

Eastwood[®]

DO THE JOB RIGHT.[®]

Part #12740

VERSA-CUT 40 PLASMA CUTTER

ASSEMBLY & OPERATING INSTRUCTIONS



The **Eastwood Versa-Cut 40 Plasma Cutter** makes clean, fast cuts through steel, stainless or aluminum as thin as 24-gauge, or as thick as 3/8". Compared to mechanical cutting, our Versa-Cut Plasma Cutter works significantly faster, and makes curved and intricate cuts more easily and precisely. Inverter technology offers superior arc stability and cutting power using either 110 or 220 volts, making this a portable unit that is also light weight. A built in pilot arc system allows for instant arc striking and ease of use when cutting rusty material and expanded metal. The internal moisture separator helps to ensure clean dry air gets to the torch to give you consistent results.

STATEMENT OF LIMITED WARRANTY

The Eastwood Company (hereinafter "Eastwood") warrants to the end user (purchaser) of all new welding and cutting equipment (collectively called the "products") that it will be free of defects in workmanship and material. This warranty is void if the equipment has been subjected to improper installation, improper care or abnormal operations.

WARRANTY PERIOD:

All warranty periods begin on the date of purchase from Eastwood. Warranty Periods are listed below, along with the products covered during those warranty periods:

3 Year Warranty on Material, Workmanship, and Defects:

- Eastwood Versa-Cut Plasma Cutter

Items not covered under this warranty: Electrodes, nozzles, diffuser, and external nozzle.

All other components are covered by the warranty and will be repaired or replaced at the discretion of Eastwood.

2 Years:

- All Welding Helmets.

CONDITIONS OF WARRANTY TO OBTAIN WARRANTY COVERAGE:

Purchaser must first contact Eastwood at 1-800-345-1178 for an RMA# before Eastwood will accept any welder returns.

Final determination of warranty on welding and cutting equipment will be made by Eastwood.

WARRANTY REPAIR:

If Eastwood confirms the existence of a defect covered under this warranty plan, Eastwood will determine whether repair or replacement is the most suitable option to rectify the defect. At Eastwood's request, the purchaser must return, to Eastwood, any products claimed defective under Eastwood's warranty.

FREIGHT COSTS:

The purchaser is responsible for shipment to and from Eastwood.

WARRANTY LIMITATIONS:

EASTWOOD WILL NOT ACCEPT RESPONSIBILITY OR LIABILITY FOR REPAIRS UNLESS MADE BY EASTWOOD. EASTWOOD'S LIABILITY UNDER THIS WARRANTY SHALL NOT EXCEED THE COST OF CORRECTING THE DEFECT OF THE EASTWOOD PRODUCT. EASTWOOD WILL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (SUCH AS LOSS OF BUSINESS, ETC.) CAUSED BY THE DEFECT OR THE TIME INVOLVED TO CORRECT THE DEFECT. THIS WRITTEN WARRANTY IS THE ONLY EXPRESS WARRANTY PROVIDED BY EASTWOOD WITH RESPECT TO ITS PRODUCTS. WARRANTIES IMPLIED BY LAW SUCH AS THE WARRANTY OF MERCHANTABILITY ARE LIMITED TO THE DURATION OF THIS LIMITED WARRANTY FOR THE EQUIPMENT INVOLVED. THIS WARRANTY GIVES THE PURCHASER SPECIFIC LEGAL RIGHTS. THE PURCHASER MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

SPECIFICATIONS

Amperage Output Range	Output Voltage	Weight	Duty Cycle	Overall Dimensions	Electrical Input	Air Requirements
14-40 Amps	96 V	29 Lbs.	60% @ 40 A	20" (508mm) x 9.75" (248mm) x 20" (508mm)	110 VAC or 220 VAC	5-7 CFM @ 60 psi

DUTY CYCLE

The rated Duty cycle refers to the amount of plasma cutting that can be done within an amount of time. The Eastwood Versa-Cut 40 Plasma Cutter has a duty cycle of 60% at 40 Amps. It is easiest to look at your cutting time in blocks of 10 Minutes and the Duty Cycle being a percentage of that 10 Minutes. If cutting at 40 Amps with a 60% Duty Cycle, within a 10 Minute block of time you can cut for 6 Minutes with 4 Minutes of cooling for the cutter. To increase the duty cycle you can turn down the Amperage Output control.

SAFETY INFORMATION

READ AND UNDERSTAND ALL INSTRUCTIONS AND PRECAUTIONS BEFORE PROCEEDING.

This unit emits powerful high current and extreme heat which can cause severe burns, dismemberment, electrical shock and death. Eastwood shall not be held liable for consequences due to deliberate or unintentional misuse of this product.

IMPORTANT NOTE

These instructions are intended only to provide the user with some familiarity of the Eastwood Cut 40 Plasma Cutter. Electric arc cutting is a highly complex procedure with many variables. If you have no experience with electric arc cutting, it is extremely important to seek the advice of someone experienced in electric arc cutting for instruction, enroll in a local technical school welding course or study a comprehensive how-to DVD and obtain a good quality reference book on welding plasma cutting and welding as there is a moderate learning curve necessary before achieving proficiency. Before attempting to use this unit on an actual project or object of value, practice on a similar material as there are many variables present and settings required when cutting or welding different metals such as steel and stainless steel. It is also strongly recommended that the user adhere to the American Welding Society guidelines, codes and applications prior to producing welds where safety is affected.

SAFETY INFORMATION

Plasma cutting can be dangerous to you and other persons in the work area. Read and understand this instruction manual before using your Eastwood Plasma Cutter. Injury or death can occur if safe welding practices are not followed. Safety information is set forth below and throughout this manual.

To learn more about welding safety, read OSHA Title 29 CFR 1910, available at www.osha.gov; ANSI Z49.1, "Safety in Welding, Cutting and Allied Processes," available at www.aws.org; and the consumable manufacturer's Safety Data Sheet.

The following explanations are displayed in this manual, on the labeling, and on all other information provided with this product:

DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to personal injury.



DANGER **ELECTRIC SHOCK CAN CAUSE INJURY OR DEATH!**

- Improper use of a Plasma Cutter can cause electric shock, injury and death! Read all precautions described in the Plasma Cutter Manual to reduce the possibility of electric shock.
- Disconnect Plasma Cutter from power supply before assembly, disassembly or maintenance of the torch, contact tip, and when installing or removing nozzles.
- Always wear dry, protective clothing and leather welding gloves and insulated footwear. Use suitable clothing made from durable flame-resistant material to protect your skin.
- If other persons or pets are in the area of plasma cutting, use welding screens to protect bystanders from sparks.
- Always operate the Plasma Cutter in a clean, dry, well ventilated area. Do not operate the Plasma Cutter in humid, wet, rainy or poorly ventilated areas.
- The electrode and work (or ground) circuits are electrically "hot" when the Plasma Cutter is on. Do not allow these "hot" parts to come in contact with your bare skin or wet clothing.
- Separate yourself from the arcing circuit by using insulating mats to prevent contact from the work surface.
- Be sure that the work piece is properly supported and grounded prior to beginning a plasma cutting operation.
- Always attach the ground clamp to the piece to be cut and as close to the cutting area as possible. This will give the least resistance and best cut.

SAFETY INFORMATION



⚠ DANGER SPARKS CAN CAUSE FIRE OR EXPLOSION!

- Plasma cutting produces sparks which can be discharged considerable distances at high velocity igniting flammable or explosive vapors and materials.
DO NOT operate electric arc Plasma Cutter in areas where flammable or explosive vapors are present.
DO NOT use near combustible surfaces. Remove all flammable items from the work area where welding sparks can reach (minimum of 35 ft).
- Always keep a fire extinguisher nearby while plasma cutting.
- Use welding blankets to protect painted and or flammable surfaces; rubber weather-stripping, dash boards, engines, etc.
- Ensure power supply has properly rated wiring to handle power usage.



⚠ WARNING ELECTROMAGNETIC FIELDS CAN BE A HEALTH HAZARD!

- The electromagnetic field that is generated during plasma cutting may interfere with various electrical and electronic devices such as cardiac pacemakers. Anyone using such devices should consult with their physician prior to performing any electric plasma cutting.
- Exposure to electromagnetic fields while plasma cutting may have other health effects which are not known.



⚠ WARNING ARC RAYS CAN INJURE EYES AND BURN!

- Arc rays produce intense ultraviolet radiation which can burn exposed skin and cause eye damage. Use a shield with the proper filter [a minimum of #8 shade is recommended per OSHA 29CFR 1910.133(a)(5)] to protect your eyes from sparks and the rays of the arc when plasma cutting or when observing an open plasma arc (see ANSI Z49.1 and Z87.1 for safety standards).
- Use suitable clothing made from durable flame-resistant material to protect your skin.
- If other persons or pets are in the area of a plasma arc, use welding screens to protect bystanders from sparks and arc rays.



⚠ WARNING FUMES AND WELDING GASES CAN BE A HEALTH HAZARD!

- Fumes and gasses released during plasma cutting are hazardous. Do not breathe fumes that are produced by the plasma cutting operation.
- Prolonged inhalation of plasma cutting fumes above safety exposure limits can injure the lungs and other organs.
- Use enough ventilation and/or exhaust at the arc to keep fumes and gases from your breathing area.
- Use an OSHA approved respirator when plasma cutting in confined spaces or where there is inadequate ventilation.
- Use extreme caution when plasma cutting coated materials including but not limited to: cadmium plated, galvanized, lead based paints.



⚠ CAUTION HOT METAL AND TOOLS WILL BURN!

- Electric plasma cutting heats metal and tools to temperatures that will cause severe burns!
- Use protective, heat resistant gloves and clothing when using Eastwood or any other plasma cutting equipment. Never touch a cut work surface, torch tip or nozzle until they have completely cooled.



⚠ CAUTION FLYING METAL CHIPS CAN CAUSE INJURY!

- Grinding and sanding will eject metal chips, dust, debris and sparks at high velocity. To prevent eye injury wear approved safety glasses.
- Wear an OSHA-approved respirator when grinding or sanding.
- Read all manuals included with specific grinders, sanders or other power tools used before and after the plasma cutting process. Be aware of all power tool safety warnings.



⚠ CAUTION ELECTRICAL FIRE HAZARD!

- Be certain that all wiring and breakers of the electrical supply are rated to accommodate the maximum power demands of the Cut 40.



⚠ NOTICE FIRST AID

- If exposed to excessive fumes move to an area with fresh air.
- For burns or other injuries follow basic first aid techniques and call a physician or emergency medical personnel.

REQUIRED ITEMS

Before you begin using the Eastwood Versa Cut Plasma Cutter make sure you have the following:

- A clean, dry air supply source for the torch. An air compressor capable of delivering 5-7 CFM @ 60 PSI is required. You can even use a portable air tank with regulator. The air supply must be dry and the use of a moisture trap is strongly recommended.
- Eastwood recommends at a minimum a properly grounded 110-120 VAC 50/60Hz., 20 Amp circuit or 220-240 VAC 50/60Hz., 30 Amp circuit.
NOTE: Unit must be grounded to work properly and safely!
- A clean, safe, well-lit, dry, and well-ventilated work area.
- A non-flammable, long sleeve shirt or jacket.
- Heavy Duty Welding Gloves (#12590 or equivalent)
- Auto Darkening Welding Mask (#13203) or glasses (#13948) to provide eye protection during cutting operations.

POWER REQUIREMENTS

The Eastwood Versa-Cut Plasma Cutter is voltage sensing; it will automatically operate on 110-120 VAC, 50/60Hz., or 220-240 VAC, 50/60 Hz. Our Versa-Cut Plasma Cutter is supplied with the popular NEMA 6-50P plug, requiring a NEMA 6-50R receptacle. If a 220-240 VAC, 30 Amp outlet is used a UL listed 30 Amp plug may be installed by a licensed and qualified electrician.

BEFORE YOU BEGIN

Remove all items from the box. Compare with list below to make sure unit is complete.

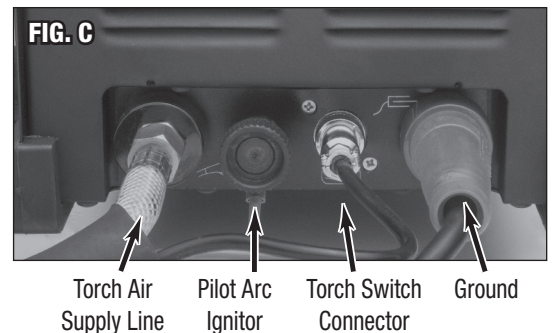
- Versa-Cut Plasma Cutter
- Torch and 20' Supply Line.
- 240 Volt to 120 Volt grounded adapter cord.
- 10' Ground Lead and clamp.
- Instruction Booklet
- Face Shield
- Extra Electrode and Nozzle

SET UP

- After the desired current source is determined, be sure the proper plug is used and the appropriate circuitry and breakers are in place.
- Do not plug unit in at this time and make sure the Power Switch on the left side of The Front Panel is in the OFF position (**FIG. A**).
- Install an air fitting compatible with your air line into the 1/4" NPT fitting on the rear of the plasma cutter (**FIG. B**).
- Attach the Torch Air Supply Line to the lower left of the front panel and tighten (**FIG. C**).
- Attach the Torch Switch Connector Cable to the Multi-Pin Connector located at the third from left of the lower front panel (**FIG. C**).
- Remove the black threaded knob (2nd from left) and place the terminal of the red lead over the post, then replace the knob and tighten (**FIG. C**).
- Attach the Ground Lead Connector to the terminal located at the lower right of the front panel (**FIG. C**).

OPERATION

1. Before attempting to use this unit on an actual project or object of value, practice on a similar material as there is a moderate learning curve necessary before achieving proficiency in cutting.
2. Place the Ground Cable Clamp on a clean, bare area of your workpiece. Scrape, wire brush, file or grind a bare area if necessary to achieve a good ground.
3. Set the Air Pressure to the appropriate pressure with the Knob located at the upper right side of the front panel (**FIG. C**). The Pressure Indicating Gauge is located directly above the Air Pressure Knob and is set at 60 PSI.
4. Set the Output Amperage Knob (**FIG. C**) located at the center of the upper panel to an appropriate setting based on the thickness of the metal being cut; lower amperage for thinner metals, higher amperage for thicker metals. Keep in mind that "more is not always better" as too high of an amperage setting will result in a lower duty cycle.
5. Make sure all your safety gear is in place (Shaded Eye Protection, Welding Gloves, non-flammable long sleeve apparel) and the area is completely free of flammable material.
6. The best results are achieved by holding the tip at a 90° angle to the cut line (**FIG. D**).
7. To begin cutting, depress the Torch Trigger to ignite the pilot arc. The tip of the torch must be touching or within a short distance to the work piece to begin the cut.



⚠ WARNING ARC RAYS CAN INJURE EYES AND BURN!

- Arc rays produce intense ultraviolet radiation which can burn exposed skin and cause eye damage. Use a shield with the proper filter (a minimum of #8) to protect your eyes from sparks and the rays of the arc when plasma cutting or when observing an open plasma arc (see ANSI Z49.1 and Z87.1 for safety standards).
- Use suitable clothing made from durable flame-resistant material to protect your skin.
- If other persons or pets are in the area of a plasma arc, use welding screens to protect bystanders from sparks and arc rays.

⚠ WARNING FUMES AND WELDING GASES CAN BE A HEALTH HAZARD!

- Fumes and gasses released during plasma cutting are hazardous. Do not breathe fumes that are produced by the plasma cutting operation.
- Prolonged inhalation of plasma cutting fumes above safety exposure limits can injure the lungs and other organs.
- Use enough ventilation and/or exhaust at the arc to keep fumes and gases from your breathing area.
- Use an OSHA approved respirator when plasma cutting in confined spaces or where there is inadequate ventilation.
- Use extrema caution when plasma cutting coated materials including but not limited to: cadmium plated, galvanized, lead based paints.

⚠ CAUTION HOT METAL AND TOOLS WILL BURN!

- Electric plasma cutting heats metal and tools to temperatures that will cause severe burns!

1. With practice, you will be able to exercise precise control over this extremely powerful device, harnessing its energy to create clean, precise and intricate cuts in many forms of steel and iron up to 3/8" thick.
2. While you practice, experiment with different speeds. You will find that thinner materials will allow a faster motion while thicker materials will require a slower motion to achieve a through cut.
3. A good form of practice is to attempt a series of straight lines while creating the cleanest edge possible with a minimum of molten material remaining on the cut edge. This minimizes the cleanup of the edge with a grinder or file. Another excellent technique is to practice cutting your initials out of a piece of steel.

Versa-Cut Plasma Cutter - Air Pressure and Amperage Settings*

Metal Thickness	1/32"	1/16"	3/32"	1/8"	5/32"	3/16"
Amps	20	20	20	20	20	20
PSI	60	60	60	60	60	60

Metal Thickness	7/32"	1/4"	9/32"	5/16"	11/32"	3/8"
Amps	30	30	30	40	40	40
PSI	60	60	60	60	60	60

*These settings are guidelines and may need to be adjusted based on your techniques.

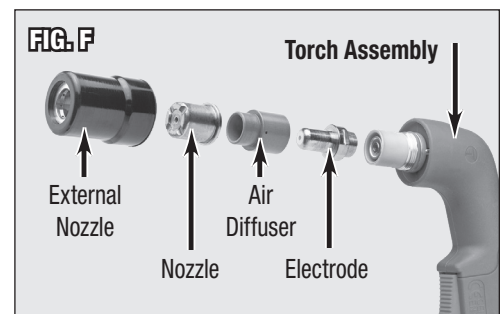
CARE & MAINTENANCE

- It is extremely important that the air supply be clean and dry. A separate moisture trap, water/oil separator or desiccant system should be used. The Versa-Cut Plasma Cutter has a built-in "last-chance" moisture separator which drains automatically when the air source is removed.
- Draining the water/oil separator while the unit is pressurized is recommended so that all oil or water is discharged. To do this, raise the unit so that you are able to see the drain fitting on the bottom/rear of the unit (**FIG. E**). Use a screwdriver to press the drain fitting into the unit, which will discharge any oil or water from the separator.
- Constantly inspect the torch tip for excessive erosion, molten metal accumulation or burning. If damaged, it must be replaced.
- Before each use, inspect ALL electrical connections, cables, supply line, torch, air supply, housing and controls for damage. If any damage or wear is noted, DO NOT USE THE UNIT.
- Always store the unit in a safe, clean and dry environment.



TORCH MAINTENANCE

The Eastwood Versa Cut Plasma Cutter has a number of consumable parts that will need to be replaced over time. If wear or slag build up is noticed on any of the torch components, replace them immediately to avoid damage to the torch. Worn components will also contribute to poor cutting and difficult arc starting. See the torch components (**FIG. F**) exploded view for a reference of all of the components and the assembly order.



⚠ DANGER ELECTRIC SHOCK CAN CAUSE INJURY OR DEATH!

- Improper use of a Plasma Cutter can cause electric shock, injury and death! Read all precautions described in the Plasma Cutter Manual to reduce the possibility of electric shock.
- Disconnect Plasma Cutter from power supply before assembly, disassembly or maintenance of the torch, contact tip and when installing or removing nozzles.
- Always wear dry, protective clothing and leather welding gloves and insulated footwear. Use suitable clothing made from durable flame-resistant material to protect your skin.
- If other persons or pets are in the area of plasma cutting, use welding screens to protect bystanders from sparks.
- Always operate the Plasma Cutter in a clean, dry, well ventilated area. Do not operate the Plasma Cutter in humid, wet, rainy or poorly ventilated areas.
- The electrode and work (or ground) circuits are electrically "hot" when the Plasma Cutter is on. Do not allow these "hot" parts to come in contact with your bare skin or wet clothing.
- Separate yourself from the arcing circuit by using insulating mats to prevent contact from the work surface.
- Be sure that the work piece is properly supported and grounded prior to beginning a plasma cutting operation.
- Always attach the ground clamp to the piece to be cut and as close to the cutting area as possible. This will give the least resistance and best cut.

TROUBLESHOOTING

PROBLEM	CAUSE	CORRECTION
Entire Unit Shuts Off During Use, Switch is in the "On" Position	Unit Has Overheated	The unit has overheated from exceeding the duty cycle and the internal thermal protection circuitry has been activated. Turn the main power switch off, wait several minutes to allow cooling then turn power switch back on. The unit is ready for service.
Power Switch is "On", the Indicator Light is Illuminated, the Fan is Running, However, When the Torch Activation is Depressed, There is No Sound from the Pilot ARC Igniter and There is No Air Flow	Torch Not Receiving Power	Check all connections. A loose connection will prevent Torch activation.
	Torch Tip Not Receiving Power	Check for damaged lines, Torch or Torch Tip.
	Tip Not Receiving Power	Inspect the Torch Tip for damage, excessive molten material build-up or excessive burning. Replace if necessary.
Power Switch is "On", the Indicator Light is Illuminated, the Fan is Running and When the Torch Activation Button is Depressed, There is No Airflow Through the Torch, the Pilot ARC Igniter is Activating, However, A Plasma ARC Cannot be Started	Torch Not Receiving Power	Check all connections. A loose connection will prevent Torch activation.
	Torch Not Receiving Power	Check for damaged lines, Torch or Torch Tip.
	Torch Tip Damaged	Inspect the Torch Tip for damage, excessive molten material build-up or excessive burning. Replace if necessary.
	Incorrect Voltage	Input voltage is too low or too high (below 110V or above 240V).
	Air Pressure Too Low	Air pressure is too low or too high. Adjust to 60 PSI.
The Pilot ARC is Spattering	Air Pressure Too High	Lower air pressure to 60 PSI or below.
	Nozzle Worn	Replace the nozzle and electrode in the torch.

REPLACEMENT ITEMS:

- #20173 Plasma Cutter Torch Assembly
- #12812 Electrode (10pk)
- #12814 Nozzle (10pk)
- #13787 External Nozzle
- #13788 Air Diffuser(2pk)
- #20282 Cut 40 Consumables Kit
- #20619 Plasma Cut 40 Cover

If you have any questions about the use of this product, please contact

The Eastwood Technical Assistance Service Department: 800.343.9353 >> email: tech@eastwood.com

PDF version of this manual is available at eastwood.com

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