

*Eastwood*<sup>®</sup>

DO THE JOB RIGHT.<sup>®</sup>

Part #21195

# PANORAMIC WELDING HELMET

## INSTRUCTIONS



**EASTWOOD WELDING HELMETS** are specifically designed to provide maximum eye and face protection from harmful UV and IR radiation emitted when welding, in a lightweight, comfortable housing. The full 180° view provides additional visibility to the sides for added safety and convenience. Auto-Darkening powered by solar cells and lithium-nickel manganese cobalt oxide (Li-Mn) batteries provide long, reliable life. Meets ANSI Z-87.1 safety standards.

## SAFETY INFORMATION

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 used with the safety alert symbol, 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.



### **WARNING** **ELECTRIC SHOCK CAN CAUSE INJURY OR DEATH!**

- Improper use of an electric welder and associated equipment can cause electric shock, injury and death! Read all precautions described in the specific Welder Manual to reduce the possibility of electric shock.
- The electrode and work (or ground) circuits are electrically “hot” when the welder is on. Do not allow these “hot” parts or associated equipment to come in contact with your bare skin or wet clothing.
- Separate yourself from the welding circuit by using insulating mats, protective clothing, leather welding gloves and insulated footwear to avoid being part of the welding circuit.
- Be sure that the work piece is properly supported and grounded prior to beginning an electric welding operation.
- If other persons or pets are in the area of welding, use welding screens to protect bystanders from sparks and harmful arc rays.

# SAFETY INFORMATION



## **⚠ WARNING EYE INJURY HAZARD!**

- If other persons or pets are in the area of welding, use welding screens to protect bystanders from sparks and harmful arc rays.
- Inadequate levels of arc ray shading can cause permanent eye injury. This helmet is capable of protection up to shade level 12 through the front viewing pane only. If your particular welding process emits arc radiation that requires a shade level higher than 12, DO NOT use this helmet and seek alternate protection. DO NOT look at welding arcs requiring a shade level greater than 11 through the side viewing panels.
- Eastwood welding helmets are designed to protect the user's eyes and face from harmful radiation, sparks and spatter under normal welding conditions. They are not intended to offer protection against impact hazards, explosions or corrosive liquids.
- Wear ANSI approved impact safety goggles under welding helmet.
- Always test Auto-Darkening feature before each use by quickly subjecting the face of the Welding Helmet to sunlight or other bright light source. If the Auto-Darkening feature fails to function, permanent eye damage can occur from exposure to welding flash and radiation. Do Not Use.
- The operating temperature range of the Auto-Darkening feature is 23°F to 130°F (-5°C to 55°C). The response time may be affected beyond the described temperatures causing an unsafe condition. Do not use beyond recommended operating temperature range.

## **⚠ NOTICE**

**Do not use this helmet for oxy-acetylene welding or cutting processes, laser welding or low amperage (less than 10 amps) TIG welding.**

# OPERATION

**IMPORTANT NOTE:** Only the Front Facing View Panel is adjustable; the Panoramic Side Panels offer side protection at a fixed shade level 11. Use extreme caution when using for arc viewing conditions which may exceed shade level 11.

- Remove the protective film from the inside and outside surfaces of the lens.
- With normal (non-welding), ambient light viewing through the lens, your view will have a green tint. When exposed to bright light or the flash of the welding arc, the lens will quickly darken your view.

The Sensitivity, Delay and Shade controls and switches are located at the top of the Welding Helmet under a removable protective cover and are adjustable as follows: (FIG 1).

## SENSITIVITY

Sensitivity controls the Auto-darkening response when exposed to smaller arcs such as low-amperage TIG welding and conditions like welding outside in bright sunlight.

**To Adjust Sensitivity:** Turn dial clockwise to increase sensitivity; counterclockwise to decrease.

### **▲ NOTICE**

For low amperage welding, for example, TIG welding below 40 amps: Sensitivity Control may need to be set to MAX to avoid lens “flickering” between normal view and auto dimming.

For Welding in bright sunlight, ambient light, or around LED lighting: Sensitivity Control may need to be reduced from max to prevent the helmet from flickering, darkening prematurely, or not returning to normal view when the arc is stopped. Always verify the helmet still darkens with the use of a flint striker. If helmet does not darken, immediately stop use and verify helmet settings.

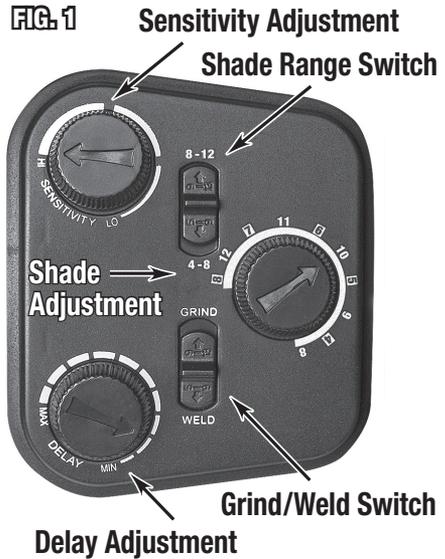
## DELAY

Delay controls the time interval for the Auto-darkening to return to normal view once arc is stopped.

**To Adjust Delay:** Turn dial Clockwise to increase delay time. Turn Counter-Clockwise to shorten the delay time.

### **▲ WARNING EYE INJURY HAZARD!**

- Inadequate levels of arc ray shading can cause permanent eye injury. This helmet is capable of protection up to shade level 13 only. If your particular welding process emits arc radiation at levels higher than 13, DO NOT use this helmet and seek alternate protection.
- Do not use this helmet for oxy-acetylene welding or cutting processes, laser welding or low amperage (less than 10 amps) TIG welding.



## SHADE

Shade is used to control the level of darkness as Auto-darkening is automatically activated when an arc is present.

The Shade Control Knob is designed to function in 2 separate ranges; one for shade levels 5 through 9 and one for shade levels 9 through 13. Shade 5 is lightest while shade 13 is darkest. Move the Shade Range Switch down for levels 5-9; up for levels 9-13.

### To Adjust Shade:

Consult the **SHADE GUIDE TABLE (FIG 2)** to verify that this helmet provides adequate protection for your preferred welding process before using.

If unsure of shade level required, use the following procedure to find the correct shade level:

- Set the Range Switch to the 9-13 position, set Knob to 13 and try viewing with an expected arc then continue to decrease the setting while striking an arc until it is visible with Auto-Darkening. This is the correct setting.

**FIG. 2**

Shade Guide Table																							
Welding Process	Arc Current (Amperes)																						
	0.5	1	2.5	5	10	15	20	30	40	60	80	100	125	150	175	200	225	250	275	300	350	400	450
<b>SMAW</b>						9	10	11			12			13		14							
<b>MIG (heavy)</b>									10	11		12			13		14						
<b>MIG (light)</b>									10	11		12		13	14	15							
<b>TIG, GTAW</b>				9	10	11		12		13			14										
<b>MAG/CO2</b>						10		11	12		13			14		15							
<b>SAW</b>									10		11	12	13	14	15								
<b>PAC</b>									11		12		13										
<b>PAW</b>			8	9	10	11	12		13			14			15								

**SMAW** – Shielded Metal Arc Welding

**MAG/CO2** – Metal Active Gas

**MIG (heavy)** – MIG on Heavy Metals

**SAW** – Shielded Semi-Automatic Arc Welding

**MIG (light)** – MIG on Light Alloys

**PAC** – Plasma Arc Cutting

**TIG, GTAW** – Gas Tungsten Arc Welding

**PAW** – Plasma Arc Cutting

**To Set Shade Control to “Grind”:** Rotate the Shade Control Knob past the detent fully to the “GRIND” position which will lock the viewer on full transparency.

### **⚠ WARNING**

**To avoid serious and permanent eye damage, NEVER attempt to weld with the Shade Control set to “GRIND”.**

## TO ADJUST SHADE LEVEL

- Move Shade Switch to desired range, 4 to 8 or 8 to 12.
- Turn dial Counter-Clockwise to increase darkening level, turn Clockwise to decrease.

This helmet also has a “GRIND” setting switch which turns off the Auto-Shade feature and keeps the viewer on base transparency to allow use of the Helmet for grinding and other non-welding uses.

## TO SET SHADE CONTROL ON “GRIND”

Move the switch to the “GRIND” position which will lock out the Auto-Shade feature and set the viewer on full transparency.

### **WARNING**

**Never attempt to weld with the Shade Control set to “GRIND”.  
Severe eye injury will result.**

## ADJUST FIT OF HELMET

**Headband:** Push Knob in and turn Clockwise for decreasing size (tighten) or rotate Counter-Clockwise to increase size (loosen).

**Width/Height:** Push in small button on the overhead band, slide band in to shorten band or pull out to lengthen band. Snap button into the nearest of 5 available holes.

**Flip-up Retention:** This will allow the helmet to stay in the “flipped-up” position. Tighten or loosen knobs on either side of the helmet to increase or decrease friction.

# MAINTENANCE

- A RED LED Low Battery Indicator Light is located at the upper left corner of the inner viewing area. If it is illuminated, the batteries may require a charge by exposing the face of the Welding Helmet to bright sunlight for several hours. If this fails to extinguish the light, the batteries will require replacement. If this becomes necessary, replace with two 3V type CR2450 by following the “Replace Batteries” section below.

## REPLACE BATTERIES

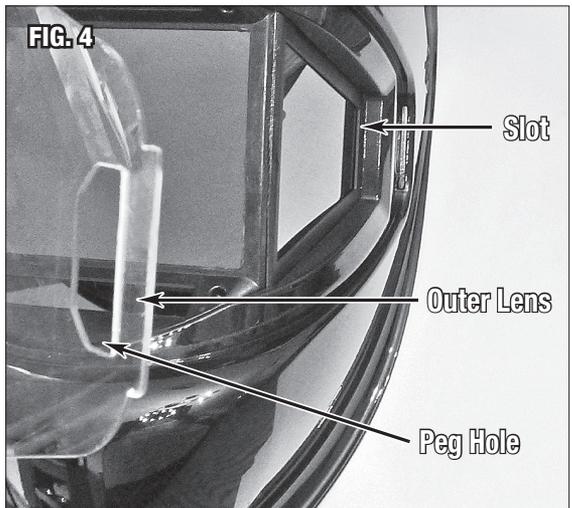
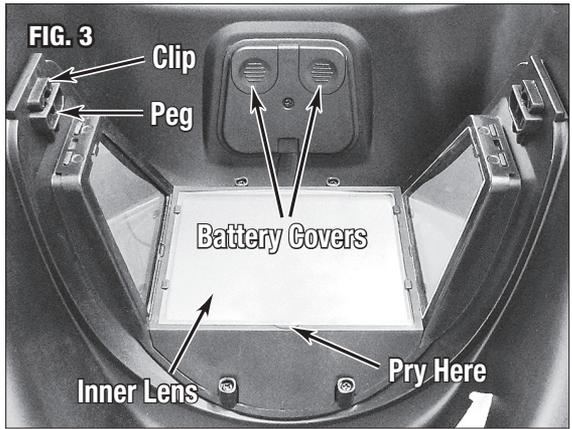
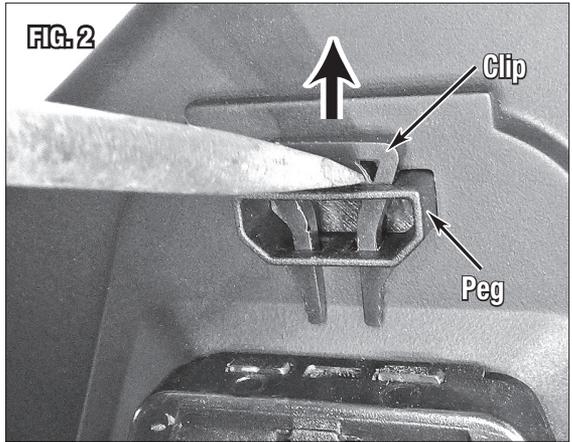
1. Note location at upper inside of Helmet and Push in on ribbed surface of Battery Covers while sliding outward (**FIG 3**).
  2. Remove Batteries.
  3. Replace Batteries with 3V type CR2450 with positive side facing upward.
  4. Replace Battery Covers.
- Check lens assembly for damage before each use. If cracked or broken, **DO NOT USE**.
  - Clean outside and inside of lens with a soft cloth and small amount of glass cleaner.  
**NOTE:** Do not use excessive glass cleaner or allow the lens assembly to become wet or the sensitive electronics will be destroyed. Never use solvents.
  - Clean headband with a cloth dampened with mild soap and water. Allow to dry thoroughly.

## REPLACE OUTER SHIELD

1. Using a straight-blade screwdriver, pry the two Lens Peg Retaining Clips outward then remove Pegs and Outer Shield from Helmet. (FIGS 2 & 3).
2. Reverse to install while noting irregular shape of the Pegs and location of short tabs on ends of Shield.

## REPLACE INNER SHIELD

1. Place the Helmet face-down on a soft surface and grip the lower edge of the Inner Shield with a fingernail, pull inward curling the Inner Shield inward and remove (FIG 4).
2. Reverse to install making sure to slip the side edges of Shield under the four tabs of frame (FIG 4).



# TROUBLESHOOTING

PROBLEM	CAUSE	CORRECTION
<b>Auto-Dimming Does Not Function (Will not Darken)</b>	Dirt may be blocking sensors located at upper area of the lens assembly	Clean Lens Assembly.
	Batteries May Be Low	Expose the solar cells to bright light source to recharge.
	Dirt may be blocking solar cells at lower portion of viewer area	Clean Lens Assembly.
<b>Slow Response for Darkening</b>	Operating Temperature Too Low	Do not use below 23°F (-5°C).
<b>Poor Vision Through Lens</b>	Dirt or Excessive Pitting May be Blocking View	Clean Lens Assembly.
<b>Helmet Slips During Use</b>	Helmet Fit Not Adjusted Properly	Follow fit adjustment steps in instructions.
<b>Red LED Glows</b>	Batteries require recharging or replacement.	Replace or Recharge Batteries per Battery Recharge/Replacement procedure in preceding Maintenance section.

## ADDITIONAL ITEMS

#21196 Replacement Outer Lens

**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

The Eastwood Company 263 Shoemaker Road, Pottstown, PA 19464, USA

800.343.9353 eastwood.com