed only by qualified repair personnel. Service or maintenance by unqualified personnel could result in a risk of injury.

When servicing a tool, use only identical replacement parts and follow instructions in the manual. Use of unauthorized parts or failure to follow Maintenance Instructions may create a risk of shock or injury.

⚠ WARNING

Before using this tool, you need to become familiar with its operation.

- **Be sure your work area is clean and secure.** Be sure the area is free from all foreign material, nails, staples, or any other material.
- **Always use the appropriate safety gear when operating.** Including but not limited to, goggles, dust mask or respirator.