

Please read and save these instructions. Read through this owner's manual carefully before using product. Protect yourself and others by observing all safety information, warnings, and cautions. Failure to comply with instructions could result in personal injury and/or damage to product or property. Please retain instructions for future reference.



PLASMA CUTTER 110/220V 40 AMP

FOR CUSTOMER SERVICE

Technical Question?

CALL 1-866-458-247
customerservice@oem-tools.com

UNPACKING

After unpacking the unit, inspect carefully for any damage that may have occurred during transit. Check for loose, missing, or damaged parts. If any damage is observed, a shipping damage claim must be filed with the carrier. DO NOT use the OEMTOOLS™ 24814 Plasma Cutter if broken, bent, cracked or damaged parts (including labels) are noted. Any Plasma Cutter that appears damaged in any way, operates abnormally or is missing parts should be removed from service immediately. If you suspect that the Plasma Cutter was subjected to shock load (a load that was dropped suddenly, unexpectedly, etc.), immediately discontinue use until it has been checked by a factory authorized service center.



⚠ WARNING

The following safety information is provided as a guideline to help you operate your Plasma Cutter under the safest possible conditions. Any tool or piece of equipment can be potentially dangerous to use when safety or safe handling instructions are not known or not followed. The following safety instructions are to provide the user with the information necessary for safe use and operation. Please read and retain these instructions for the continued safe use of your Plasma Cutter. Failure to follow instructions listed below may result in serious injury. In addition, make sure that anyone who uses the equipment understands and follows these safety instructions as well.

Explanation of Safety Signal Words

⚠ WARNING: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION: Used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

NOTES: Provide clarity and helpful information.

Thank you very much for choosing an OEMTOOLS™ Product!

For future reference, please register your new tool at www.oem-tools.com and complete the owner's record below:

Model: _____ **Purchase Date:** _____

Save the receipt, warranty and these instructions. It is important that you read the entire manual to become familiar with this product before you begin using it. This product is designed for certain applications only. OEMTOOLS™ cannot be responsible for issues arising from modification. We strongly recommend this product is not modified and/or used for any application other than that for which it was designed. If you have any questions relative to a particular application, DO NOT use the product until you have first contacted customer service to determine if it can or should be performed on the product.



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! IMPORTANT INSTRUCTIONS AND SAFETY RULES

1. Know your product. Read this manual carefully. Learn the product's applications and limitations, as well as potential hazards specific to it.
2. Keep work area clean and well lit. Cluttered or dark work areas invite accidents.
3. Keep children away. All children should be kept away from the work area. Never let a child handle tools or equipment without strict adult supervision.
4. DO NOT operate this product if under the influence of alcohol or drugs. Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, DO NOT attempt to operate.
5. Use safety equipment. Eye protection should be worn at all times when operating this tool. Use ANSI approved safety glasses. Everyday eyeglasses are NOT safety glasses. Dust mask, non-skid safety shoes, hard hat or hearing protection should be used in appropriate conditions.
6. Wear proper apparel. Loose clothing, gloves, neck-ties, rings, bracelets or other jewelry may present a potential hazard when operating this product. Keep all apparel clear of the product.
7. DO NOT overreach. Keep proper footing and balance at all times when operating this product.
8. Check for damage. Check equipment regularly. If part of the product is damaged, it should be carefully inspected to make sure that it can perform its intended function correctly. If in doubt, discontinue use of product.
9. Keep away from flammables. DO NOT attempt to operate this product near flammable materials or combustibles. Failure to comply may cause serious injury or death.
10. Store this product out of the reach of children and untrained persons. This product may be dangerous in the hands of untrained users.
11. Keep this product dry and clean.
12. Use only accessories that are recommended by the manufacturer for your model. Accessories that may be suitable for one product may become hazardous when used on another product.
13. Service must be performed only by qualified repair personnel. Service or maintenance performed by unqualified personnel could result in a risk of injury.
14. When servicing a product, use only identical replacement parts. Use of unauthorized parts or failure to follow maintenance instructions may create a risk of injury.
15. Maintain a safe working environment. Keep the work area well lit. Make sure there is adequate surrounding workspace. Keep the work area free of obstructions, grease, oil, trash, and other debris. Do not use this product in a damp or wet location.
16. Maintain labels and nameplates on this product. These carry important information. If unreadable or missing, contact OEMTOOLS™ for a replacement.
17. Keep this product dry, clean, and free from brake fluid, oil, and grease.
18. Avoid accidental fire. DO NOT smoke near this product.
19. The warnings, precautions, and instructions discussed in this manual cannot cover all possible conditions and situations that may occur. The operator must understand that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.
20. We believe the information contained herein to be reliable. However, general technical information is given by us without charge and the user shall employ such information at their own discretion and risk. We assume no responsibility for results or damages incurred from the use of such information in whole or in part.
21. The manufacturer declines any and all responsibility for property damage or injury if said damage is the result of unskillful handling by the operator or of failure to observe the basic safety rules set forth in the instruction manual.
22. The procedures documented in this manual are to serve as guidelines for the use of this equipment.
23. The use of this equipment is simple and straightforward if you follow the instructions. When operating this equipment, use common sense, and only use this equipment for its intended purpose.

PRODUCT DESCRIPTION

The OEMTOOLS™ 24814 Plasma Cutter cuts mild steel, copper, brass, stainless steel and aluminum. This portable Plasma Cutter is compatible with 110V and 220V AC power.

PRODUCT SPECIFICATIONS

Input Voltage	110V AC / 220V AC
Input Current	20A / 28A
Input Frequency	60Hz
Rated Duty Cycle	60% @ 30A (110V); 60% @ 40A (220V)
Output Current Range	20-40A
Output Voltage	96V DC
Gas Required	Compressed Air
Air Requirements	60-70 PSI
Plasma Cutter Weight	26.5 Lbs.

CONTENTS

(1) Plasma Cutter, (1) Plasma Torch, (1) Ground Cable with Clamp, (1) 110V Adapter Cord, (1) Protective Face Mask with Lens and (1) Chipping Hammer/Brush

GENERAL CUTTING SAFETY AND INSTRUCTIONS

⚠ WARNING: Thoroughly read and understand the provided product manual before attempting to use this product.

⚠ WARNING: PLASMA CUTTING CAN BE DANGEROUS.

1. DO NOT allow untrained persons or children to operate. Ensure people in the surrounding area understand the dangers and precautions associated with plasma cutting prior to use.



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2. CONSULT WITH A PHYSICIAN PRIOR TO OPERATION IF YOU HAVE A PACEMAKER. Plasma Cutters create an Electromagnetic Field (EMF) which can interfere with pacemakers. These High Frequency (HF) waves may disturb other sensitive electronic equipment.

3. DO NOT attempt to perform repairs on this product.

▲WARNING: PLASMA CUTTING PRODUCES ARC AND UV RAYS THAT CAN BURN SKIN AND CAUSE EYE DAMAGE.

1. Signs should be posted within the workspace stating hazards and precautions associated with plasma cutting and related protection.
2. The operator and nearby personnel located in the workspace should wear protective shields conforming to ANSI standards, with the proper filter and cover plates to protect eyes from sparks and arc rays.
3. The operator and nearby personnel located in the welding workspace should wear protective clothing made with flame-resistant material to protect skin from sparks, metal and arc rays.

▲WARNING: PLASMA CUTTING PRODUCES ELECTROMAGNETIC FIELDS. THESE FIELDS ARE DANGEROUS AND CAN CAUSE SERIOUS INJURY OR DEATH IF PRECAUTIONS ARE NOT FOLLOWED.

1. Plasma Cutting current creates an Electromagnetic Field (EMF) around the machine, leads and cords. EM fields interfere with some pacemakers (as stated previously), and prolonged exposure to EM fields may have other health effects that are undetermined. Before operating this product, the operator and personnel located within the workspace should understand that there are health risks (determined and undetermined) associated with arc rays and EM fields.
2. MINIMIZE EXPOSURE TO EM FIELDS BY EMPLOYING THE FOLLOWING PRECAUTIONS:
 - a. DO NOT place your body between the electrode and the work cables.
 - b. DO NOT coil or wrap the leads around any part of the body.
 - c. DO NOT SEPARATE work cables and leads. Route and secure the cables together.
 - d. DO NOT work/cut directly beside the power source.
 - e. Ensure the ground cable is connected to the workpiece as close to the cut as possible.

▲WARNING: SPARKS CAN CAUSE FIRE AND EXPLOSION, WHICH CAN LEAD TO INJURY, DEATH AND PROPERTY DAMAGE. ALWAYS HAVE A FIRE EXTINGUISHER WITHIN THE WORK AREA AND IMPLEMENT A FIRE ESCAPE PLAN.

1. Remove all flammable items and potential fire hazards from the workspace. If there are fire hazards that cannot be removed, these should be covered with a fire-resistant cover.
2. DO NOT operate near hydraulic, fuel or natural gas lines.
3. DO NOT operate near flammable gases, residue or greases. Take proper steps to ventilate and clean workspace prior to use.

4. DO NOT operate near compressed gases. DO NOT heat, cut or weld tanks, drums or other containers that may have stored flammable gases or liquids. While these tanks may be "empty", residue will remain that could lead to fire or explosion.
5. It is imperative that the operator and personnel located within the workspace wear oil-free, flame-resistant clothing. Clothing should provide full coverage: heavy leather gloves, long-sleeve shirt, full length pants (no cuff), high protective leather boots and a welding cap that covers all hair. Clothing should be well fitted; loose fitting clothing may create a fire hazard. When operating in confined spaces, flame-resistant earplugs or earmuffs should be worn.
6. DO NOT connect the work cable to building framework. Connect the Ground Clamp to work as close the cut as possible.
7. All cylinders should be securely stored in an upright position away from workspace. Plasma cutting can project sparks and debris that may strike cylinders. DO NOT allow the machine, Ground Cable or Torch to contact a cylinder. Prior to cutting, ensure the valves on all cylinders in the vicinity are closed.
8. ALWAYS check the workpiece and surrounding work area for smoke, flame, sparks or evidence of fire.

▲WARNING: ELECTRIC SHOCK CAN KILL. DO NOT TOUCH Torch, WORK OR GROUND WHILE THE PLASMA CUTTER IS PLUGGED INTO A POWER SOURCE.

1. DO NOT wear wet clothing or gloves.
2. DO NOT place the electrode in water.
3. DO NOT allow components of (2) Plasma Cutters to come into contact while either machine is plugged into a power source.
4. ALWAYS connect to a grounded, GFCI-protected power supply.
5. ALWAYS insulate yourself from the workpiece and ground. Non-flammable, dry insulating material is recommended.
6. Install and ground equipment in accordance with the US National Electrical Code, local codes and according to this instruction/installation manual.
7. Ensure the Ground Clamp is properly connected to the metal being cut.
8. Ensure that all welding equipment and leads are well maintained and in safe operating condition prior to each use.

▲WARNING: PLASMA CUTTING MAY PRODUCE FUMES AND GASES THAT ARE HAZARDOUS TO THE HEALTH OF THE OPERATOR AND PERSONNEL LOCATED WITHIN THE WELDING WORKSPACE. EXPOSURE TO THESE FUMES CAN INCREASE THE RISK OF DEVELOPING CANCER, HEART DISEASE, EARLY ONSET PARKINSON'S DISEASE AND VARIOUS REPRODUCTIVE, RESPIRATORY AND DIGESTIVE DISEASES.

1. DO NOT place your head near the cutting arc; avoid breathing fumes while cutting. Ensure proper ventilation.



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- Cutting hard-facing, galvanized, stainless and other plated steels or metals produces highly toxic fumes. Always read the MSDS for the product, metal or work prior to cutting. Exhaust, mechanical ventilation and a respirator may be required for minimal exposure to these fumes.
- Cylinders and containers that may have held harmful gases should be properly vented prior to cutting. Failure to ventilate these containers will produce toxic gases that are harmful to the operator and all personnel located within the workspace.
- DO NOT cut near chlorinated hydrocarbons from degreasing, cleaning or spraying operations.
- Read and understand the product instructions and MSDS sheet for any consumables or products used in conjunction with this product. There are risks outside of the operation of this product that can cause unsafe working conditions.

SPECIFIC SAFETY INSTRUCTIONS

- DO NOT connect to power while assembling or performing maintenance on this unit.
- DO NOT attempt to use if the unit fails to switch ON or OFF.
- DO NOT exceed the Rated Duty Cycle (see page 5),
- ALWAYS ensure the Power is in the OFF position prior to plugging the unit into a power source.
- ALL INSTALLATION AND REPAIR OF THIS EQUIPMENT SHOULD BE PERFORMED BY A QUALIFIED TECHNICIAN IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL CODES.

INTRODUCTION TO PLASMA CUTTING

Plasma – Channel of superheated, electrically ionized gas.

Plasma Arc Cutting – Compressed air is pushed through a focused nozzle directed toward an electrically conductive workpiece. An electrical arc is formed within the gas, between an integrated electrode (within the nozzle of the Torch) and the workpiece. Electricity from the Torch travels through the plasma to heat and melt the workpiece. The plasma blows the melted metal away from the workpiece, creating separation.

NOTE: Plasma cutting is used to create controlled separation of material, at a specified/focused depth and width.

ASSEMBLY INSTRUCTIONS

⚠WARNING: Read all warnings and safety instructions prior to installing this product.

- Unpack all items from the box and reference the parts list to ensure all parts are present before continuing assembly.
- Place the Plasma Cutter onto a clean, protected surface that can support the weight of the Plasma Cutter. Ensure the Plasma Cutter is placed at a distance that will not overextend the cord or place tension on the plug.
- The Plasma Cutter can be plugged into a properly

grounded 110V AC or 220V AC outlet. When connecting to a 110V AC power source, the 110V adapter must be used.

POWER REQUIREMENT 110V:

DO NOT attempt to operate this unit if the power source voltage is less than 110V AC or greater than 130V AC.

POWER REQUIREMENT 220V:

DO NOT attempt to operate this unit if the power source voltage is less than 215V AC or greater than 240V AC.

NOTE: It is recommended that an extension cord not be used with this Plasma Cutter; the voltage drop can affect cutting performance.

- The Plasma Torch is preassembled. Connect the Plasma Torch to the Plasma Cutter.
- Connect the Ground Cable/Clamp to the Plasma Cutter.
- Connect to a compressed air source (air requirements: 60-70 PSI). It is highly recommended to use a moisture removing filter between compressor and the Plasma Cutter.

NOTE: Check the cylinder valves and connection points for any oil, grease, dirt or debris.

OPERATING INSTRUCTIONS

NOTE: These instructions describe very basic processes as they apply to the operation of this Plasma Cutter. There are many different types of Plasma Cutters and cutting procedures that cannot be described in detail by this instruction manual. Proficiency in plasma cutting requires practice, education and testing. DO NOT rely solely on this product manual for instructions on proper plasma cutting technique. By using this product, the operator understands that OEMTOOLS™ cannot be held responsible for property damage caused by operator negligence, ignorance or general mistakes..

NOTE: After reading through this manual, it is recommended that the operator, despite experience level, practice cutting scrap metal with this Plasma Cutter. General operation and performance will vary by model.

- Thoroughly read the Assembly Instruction Section and complete product installation.
- Connect the Ground Clamp to a clean, bare metal surface on the workpiece. If necessary, use the wire brush to scrape/file any paint or residue from the surface of the workpiece to achieve a proper ground.
- Switch the Power to ON.
- Set the air pressure within the recommended range (60-70 PSI). Higher air pressure is needed to cut thicker/harder metals, lower air pressure is needed to cut thinner metals.
- Set the output amperage to the desired setting. Higher amperage is needed to cut thicker/harder metals, lower amperage is needed to cut thinner metals.

⚠WARNING: DO NOT attempt to operate the Plasma



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Cutter without the proper protective equipment. Reference the safety instructions prior to attempting use.

6. Hold the Plasma Torch within 1/8" of the workpiece and press Trigger. This will initiate the cutting arc.
7. Move the Plasma Torch across the workpiece at a slow, controlled pace.
8. When the cut is complete, release the trigger and remove from the workpiece.
9. Switch the Power to OFF.
10. Unplug the Power Cord from the Power Source.

Torch ELECTRODE AND TIP REPLACEMENT INSTRUCTIONS

▲WARNING: Turn off the Plasma Cutter and unplug from the power source before servicing Torch.

▲WARNING: Allow Torch to cool sufficiently after use before attempting to service.

NOTE: The Torch head assembly consists of an Electrode, Diffuser, Tip and Shield Cup.

NOTE: The Electrode and Tip are consumable items and will need to be replaced periodically.

1. Rotate the Shield Cup counterclockwise until the unit is released from the Torch head.
2. Remove the Tip from the Electrode and Diffuser. Replace if needed.
3. Remove the Diffuser from the Electrode. Replace if needed.
4. Remove the Electrode from the Torch. Replace if needed.
5. Reassemble prior to use.

▲CAUTION: DO NOT overtighten the Shield Cup. The Shield Cup thread is designed to leave a gap between the Shield Cup and the Torch head assembly to release gas. Overtightening the Shield cup can cause irreparable damage to the internal components of the Torch.

DUTY CYCLE

To avoid product damage and personal injury, DO NOT cut for longer than the prescribed Duty Cycle Time. This Plasma Cutter has a 60% Duty Cycle Time at 30A (110V) and 60% Duty Cycle Time at 40A (220V). At either voltage, this Plasma Cutter can cut for 6 seconds out of every 10 second time period. Failure to comply may lead to product failure.

HELPFUL TIPS

1. Thoroughly clean surfaces prior to cutting. Brush or sand off all paint, adhesive and oxidation.
2. Higher air pressure is needed to cut thicker/harder metals, lower air pressure is needed to cut thinner metals.
3. Higher amperage is needed to cut thicker/harder metals, lower amperage is needed to cut thinner metals.

4. Cut speed will affect quality and cut finish. During the cutting process, dross (build-up of molten material around the cut area) will occur depending on the cutting speed and operator experience/ability.
 - a. Top Dross – Occurs when the Torch is held too far from the workpiece. This can be wiped away using a Welding Glove.
 - b. Slow Speed Dross – A bead that collects at the bottom edge of the cut. This bead can be easily removed by scraping.
 - c. High Speed Dross – A narrow bead that collects at the bottom edge of the cut. This bead is difficult to remove, and requires a grinder.

STORAGE

▲WARNING: Always turn OFF and unplug before placing into storage.

Store the Plasma Cutter in an upright position and in a clean, dry area. DO NOT store near flammable items or open flames.

PRODUCT MAINTENANCE

▲WARNING: DO NOT attempt to repair this product. Contact qualified service personnel.

▲WARNING: Always turn OFF and unplug this Plasma Cutter before attempting product maintenance.

1. Wipe dust, grease and debris from the Plasma Cutter casing before and after each use.
- ▲WARNING:** DO NOT use water.
2. Evaluate the machine for any issues that may hinder the machine or accessories from performing in accordance with proper operation. If any issues are noted, DO NOT attempt to use. Contact customer service.
3. Check the Torch Tip and Electrode for wear that may impede the use of this unit. Wipe away any dirt, dust or debris using a dry, clean cloth.
4. Check the Torch and cables for any signs of wear. If any damage is noted, discontinue use and contact customer service.

DISPOSAL

At the end of the useful life of the OEMTOOLS™ 24814 Plasma Cutter, dispose of the components in accordance with all federal, state and local regulations.



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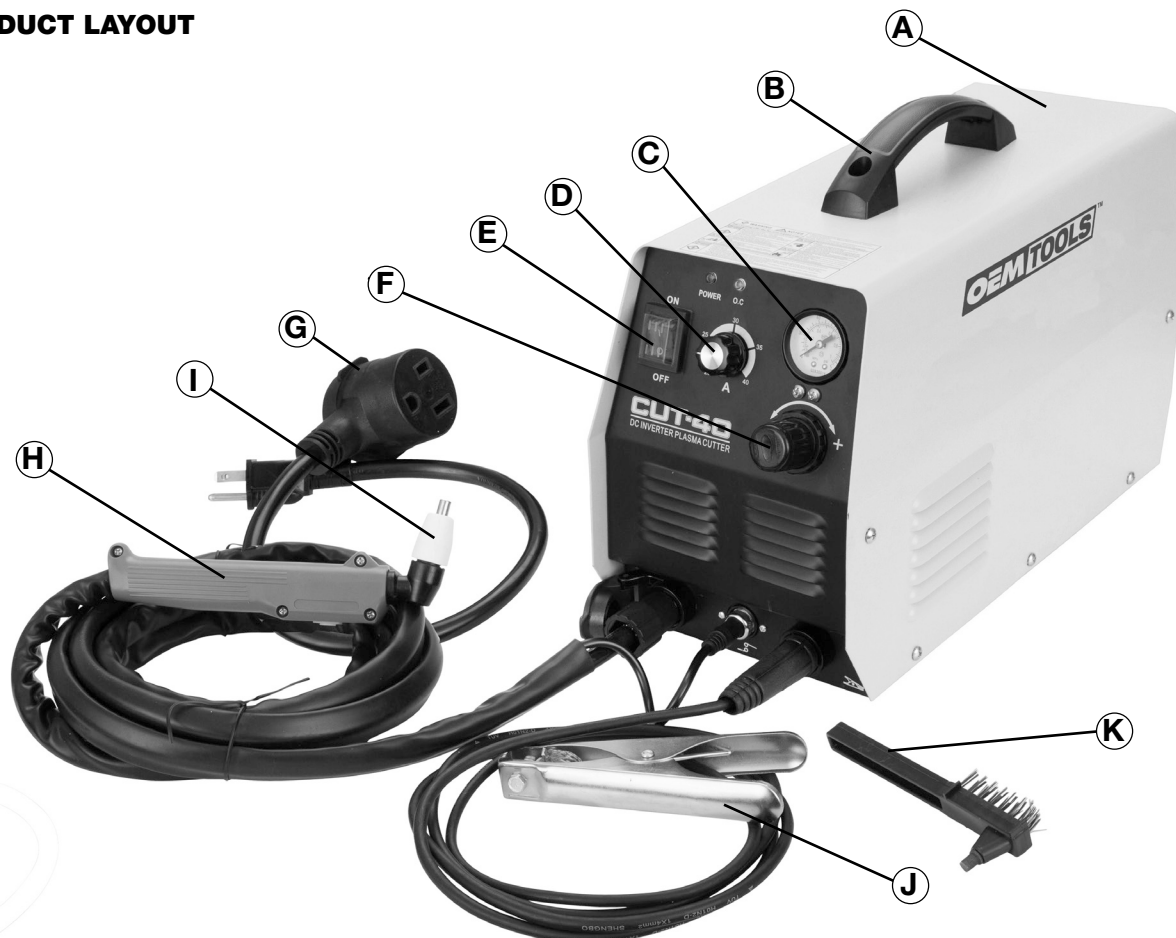
TROUBLESHOOTING

Problem	Possible Cause	Possible Solution
No cutting output, power light is off	No power is supplied to the unit	Ensure the power cord is plugged in
		Check the power cord and plug for damage
		Reset circuit breaker
No cutting output, power light is on	No airflow	Check air connection and airflow output
	Faulty Ground Clamp and Torch connection	Check Clamp and Torch connections
	Faulty or incorrect tip is used	Review Cutting Tip installation and maintenance instructions
	Plasma Cutter has malfunctioned	Discontinue use and contact customer service
Insufficient cutting	Workpiece thickness exceeds safe cutting practices for this unit	Discontinue use immediately
	Insufficient power supply	Check power supply; contact a certified electrician
	Torch is moved too quickly	Reduce cutting speed
	Airflow is too low	Increase airflow
	Amperage is set too low	Increase amperage settings
	Moisture in Torch	Hold Torch above clean surface and allow to purge (DO NOT pull Trigger, as this will initiate arcing)
Cutting is causing excessive metal spatter and sparking	Amperage is set too high	Decrease amperage settings
	Airflow is too high	Decrease airflow
No output from Torch	Airflow is too low	Increase pressure to the recommended range
	Faulty Torch	Contact customer service
	Faulty components in Plasma Cutter	Contact customer service
Arc ceases while the Trigger is pressed	Power supply has overheated	Unplug, let cool and restart
	Unit has overheated	Unplug, let cool and restart (reference the Duty Cycle Time for further detail)
	Faulty or incorrect tip is used	Review cutting tip installation and maintenance instructions
	Airflow is too low	Increase pressure to the recommended range



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PRODUCT LAYOUT



PARTS DESCRIPTION

Figure	Description	Qty.
A	Plasma Cutter	1
B	Handle	1
C	Air Pressure Gauge	1
D	Amperage Setting	1
E	Power Switch	1
F	Air Pressure Setting	1
G	110V/220V Adapter	1
H	Torch	1
I	Torch Nozzle Assembly	1
J	Ground Cable with Clamp	1
K	Chipping Hammer/Brush	1
L	Power Cord*	1
M	Protective Face Mask and Lens*	1

*Not Shown



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OEMTOOLS™ One Year Warranty

For up to one year from the date of purchase of this OEMTOOLS™ product, if you find any defect in material or workmanship (through normal usage), return it to the place of purchase or to OEMTOOLS™ for repair or replacement at our discretion. In order to obtain this service, send the product and proof of purchase (transportation pre-paid) to:

OEMTOOLS™ Q.A. Dept, 3580 E. Raines Road #3, Memphis, TN 38118.

We will not be responsible for lost or damaged goods during transportation; please insure your package. If our inspection verifies the defect, we will either repair or replace the product, or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

OEMTOOLS™ does not provide warranty for products labeled other than OEM® or OEMTOOLS™. OEMTOOLS™ will not provide any warranty for products subjected to abnormal use. Abnormal use includes (but is not limited to) abuse, accident, alteration, neglect, and unauthorized or unreasonable use or repairs. This warranty does not cover bits, blades, files, batteries, or calibration. We recommend that you maintain your tools and sharpen or replace blades, bits, files, and batteries as necessary. OEMTOOLS™ reserves the right to make any changes in construction or design at any time without any obligation in incorporating such changes to tools or equipment previously sold. OEMTOOLS™ makes every effort to ensure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of one year from the date of purchase. This warranty does not apply to damage due directly or indirectly to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear or to lack of maintenance.

We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

Don't forget to register your new OEMTOOLS™ product at www.oem-tools.com.

CONTACT US

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