

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.



120V SPOT WELDER

FOR CUSTOMER SERVICE

Technical Question?

CALL 1-866-458-2472

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™ 24819 120V Spot Welder if broken, bent, cracked or damaged parts (including labels) are noted. Any Spot Welder that appears damaged in any way, operates abnormally or is missing parts should be removed from service immediately. If you suspect that the Spot Welder 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 Spot Welder 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 Spot Welder. 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 product 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.



120V SPOT WELDER

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™ 24819 120V Spot Welder efficiently spot welds uncoated mild, galvanized or stainless steel.

PRODUCT SPECIFICATIONS

Process	Spot Welding
Input Voltage	120V AC
Input Current	13.5A
Output Current Range	1.5 kVA @ 50% Duty Cycle
Rated Duty Cycle	50% @ 1.5 kVA based on 10 second period (welds 5 seconds out of a 10 second time interval)
Applicable Materials	Uncoated mild, galvanized, or stainless steel
Capacity	Mild Steel – combined thickness 1/8" Galvanized Steel – 2 pieces of 20 gauge (0.039")

CONTENTS

- (1) Spot Welder, (2) Replacement Electrode Tips and (1) Instruction Manual





120V SPOT WELDER

GENERAL WELDING SAFETY AND INSTRUCTIONS

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

▲ WARNING: ARC WELDING 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 welding prior to use.
2. CONSULT WITH A PHYSICIAN PRIOR TO OPERATION IF YOU HAVE A PACEMAKER. Arc welders create an Electromagnetic Field (EMF) which can interfere with pacemakers.
3. DO NOT attempt to perform repairs on this product.

▲ WARNING: ARC RAYS CAN BURN SKIN AND CAUSE EYE DAMAGE.

1. Signs should be posted within the welding workspace stating hazards and precautions associated with arc welding rays and related protection.
2. The operator and nearby personnel located in the welding workspace should wear protective shields conforming to ANSI standards, with the proper filter and cover plates to protect eyes from sparks and arc welding 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: ARC WELDING CAUSES ELECTROMAGNETIC FIELDS. THESE FIELDS ARE DANGEROUS AND CAN CAUSE SERIOUS INJURY OR DEATH IF PRECAUTIONS ARE NOT FOLLOWED.

1. Welding current creates an Electromagnetic Field (EMF) around the welding machine, leads and cords. EM fields interfere with some pacemakers (as previously stated), 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 welding workspace should understand that there are health risks (determined and undetermined) associated with arc welding 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 electrode leads around any part of the body.
 - c. DO NOT separate work cables and electrode. Route and secure the cables together.
 - d. DO NOT work/weld directly beside the power source.

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

1. Remove all flammable items and potential fire hazards from the welding workspace. If there are fire hazards that cannot be removed, they should be covered with a fire-resistant cover.
2. DO NOT operate near hydraulic, fuel or natural gas lines.
3. DO NOT weld near flammable gases, residue or greases. Take proper steps to ventilate and clean workspace prior to use.
4. DO NOT weld 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. Welding sparks, spatter and hot debris are produced by the welding arc. It is imperative that the operator and personnel located within the welding 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 welding 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 to the weld as possible.
7. All cylinders should be securely stored in an upright position away from welding workspace. Arc welding can project sparks and debris that may strike cylinders. DO NOT allow the electrode, electrode wheel, welding gun or ground to contact a cylinder. Prior to welding, 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 ELECTRODE, WORK OR GROUND WHILE THE WELDER IS ON.

1. DO NOT wear wet clothing or wet gloves.
2. DO NOT touch electrode or work with bare skin while the Welder is plugged into a power source.
3. DO NOT place the Electrode in water.
4. DO NOT allow components of (2) welding machines to come into contact while either Welder is ON.
5. DO NOT attempt to use if the welder's plug and grounding prong has been altered or damaged.
6. DO NOT force plug into socket. If the plug does not fit correctly, an appropriate outlet must be installed by a qualified electrician and grounded in accordance with the US National Electrical Code, state and local codes.



120V SPOT WELDER

7. ALWAYS connect to a grounded, GFCI-protected power supply.
 8. ALWAYS insulate yourself from the workpiece and ground. Non-flammable, dry insulating material is recommended.
 9. Ensure that all welding equipment is well maintained and in safe operating condition prior to each use.
 10. Ensure no part of the electrode circuit is in contact with the work or ground.
 11. Install and ground equipment in accordance with the US National Electrical Code, local codes and according to this instruction/installation manual.
 12. If there is any reason to doubt whether an outlet is properly grounded, contact a qualified electrician prior to use.
4. ALWAYS ensure the Power is in the OFF position prior to plugging the unit into a power source.
 5. ALL INSTALLATION AND REPAIR OF THIS EQUIPMENT SHOULD BE PERFORMED BY A QUALIFIED TECHNICIAN IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL CODES.

PREPARING TO USE YOUR SPOT WELDER

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

1. Unpack all items from the box and reference the parts list to ensure all parts are present before continuing installation.
2. Place the Welder onto a clean, protected surface that can support the weight of the Welder. Ensure the Welder is placed at a distance that will not over-extend the cord or place tension on the plug.
3. The Welder must be plugged into a properly grounded 120V AC outlet. While not recommended, if an extension cord is used, it must meet the following AWG (American Wire Gauge) requirements:
 - a. Less than 30' – 10 AWG
 - b. 30' to 50' – 8 AWG
 - c. 50' to 70' – 6 AWG

NOTE: As the distance from the power supply increases, a heavier gauge extension cord must be used (lower AWG = heavier gauge). If the above AWG requirements are not met at the given distances, product malfunction or failure may occur.

TONG AND ELECTRODE TIP ALIGNMENT

▲ WARNING: Turn the Welder OFF and disconnect from power prior to adjusting Electrode alignment.

NOTE: For a proper weld, the Electrode Tip on the Upper Tong should be centered with the Electrode Tip on the Lower Tong when contacting workpiece.

1. To adjust the Upper Tong:
 - a. Loosen the (4) Adjustment Screws located on the top of the Upper Tong Holder.
 - b. Slowly push or pull the Upper Tong to the desired length.
2. To adjust the Lower Tong:
 - a. Loosen the (4) Adjustment Screws located on the base of the Spot Welder.
 - b. Slowly push or pull the Lower Tong to the desired length.
3. Once proper alignment is met, re-tighten screws (step 1 and 2).

NOTE: Ensure the Tongs are not angled; the Tongs should be vertically centered.

▲ WARNING: ARC WELDING 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 welding arc; avoid breathing fumes while welding. Ensure proper ventilation.
2. Welding 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 welding. Exhaust, mechanical ventilation and a respirator may be required for minimal exposure to these fumes.
 - a. Wear NIOSH approved respirator when working/ welding with materials that produce dust or particulate matter.
3. Cylinders and containers that may have held harmful gases should be properly vented prior to welding. Failure to ventilate these containers will produce toxic gases that are harmful to the operator and all personnel located within the workspace.
4. DO NOT weld near chlorinated hydrocarbons from degreasing, cleaning or spraying operations.
5. 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 Welder that can cause unsafe working conditions.

SPECIFIC SAFETY INSTRUCTIONS

1. THIS IS NOT A GAS WELDER.
2. DO NOT connect to power while assembling, adjusting Electrode Tip alignment or performing maintenance on this unit.
3. DO NOT attempt to use this Welder if the unit fails to switch ON or OFF.



120V SPOT WELDER

ADJUSTING TONG PRESSURE

▲ WARNING: Turn the Welder OFF and disconnect from power prior to adjusting Tong Pressure.

NOTE: Use a clamp or vise to hold workpieces together. Excessive pressure can damage Electrode Tips.

Problem	Indications	Solution
Tong Pressure is Too Weak	<ul style="list-style-type: none"> Workpieces are loose between Electrode Tips when the Tongs are closed No weld formed 	Loosen the Front Jam Nut, when the desired pressure is reached, tighten the Rear Jam Nut to meet the Upper Tong Holder
Tong Pressure is Too Strong	<ul style="list-style-type: none"> Weld will dimple/concave Molten material pushes out from weld point 	Loosen the Rear Jam Nut, when the desired pressure is reached, tighten the Front Jam Nut to meet the Upper Tong Holder

WELDER OPERATING INSTRUCTIONS

▲ WARNING: DO NOT touch the Upper or Lower Tongs while operating.

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

1. Thoroughly read and understand warnings and Welder installation instructions.
2. Inspect the Spot Welder for any broken parts, loose hardware, visibly damaged wiring or other condition that may affect the Spot Welder's performance.
3. BEFORE PLUGGING IN THE WELDER, lower the Operating Lever to contact the workpieces between the Upper and Lower Tong to ensure there are no gaps or misalignments.
4. Properly dress Electrode Tips and align Upper and Lower Tongs.
5. Inspect the workpieces for any coating, paint, greases, oils, residue or dusts that could affect the weld or safety of the operator.
6. Plug the Spot Welder into a grounded 120V AC outlet. PRESS and HOLD the Power Switch to the side. Lower the Operating Lever, to initiate contact with the workpiece and create spot weld.

NOTE: Weld time is based on the workpiece material and thickness. The operator's experience and knowledge of spot welding and welding processes can factor into the quality of the weld.

7. Raise the Operating Level after each weld to terminate contact between the Electrode Tips and workpiece.
8. RELEASE the Power Switch.
9. Unplug the Spot Welder from the power source.

DRESSING ELECTRODE TIPS

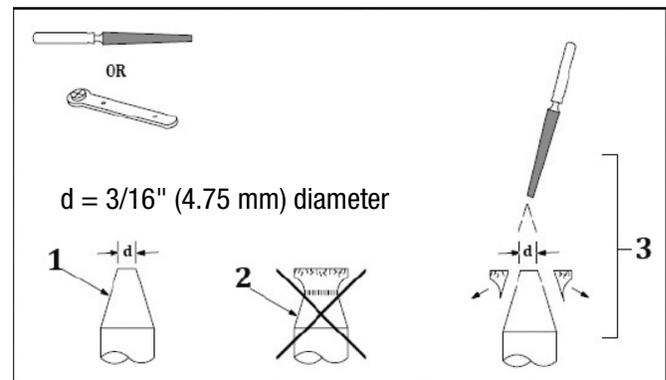
▲ WARNING: Allow Electrode Tips and workpiece to cool prior to handling.

▲ WARNING: Turn the Welder OFF and disconnect from power prior to performing maintenance on the Electrode Tips.

1. Prior to each use, inspect Electrode Tips for deformation.
2. Use a file or specialized tip dresser to restore the diameter (3/16" or 4.75 mm) and approximate face angle to the specifications of a new Electrode Tip.

NOTE: File and tip dresser are not included with this product.

3. Replace used electrode tips that cannot be dressed. Deformed Electrode Tips cannot make proper contact, leading to weak/faulty welds.



REPLACING ELECTRODE TIPS

▲ WARNING: Turn the Welder OFF and disconnect from power prior to replacing Electrode Tips.

1. Remove used Electrode Tips from Upper and Lower Tongs.
2. Screw the new Electrode Tips into the Upper and Lower Tongs

DUTY CYCLE

To avoid damage and personal injury, DO NOT weld for longer than the prescribed Duty Cycle Time. This Welder has a 50% Duty Cycle Time at 1.5kVA based on a 10 second time period. This indicates that this Welder can weld for 5 seconds out of every 10 second time period. Failure to comply may lead to product failure.





120V SPOT WELDER

MAINTENANCE

⚠ WARNING: Unplug the Spot Welder prior to performing maintenance.

⚠ WARNING: DO NOT disassemble. There are no serviceable parts within the Spot Welder casing.

1. After each use, wipe external surfaces with a dry, clean cloth.
2. Inspect Electrode Tips for deformation and build-up. Dress accordingly (Refer to directions on page 4-5.)
3. Inspect the Power Cord for any damage.
4. Any maintenance outside of the basic instructions/ adjustments described in this manual should be performed by a qualified professional.

STORAGE

⚠ WARNING: Always unplug before placing into storage.

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

DISPOSAL

1. At the end of the useful life of the OEMTOOLS™ 120V Spot Welder, dispose of the components in accordance with all federal, state and local regulations.

TROUBLESHOOTING

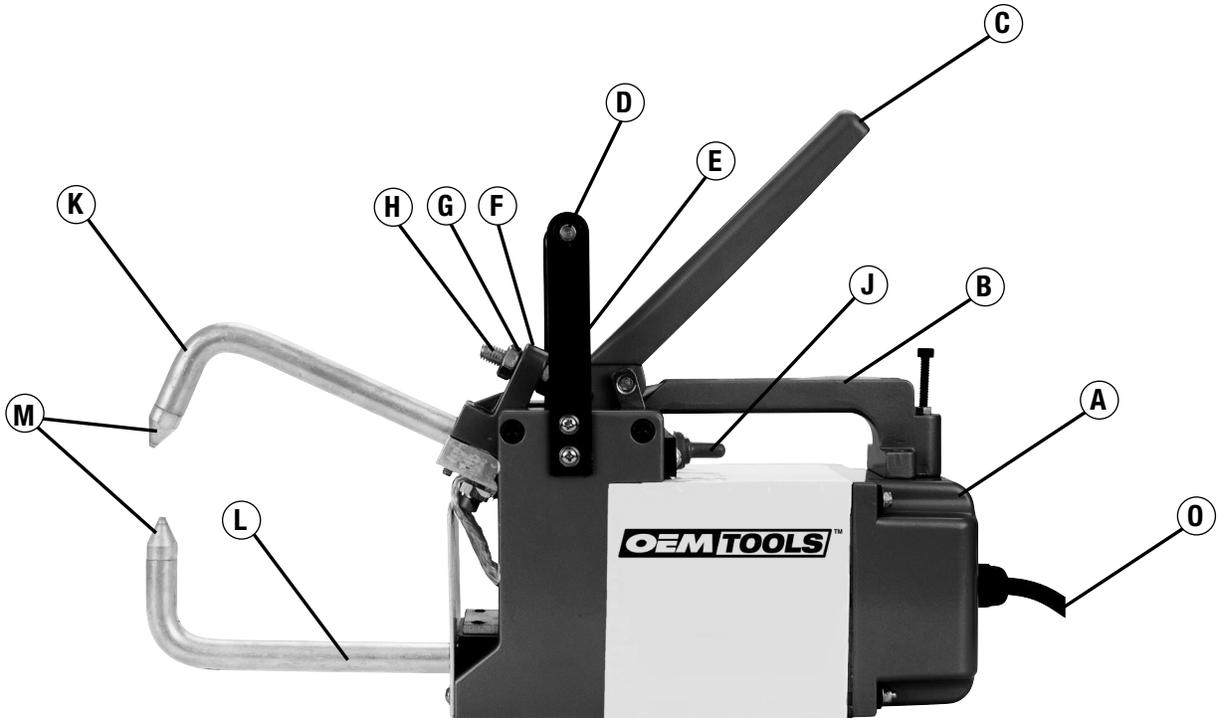
Problem	Possible Cause	Possible Solution
Weak weld or extended contact needed to create weld	Coating on workpieces	Sand workpieces, remove coatings
	Tongs have deformed or acquired build-up	Dress or replace tips
	Material is too thick	Workpieces (combined) cannot exceed welding capacity, see specifications (page 2)
	Poor contact	See page 5 for pressure adjustment instructions
Burning holes through workpiece(s)	Tongs are misaligned causing irregular heating	See page 5 for realignment instructions
	Weld time is too long	Shorten contact period
	Electrode tips deformed or acquired build-up	Dress or replace tips
Molten material pushed out from weld point	Tong pressure too strong	See page 5 for pressure adjustment instructions
	Welding time is too long	Shorten contact period
	Tongs not aligned correctly causing irregular heating	See page 5 for realignment instructions
Tips arcing on material	Tong pressure too weak	See page 5 for pressure adjustment instructions
	Tips are misaligned	See page 5 for realignment instructions
	Electrode tips deformed or acquired build-up	Dress or replace tips
Electrode Tips overheating	Tong pressure too weak	See page 5 for pressure adjustment instructions
	Weld time too long	Shorten contact period
	Material is too thick	Workpieces (combined) cannot exceed welding capacity, see specifications (page 2)
Welder does not operate when the operating lever is lowered	Check input connection	Connect to a 120V AC outlet
	Check supply fuse	Turn on/replace fuse





120V SPOT WELDER

PRODUCT LAYOUT



PARTS DESCRIPTION

Figure	Description	Quantity
A	Spot Welder	1
B	Fixed Handle	1
C	Operating Lever	1
D	Support Handle	1
E	Rear Jam Nut	1
F	Upper Tong Holder	1
G	Front Jam Nut	1
H	Pressure Screw	1
I	Upper Tong Adjustment Screws*	4
J	Power Switch	1
K	Upper Tong	1
L	Lower Tong	1
M	Electrode Tips	4
N	Lower Tong Adjustment Screws*	4
O	Power Cord	1

*Not Shown



120V SPOT WELDER

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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