

# Grizzly

**Industrial, Inc.**®

## MODEL H8151 230V MINI WELDER OWNER'S MANUAL



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#TS9041 PRINTED IN CHINA

 **WARNING!**

**This manual provides critical safety instructions on the proper setup, operation, maintenance and service of this machine/equipment.**

**Failure to read, understand and follow the instructions given in this manual may result in serious personal injury, including amputation, electrocution or death.**

**The owner of this machine/equipment is solely responsible for its safe use. This responsibility includes but is not limited to proper installation in a safe environment, personnel training and usage authorization, proper inspection and maintenance, manual availability and comprehension, application of safety devices, blade/cutter integrity, and the usage of personal protective equipment.**

**The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.**

 **WARNING!**

**Fumes created by welding, cutting, grinding, drilling, and other metal working activities may contain hazardous chemicals that can cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:**

- **Galvanized metal welding and cutting.**
- **Lead from lead-based paints.**

**Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: Work in a well ventilated area, and work with approved safety equipment, such as those respirators that are specially designed to filter out microscopic particles and gases.**

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# INTRODUCTION

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## Foreword

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We are proud to offer the Model H8151 230V Mini Welder. This machine is part of a growing Grizzly family of fine metalworking equipment. When used according to the guidelines set forth in this manual, you can expect years of trouble-free, enjoyable operation and proof of Grizzly's commitment to customer satisfaction.

The specifications, drawings, and photographs illustrated in this manual represent the Model H8151 when the manual was prepared. However, owing to Grizzly's policy of continuous improvement, changes may be made at any time with no obligation on the part of Grizzly.

For your convenience, we always keep current Grizzly manuals available on our website at **www.grizzly.com**. Any updates to your machine will be reflected in these manuals as soon as they are complete. Visit our site often to check for the latest updates to this manual!

## Contact Info

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If you have any comments regarding this manual, please write to us at the address below:

Grizzly Industrial, Inc.  
c/o Technical Documentation Manager  
P.O. Box 2069  
Bellingham, WA 98227-2069  
Email: manuals@grizzly.com

We stand behind our machines. If you have any service questions or parts requests, please call or write us at the location listed below.

Grizzly Industrial, Inc.  
1203 Lycoming Mall Circle  
Muncy, PA 17756  
Phone: (570) 546-9663  
Fax: (800) 438-5901  
E-Mail: techsupport@grizzly.com  
Web Site: <http://www.grizzly.com>



# Specifications

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Welding Current .....	10–125A
Duty Cycles:	
—@ 125A.....	35%
—@ 95A.....	60%
—@ 75A.....	100%
Power Consumption .....	24A @ 220VAC
Output Power .....	60–80V DC
Net Weight.....	12 lbs.

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# Identification

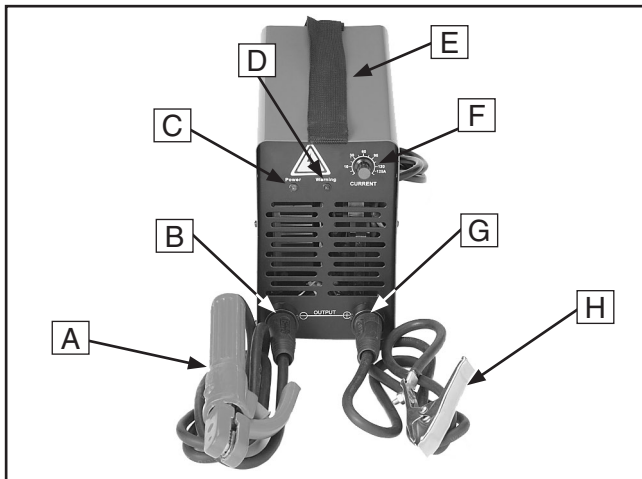


Figure 1. Model H8151 front view.

- A. Electrode Holder and Cable
- B. Negative Output Socket
- C. Power Lamp
- D. Temperature Warning Lamp
- E. Carrying Strap
- F. Variable Current Output Dial
- G. Positive Output Socket
- H. Work Clamp and Cable

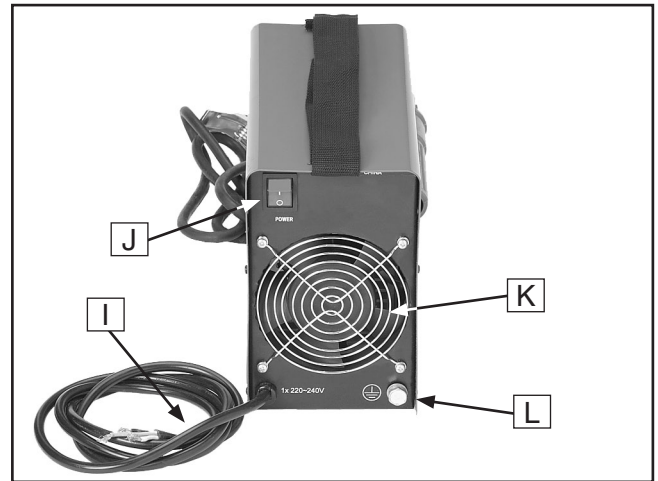


Figure 2. Model H8151 rear view.

- I. Power Cord
- J. ON/OFF Switch
- K. Cooling Fan and Cover
- L. Welder Enclosure Ground Terminal

# SECTION 1: SAFETY

## WARNING

### For Your Own Safety, Read Instruction Manual Before Operating this Machine

The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words intended to convey the level of importance of the safety messages. The progression of symbols is described below. Remember that safety messages by themselves do not eliminate danger and are not a substitute for proper accident prevention measures.



Indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury. It may also be used to alert against unsafe practices.

**NOTICE**

This symbol is used to alert the user to useful information about proper operation of the machine.

## WARNING

### Safety Instructions for Shielded Metal Arc Welders (SMAW)

- 1. READ THIS MANUAL.** This manual contains proper operating and safety procedures for this equipment.
- 2. WELDING FUMES.** Breathing welding fumes can cause suffocation or poisoning without warning. Keep your head out of welding fumes. Use adequate ventilation at the arc to safely remove the fumes from your breathing zone and the general area. Use ANSI approved respirators for the type of welding operation. Protect others from these fumes.
- 3. WELDING IN A CONFINED SPACE CAN BE HAZARDOUS.** Always open all covers, sustain forced ventilation, remove toxic and hazardous materials, and provide a power disconnect to the welder inside the work space. Always work with someone who can give you help from outside the space. Welding can displace oxygen. Always check for safe breathing atmosphere and provide air-supplied respirators if necessary. Keep in mind that all normal welding hazards are intensified in a confined space.



## **WARNING**

# Additional Safety Instructions for Shielded Metal Arc Welders (SMAW)

4. **ELECTRIC SHOCK.** DO NOT touch live electrical parts. Connect welder to power source with approved earth ground. Make sure all electrical connections are tight, clean, and dry. Connect workpiece to approved earth ground. The work lead is NOT a ground connection and is to be used only to complete the working welding circuit.
5. **PREVENT FIRES.** Welding work zones must be kept clear of flammable liquids, such as gasoline and solvents; combustible solids, such as paper and wood; and flammable gases, such as acetylene and hydrogen. Provide approved fire barriers and fire extinguishing equipment for the welding zone. Stay alert for sparks and spatter thrown into cracks and crevices that can start a smoldering fire.
6. **PROTECT BODY FROM ARC BURNS, SPARKS, AND SPATTER.** Wear correct and approved eye, ear, and body protection. Wear complete body protection, such as clean and oil-free protective clothing, leather gloves, protective cap, heavy long-sleeve shirt, cuffless pants, and high leather boots. DO NOT wear jewelry or frayed clothing. Use a welding helmet with correct shade of filter for the operation. Protect other people and property in your working zone from exposure to arc radiation, sparks, and spatter.
7. **WORKING AREA.** Keep working area clear of any material not involved in the welding operation. Keep all equipment, workpieces, and work surfaces clean, dry, and free of entanglements. Keep lead cables organized and away from your body.
8. **AVOID EXPLOSION HAZARD.** Never weld on closed containers or containers with fumes inside. Containers should be prepared per American Welding Society Publication F4.1, Section 7.
8. **ELECTRIC AND MAGNETIC FIELDS (EMF).** Welding operations create EMF around the welding equipment and workpieces. Workers who have pacemakers must consult with their physician before using this equipment or being within 50 feet of welding operations.
9. **EQUIPMENT MAINTENANCE.** Make sure equipment inspections and maintenance are performed by a qualified person as required. Stop the welding operation and disconnect the welder from power if the equipment is damaged or malfunctions.
10. **EXPERIENCING DIFFICULTIES.** If you are experiencing difficulties performing the intended operation, stop using the equipment. Contact our Technical Support Department at (570) 546-9663.

## **WARNING**

Like all equipment there is potential danger when operating this welder. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this welder with respect and caution to lessen the possibility of operator injury. If normal safety precautions are overlooked or ignored, serious personal injury may occur.

## **CAUTION**

No list of safety guidelines can be complete. Every shop environment is different. Always consider safety first, as it applies to your individual working conditions. Use this and other equipment with caution and respect. Failure to do so could result in serious personal injury, damage to equipment, or poor work results.



# Additional Sources for Welding Codes and Standards

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American Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126, (305) 443-9353, Website: [www.aws.org](http://www.aws.org).

- Safety in welding, Cutting, and Allied Processes, ANSI Standard Z49.1
- Recommended Safe Practices for the Preparation for Welding and Cutting of Containers and Piping, AWS F4.1

National Fire Protection Association, P. O. Box 9101, 1 Battery March Park, Quincy, MA 02269-9101, (617) 770-3000, Website: [www.nfpa.org](http://www.nfpa.org) and [www.sparky.org](http://www.sparky.org).

- National Electrical Code, NFPA Standard 70
- Standard for Fire Prevention During Welding, Cutting, and Other Hot Work, NFPA Standard 51B

Compressed Gas Association, 1735 Jefferson Davis Highway, Suite 1004, Arlington, VA 22202-4102, (703) 412-0900, Website: [www.cganet.com](http://www.cganet.com).

- Safe Handling of Compressed Gases in Cylinders, CGA Pamphlet P-1

Canadian Standards Association, Standards Sales, 178 Rexdale Boulevard, Rexdale, Ontario, Canada M9W 1R3, (800) 463-6727, Website: [www.csa-international.org](http://www.csa-international.org).

- Code for Safety in Welding and Cutting, CSA Standard W117.2

American National Standards Institute (ANSI), 11 West 42nd Street, New York, NY 10036-8002, (212) 642-4900, Website: [www.ansi.org](http://www.ansi.org).

- Practice for Occupational and Educational Eye and Face Protection, ANSI Standard Z87.1

U. S. Government Printing Office, Superintendent of Documents, P. O. Box 371954, Pittsburgh, PA 15250 (312) 353-2220, Website: [www.osha.gov](http://www.osha.gov).

- OSHA, Occupational Safety and Health Standards for General Industry, Title 29, Code of Federal Regulations (CFR), Part 1910, Subpart Q, and Part 1929, Subpart J

American Conference of Government Industrial Hygienists (ACGIH), 1330 Kemper Meadow Drive, Suite 600, Cincinnati, OH 45240-1634, (513) 742-2020, Website: [www.acgih.org](http://www.acgih.org).

- Threshold Limit Values (Booklet)





# SECTION 2: CIRCUIT REQUIREMENTS

## 220V Operation

### **!WARNING**

**Serious personal injury could occur if you connect the machine to the power source before you have completed the set up process. DO NOT connect the machine to the power source until instructed to do so.**

### Amperage Draw

The Model H8151 welder draws the following amps under maximum load:

Draw at 220V ..... 24 Amps

### Circuit Requirements

Connect your welder to a dedicated and grounded circuit that is rated for the amperage given below. Never replace a circuit breaker on an existing circuit with one of higher amperage without consulting a qualified electrician to ensure compliance with wiring codes. **If you are unsure about the wiring codes in your area or you plan to connect your machine to a shared circuit, consult a qualified electrician.**

Minimum 220V Circuit Requirement ..... 30 Amps

### Plug/Receptacle Type

Recommended Plug/Receptacle....NEMA L6-30

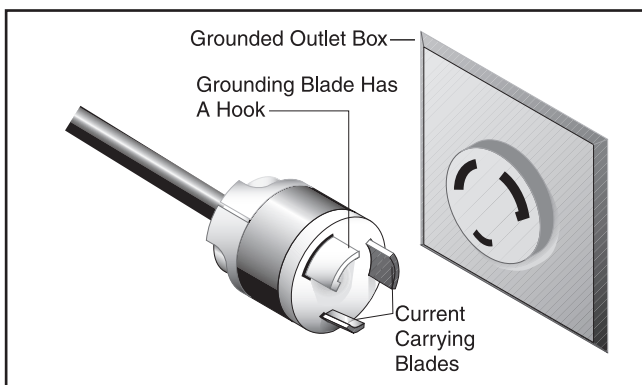
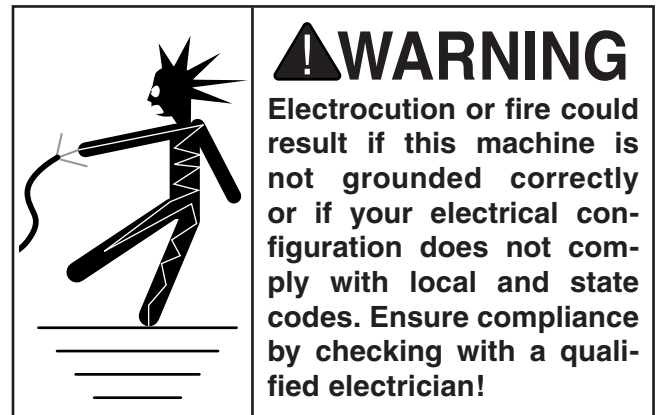


Figure 3. NEMA L6-30 plug and receptacle.

### Grounding

In the event of an electrical short, grounding reduces the risk of electric shock. The grounding wire in the power cord must be properly connected to the grounding prong on the plug; likewise, the outlet must be properly installed and grounded. All electrical connections must be made in accordance with local codes and ordinances.



### Extension Cords

We do not recommend the use of extension cords. Instead, arrange the placement of your equipment and the installed wiring to eliminate the need for extension cords.

If you find it absolutely necessary to use an extension cord at 220V with your machine:

- Use at least a 10 gauge cord that does not exceed 50 feet in length.
- The extension cord must also contain a ground wire and plug pin.
- A qualified electrician **MUST** size cords over 50 feet long to prevent motor damage.



# Grounding for Arc Welding Safety

There are two or more electrical circuits involved in any welding operation. The practice of safely grounding these circuits is documented in various codes and standards (refer to **Additional Sources for Welding Codes and Standards** on Page 6).

## Welding Machine Ground

When properly connected to a power source, the Model H8151 welder is grounded through the power cord and power grid. The welder's internal welding circuit is insulated from the external enclosure. However, to avoid shocking hazards in the event that this internal insulation should fail, you must establish a separate earth ground for the welder's external enclosure. This will ensure that the metal enclosure of the welder and the internal welding circuit are at the same electrical potential.

**Note:** Refer to the publication *NFPA 70, National Electric Code, Article 250, Grounding, and your local electrical codes for the correct method of establishing this ground.*

The grounding terminal for the H8151 external enclosure is located on the right rear of the welder (see **Figure 4**).



**Figure 4.** Location of external enclosure grounding terminal on the rear of the Model H8151.

## Workpiece Ground

The incoming power circuit to the welder and the welding circuit are two separate circuits that must have separate grounds. The welding circuit consists of the internal components of the welder, the welding cables, the electrode holder, the work clamp, and the workpiece.

In the publication *Safety in Welding, Cutting, and Allied Processes*, ANSI Publication Z49.1, 11.3.2.1, it is specified that "Grounding [of the workpiece] shall be done by locating the work on a grounded metal floor or platen, or by connection to a grounded building frame or other satisfactory ground."

## **!WARNING**

**Always ensure that the ground for the incoming power circuit to the welder and the ground for the welding circuit are never connected. Failure to comply with this warning could result in serious property damage, personal injury, or death.**

However, you must also avoid "double grounding" of the workpiece. The ANSI Publication Z49.1 publication warns that "Care shall be taken to avoid the flow of welding current through a connection intended only for safety grounding since the welding current may be of a higher magnitude than the grounding conductor can safely carry."

**Note:** *The work lead from the welder is sometimes incorrectly referred to as the "ground lead." The work lead from the welder is NOT a ground. The work lead and the ground connection to the workpiece are separate and must NOT be connected in any way.*



# SECTION 3: INVENTORY

The Model H8151 was carefully packed when it left our warehouse. If you discover the machine is damaged or a part is missing after you have signed for delivery, *please immediately call Customer Service at (570) 546-9663 for advice.*

Save the containers and all packing materials for possible inspection by the carrier or its agent. *Otherwise, filing a freight claim can be difficult.*

When you are completely satisfied with the condition of your shipment, inventory the contents.



Figure 5. Model H8151 inventory.

- A. Polyurethane Carrying Case
- B. Welder Carrying Strap
- C. 230V Mini Welder
- D. Work Clamp and Cable
- E. Utility Brush and Slag Hammer
- F. Electrode Clamp and Cable
- G. Welder's Mask
- H. Welder's Mask Handle

# SECTION 4: OPERATIONS

## Operation Safety

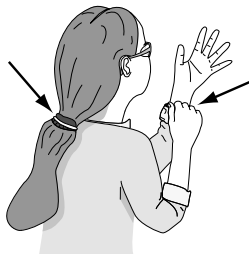
### **!WARNING**

Damage to your eyes and lungs could result from using this machine without proper protective gear. Always wear safety glasses and a respirator when operating this machine.



### **!WARNING**

Loose hair and clothing could get caught in machinery and cause serious personal injury. Keep loose clothing and long hair away from moving machinery.



### **NOTICE**

If you have never used this type of machine or equipment before, WE STRONGLY RECOMMEND that you read books, trade magazines, or get formal training before beginning any projects. Regardless of the content in this section, Grizzly Industrial will not be held liable for accidents caused by lack of training.

## Welder Duty Cycle

As the welder produces the desired power output for the welding operation, some of the power is converted to heat. In order to protect the welder components from over-heating, each welder has an established duty cycle. The duty cycle is variable depending upon the amperage output being used.

A duty cycle is the number of minutes out of 10 minutes that the welder can safely operate at the current amperage output without over-heating. For instance, the Model H8151 has a duty cycle of 60% at 95A output. This means that the welder can operate continuously for 6 out of 10 minutes with a 95A output before the welder needs to cool off.

The Model H8151 operates with an efficient cooling fan (at the rear of the welder) and has an internal thermostat that will shut the welder down at the end of the duty cycle. This will be evident by the loss of welding circuit and the red warning light on the face of the welder. When the welder has cooled sufficiently, the internal thermostat will allow the welding circuit to once again be used and the red warning light will go out.

**Note:** Most electrodes used with arc welding are consumed within a few minutes, so the welder has a chance to cool down when the welding circuit is stopped to install a new electrode.



# General Arc Welding Operations

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Becoming a good welder takes a lot of practice and experience. If you are a novice, read books and get help from an experienced welder before beginning a welding operation.

Practice on scrap metal and expect to spend considerable time learning the many aspects of good welding.

Although it is beyond the scope of this manual to instruct how to weld, here are some general steps for successful welding:

1. Read and understand this manual and ensure that all safety instructions are followed.
2. Establish a safe and efficient welding environment and ensure that you are properly protected for the welding operation. Ensure that there is a working fire extinguisher readily available.
3. Have an experienced welder stand by to assist if needed.
4. Select the correct electrode type and size for your welding project.
5. Choose the correct amperage output and be aware of the duty cycle for this amperage.
6. Decide which type of weld is correct for your project and properly prepare the metal.
7. Make sure the welding cables and grounds are secure.  
**Note:** *Insert the welding cable connectors into the welder output sockets and twist clockwise until fully secure.*
8. Stay aware of the work environment around you as you weld and ensure that flying sparks do not start a fire.
9. Look slightly ahead of the arc. Even with the protection of the welder's hood, looking directly at the arc can damage your eyes.
10. Listen to the sound of the weld. Each type of weld has its own distinct sound when it is progressing correctly.

The above instructions are not intended to be a complete list of welding steps. To become a good welder, read books on welding, get help from experienced welders, and practice.



# SECTION 5: ACCESSORIES

## H7786—Auto Darkening Welding Helmet

Automatic UV and IR filters protect eyes from harmful visible and invisible light during welding. Switching time is less than or equal to 2 milliseconds, so there's no need to flip the helmet up to see your work under normal light conditions. Full face protection features adjustable head suspension and adjustable delay time, sensitivity and dark shade protection. Viewing area is 3½" x 1½". Includes 2 AAA batteries.



Figure 6. Model H7786 welding helmet.

## G7868—Welding Respirators

Flame retardant outer shell is recommended for welding applications. Special depth filter provides high loading capacity for metal fumes without increasing breathing resistance. Heavy-duty adjustable headstrap and soft, closed cell foam face seal offers maximum comfort, protection and fit. 5 pack.



Figure 7. Model G7868 welding respirators.

## H9748—Leather Jacket Medium (40–42)

## H9887—Leather Jacket Large (44–46)

## H9888—Leather Jacket X-Large (48–52)

## H9746—Leather Knee Pads

## H9745—Leather Shoe Covers

These leather jackets, knee pads, and shoe covers provide full protection from welding sparks and spatter. Gloves not included.



Figure 8. Models H9748/H9746/H9745 leather welding protection.

## H3157—Deluxe Welding Gloves

Top grain, leather gloves protect against welding hazards. Extra long to protect wrists and forearms. One size fits all.



Figure 9. Model H3157 deluxe welding gloves.

**Call 1-800-523-4777 To Order**

# SECTION 6: SERVICE

Review the troubleshooting and procedures in this section to fix or adjust your machine if a problem develops. If you need replacement parts or you are unsure of your repair skills, then feel free to call our Technical Support at (570) 546-9663.

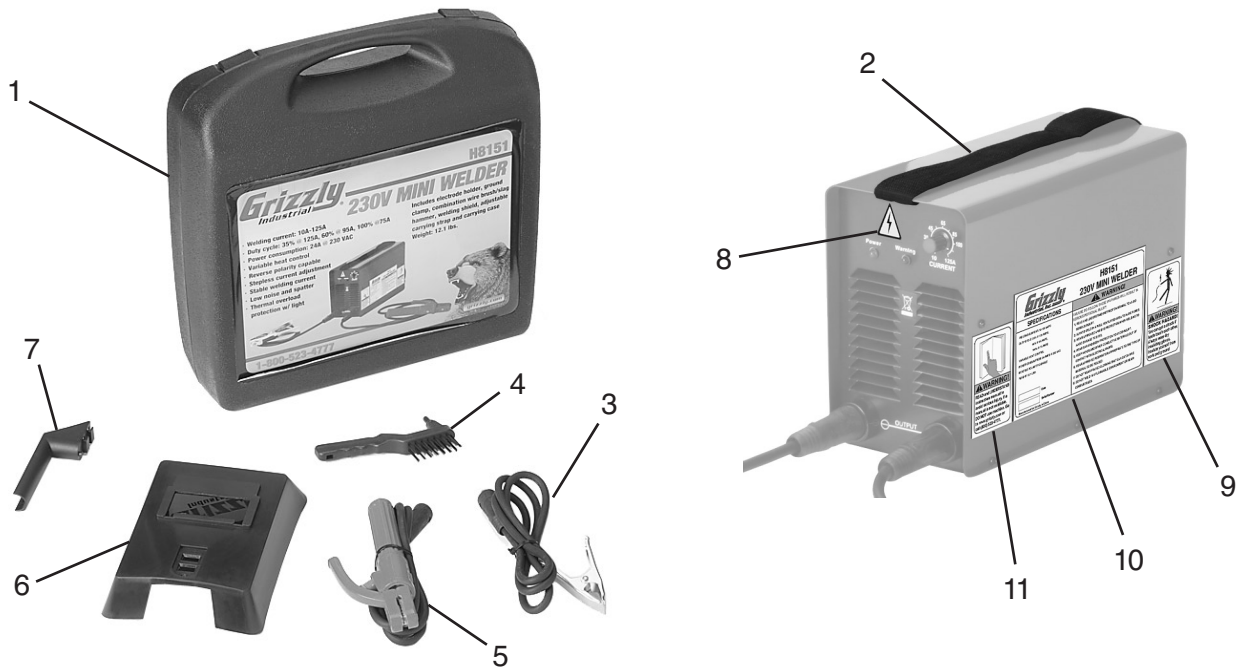
## Troubleshooting



Symptom	Possible Cause	Possible Solution
Welder does not power up or the breaker trips.	<ol style="list-style-type: none"> <li>1. Plug/receptacle is at fault or wired incorrectly.</li> <li>2. Wiring is open/has high resistance.</li> <li>3. ON/OFF switch is at fault.</li> </ol>	<ol style="list-style-type: none"> <li>1. Test for good contacts; correct the wiring.</li> <li>2. Check for broken wires or disconnected/corroded connections, and repair/replace as necessary.</li> <li>3. Replace faulty ON/OFF switch.</li> </ol>
Porosity; small cavities or holes caused from gas packets in weld.	<ol style="list-style-type: none"> <li>1. Arc length is too long.</li> <li>2. Workpiece is dirty.</li> <li>3. Damp electrodes.</li> <li>4. Incorrect electrode used.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce length of arc.</li> <li>2. Remove all grease, oil, moisture, coatings, rust, and dirt from workpiece before welding.</li> <li>3. Use dry electrodes.</li> <li>4. Use correct type and size of electrode.</li> </ol>
Excessive spatter.	<ol style="list-style-type: none"> <li>1. Amperage too high for electrode.</li> <li>2. Voltage too high; arc length too long.</li> <li>3. Incorrect electrode used.</li> </ol>	<ol style="list-style-type: none"> <li>1. Select large electrode or decrease amperage.</li> <li>2. Reduce voltage or arc length.</li> <li>3. Use correct type and size of electrode.</li> </ol>
Distortion of base metal.	<ol style="list-style-type: none"> <li>1. Excessive heat applied to base metal.</li> </ol>	<ol style="list-style-type: none"> <li>1. Make tack welds along joint before starting operation; select lower amperage for electrode; increase travel speed; weld in small segments and allow cooling between welds.</li> </ol>
Burn through or excessive penetration of base metal.	<ol style="list-style-type: none"> <li>1. Excessive heat applied to base metal.</li> </ol>	<ol style="list-style-type: none"> <li>1. Select lower amperage; use smaller electrode; increase and/or maintain steady travel speed.</li> </ol>
Lack of penetration.	<ol style="list-style-type: none"> <li>1. Improper joint preparation.</li> <li>2. Improper weld technique.</li> <li>3. Insufficient heat applied to weld.</li> </ol>	<ol style="list-style-type: none"> <li>1. Material too thick; joint preparation must provide access to bottom of groove.</li> <li>2. Keep arc on leading edge of weld puddle; reduce travel speed.</li> <li>3. Increase amperage; select larger electrode.</li> </ol>
Failure of weld to fuse completely with base metal or prior weld bead.	<ol style="list-style-type: none"> <li>1. Insufficient heat applied to weld.</li> <li>2. Improper welding technique.</li> <li>3. Workpiece dirty.</li> <li>4. Duty cycle exceeded.</li> </ol>	<ol style="list-style-type: none"> <li>1. Increase amperage; select larger electrode.</li> <li>2. Widen groove to access bottom during welding; keep arc on leading edge of weld puddle; place stringer bead in proper location at joint during welding.</li> <li>3. Remove all grease, oil, moisture, coatings, rust, and dirt from workpiece before welding.</li> <li>4. Shut down welder and allow it to cool.</li> </ol>



# Replacement Parts And Labels



REF	PART #	DESCRIPTION
1	PH8151001	POLYURETHANE CARRYING CASE
2	PH8151002	CARRYING STRAP
3	PH8151003	WORK CLAMP & CABLE
4	PH8151007	UTILITY BRUSH & PICK
5	PH8151008	ELECTRODE CLAMP & CABLE
6	PH8151006	WELDERS MASK

REF	PART #	DESCRIPTION
7	PH8151004	WELDERS MASK HANDLE
8	PLABEL-14	ELECTRICITY LABEL
9	PH8151009	SHOCK HAZARD LABEL
10	PH8151010	MACHINE ID LABEL
11	PLABEL-12	READ MANUAL LABEL

## WARNING

Safety labels warn about machine hazards and ways to prevent injury. The owner of this machine **MUST** maintain the original location and readability of the labels on the machine. If any label is removed or becomes unreadable, **REPLACE** that label before using the machine again. Contact Grizzly at (800) 523-4777 or [www.grizzly.com](http://www.grizzly.com) to order new labels.







# WARRANTY CARD

Name \_\_\_\_\_  
 Street \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Phone # \_\_\_\_\_ Email \_\_\_\_\_ Invoice # \_\_\_\_\_  
 Model # \_\_\_\_\_ Order # \_\_\_\_\_ Serial # \_\_\_\_\_

The following information is given on a voluntary basis. It will be used for marketing purposes to help us develop better products and services. **Of course, all information is strictly confidential.**

1. How did you learn about us?

Advertisement                       Friend                       Catalog  
 Card Deck                               Website                       Other:

2. Which of the following magazines do you subscribe to?

<input type="checkbox"/> Cabinet Maker	<input type="checkbox"/> Popular Mechanics	<input type="checkbox"/> Today's Homeowner
<input type="checkbox"/> Family Handyman	<input type="checkbox"/> Popular Science	<input type="checkbox"/> Wood
<input type="checkbox"/> Hand Loader	<input type="checkbox"/> Popular Woodworking	<input type="checkbox"/> Wooden Boat
<input type="checkbox"/> Handy	<input type="checkbox"/> Practical Homeowner	<input type="checkbox"/> Woodshop News
<input type="checkbox"/> Home Shop Machinist	<input type="checkbox"/> Precision Shooter	<input type="checkbox"/> Woodsmith
<input type="checkbox"/> Journal of Light Cont.	<input type="checkbox"/> Projects in Metal	<input type="checkbox"/> Woodwork
<input type="checkbox"/> Live Steam	<input type="checkbox"/> RC Modeler	<input type="checkbox"/> Woodworker West
<input type="checkbox"/> Model Airplane News	<input type="checkbox"/> Rifle	<input type="checkbox"/> Woodworker's Journal
<input type="checkbox"/> Modeltec	<input type="checkbox"/> Shop Notes	<input type="checkbox"/> Other:
<input type="checkbox"/> Old House Journal	<input type="checkbox"/> Shotgun News	

3. What is your annual household income?

\$20,000-\$29,000                       \$30,000-\$39,000                       \$40,000-\$49,000  
 \$50,000-\$59,000                       \$60,000-\$69,000                       \$70,000+

4. What is your age group?

20-29                                       30-39                                       40-49  
 50-59                                       60-69                                       70+

5. How long have you been a woodworker/metalworker?

0-2 Years                       2-8 Years                       8-20 Years                       20+ Years

6. How many of your machines or tools are Grizzly?

0-2                       3-5                       6-9                       10+

7. Do you think your machine represents a good value?

Yes                       No

8. Would you recommend Grizzly Industrial to a friend?

Yes                       No

9. Would you allow us to use your name as a reference for Grizzly customers in your area?

**Note:** We never use names more than 3 times.

Yes                       No

10. Comments: \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_

CUT ALONG DOTTED LINE

FOLD ALONG DOTTED LINE

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Place  
Stamp  
Here



GRIZZLY INDUSTRIAL, INC.  
P.O. BOX 2069  
BELLINGHAM, WA 98227-2069



FOLD ALONG DOTTED LINE

Send a Grizzly Catalog to a friend:

Name _____
Street _____
City _____ State _____ Zip _____

TAPE ALONG EDGES--PLEASE DO NOT STAPLE

# WARRANTY AND RETURNS

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Grizzly Industrial, Inc. warrants every product it sells for a period of **1 year** to the original purchaser from the date of purchase. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, accidents, repairs or alterations or lack of maintenance. This is Grizzly's sole written warranty and any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant or represent that the merchandise complies with the provisions of any law or acts unless the manufacturer so warrants. In no event shall Grizzly's liability under this warranty exceed the purchase price paid for the product and any legal actions brought against Grizzly shall be tried in the State of Washington, County of Whatcom.

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 products.

To take advantage of this warranty, contact us by mail or phone and give us all the details. We will then issue you a "Return Number," which must be clearly posted on the outside as well as the inside of the carton. We will not accept any item back without this number. Proof of purchase must accompany the merchandise.

The manufacturers reserve the right to change specifications at any time because they constantly strive to achieve better quality equipment. We make every effort to ensure that our products meet high quality and durability standards and we hope you never need to use this warranty.

Please feel free to write or call us if you have any questions about the machine or the manual.

Thank you again for your business and continued support. We hope to serve you again soon.

# *grizzly.com*

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