

# Auto-Darkening Welding Helmet – Metal Head Design

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Item 68782

## **⚠ WARNING**

Read this material before using this product.  
Failure to do so can result in serious injury.  
**SAVE THIS MANUAL.**



When unpacking, make sure that the product is intact and undamaged.  
If any parts are missing or broken, please call 1-800-444-3353 as soon as possible.

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## Specifications

Description	Auto-Darkening Welding Helmet
Power Source	Solar powered cells with battery assistance (not rechargeable)
Operating Temp.	23° to 131° F
Resting Shade	Shade # 4
Shade Range	9 to 13
UV/IR Protection	up to DIN 16 at all times
Lens Type	ANSI Z87.1-2003 approved
Viewing Area	3.86" x 1.73"
Welding Protection Types	For Processes including MIG/Flux welding, stick welding, TIG welding (10+ amps), plasma arc welding/cutting and air carbon cutting. Not for Laser Welding or Oxyacetylene Welding/Cutting
Lens Switching Speed (Clear to Dark)	1/25,000 second
Sensitivity Adjustment	High / Low
Grinding Mode	Transforms helmet to grinding shield without shade flickering
Power ON / OFF	Fully Automatic
Shell Material	High Impact-Resistant Plastic Polyamide Nylon
Storing Temperature	-4° to 158° F
Features	Ratcheting headband with replaceable padded sweatband, spare External cover lens, 2 independent arc sensors which reduce the risk of blocked sensors during out-of-position welding, variable Shade Control Knob adjusts from #9 to #13 with a #4 resting shade, Delay Control Switch, Sensitivity Control Switch
Weight	1.3 lb.

## Save This Manual

Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual near the assembly diagram (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.

### WARNING SYMBOLS AND DEFINITIONS

	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
	Addresses practices not related to personal injury.

# IMPORTANT SAFETY INFORMATION



## WARNING

Read all safety warnings and instructions.

**SEVERE PERSONAL INJURY and/or BLINDNESS may occur if the user fails to follow these warnings and/or fails to follow the operation instructions.**

**Save all warnings and instructions for future reference.**

The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

1. **Do not use the Welding Helmet if the lens is cracked, if the lens or sensors are dirty, or if the lens or front retaining frame is loose.**
2. **Keep work area clean.**  
Cluttered areas invite injuries.
3. **Observe work area conditions.** Do not use welding helmets in damp or wet locations. Do not expose to rain. Keep work area well lit. Do not use in the presence of flammable gases or liquids.
4. **Keep children away.**  
Do not let them handle this helmet.
5. **Store idle equipment.** When not in use, helmets must be stored in a dry location. Keep out of reach of children.
6. **Dress properly.** Protective gear is essential to protect against welding rays, some examples are: a leather welding apron, welding sleeves, jeans without cuffs, work boots. Wear restrictive hair covering to contain long hair.
7. **Check for damaged parts.** Before using any helmet, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for ill fitting parts that allow light to enter; any broken parts or mounting fixtures; and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by a qualified technician. Do not use the helmet if any switch does not operate properly.
8. **Replacement parts and accessories.**  
Do not use any replacement parts other than those specified in this manual. Use of any other parts can render the helmet ineffective, possibly causing eye damage, and will void the warranty. Only use accessories intended for use with this helmet.
9. **Maintenance.** For your safety, service and maintenance should be performed regularly only by a qualified technician.
10. **This helmet provides protection for intended purposes only.** There are certain applications for which this helmet was designed. Do not modify this helmet and do not use this helmet for a purpose for which it was not intended.
  - The Welding Helmet is not suitable for laser welding or oxyacetylene welding/cutting processes.
  - The Welding Helmet is not intended to protect against explosive devices or corrosive liquids.
11. **Use only at temperatures within the operating range for your model as stated on the specifications chart in this manual.**
12. **Maintain the helmet and lens correctly to help ensure reliable protection.**
  - **Clean filter's surfaces regularly.**  
Keep sensors and solar cells clean using a clean, lint-free tissue/cloth. Do not use any solvents on filter's screen or helmet components. Protect filter from liquid and dirt contact. Do not immerse the filter in water.
  - **Should the Welding Helmet not darken upon striking an arc, stop welding immediately and have the helmet checked by a qualified service technician.**
  - **Regularly replace the Front Lens Cover if it becomes cracked, scratched, pitted, or otherwise damaged.**
  - **Do not make any modifications to either the Filter Lens or the rest of the helmet, other than those specified in this manual.**  
Unauthorized modifications will void the warranty and expose the user to the risk of personal injury. **Do not open or tamper with the Filter Lens.**
13. **Do not place the Filter Lens on a hot surface.**
14. **Read welder's manual and follow all instructions within for safe welding practices**



## SAVE THESE INSTRUCTIONS.

## Features and Controls

### Time Delay and Sensitivity:

#### Delay Switch

Adjusts the speed the lens changes from dark to clear.

In FAST position: .25 - .45 seconds

In SLOW position: .65 - .80 seconds

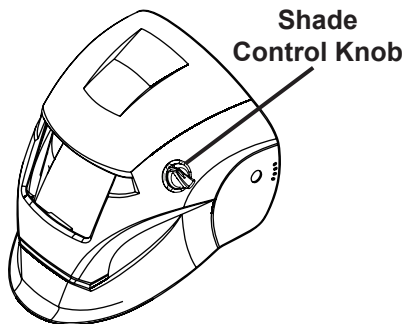


#### Sensitivity Adjustment Switch

Adjusts the amount of light needed to activate the lens to darken.

**Figure A: Controls Inside Helmet**

**Solar Cells:** This Welding Helmet utilizes high performance solar cells as power supply, and has two built-in 3V lithium batteries as power backup. No change of battery is needed. Under normal welding conditions, users can expect a battery lifetime of more than 6 years.



**Figure B: Shade Control Knob**

**Shade Control Knob:** The shade control knob controls the shade of the lens when it is in its dark state. Turn the knob to the desired shade number.

The “Grind” setting disables the auto-darkening function, allowing the welding helmet to be used for eye protection while grinding.

**WARNING! The helmet will not provide adequate eye protection for welding while in “Grind” mode.**

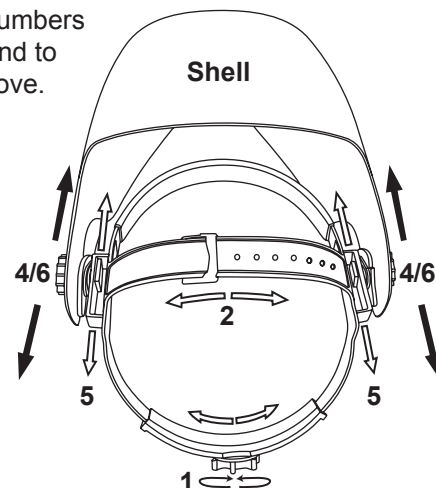
## Before Use

1. Remove the protective film from both sides of the front lens (if not already done).
2. Adjust the Helmet so that it fits comfortably and the user can easily see through the lens, as follows:

## Adjusting the Helmet

1. Wear the helmet and set the headband size using the knob on its back. Set it to keep the helmet firmly on your head without it being too tight.
2. To adjust the height of the Helmet, adjust the strap that passes over the top of your head. Push the locking nub out of the hole in the band, adjust as needed, and push the locking nub through the nearest hole.
3. Test the fit of the headband by lifting up and closing down the helmet a few times while wearing it. If the headband moves while tilting, re-adjust it until it is stable.
4. Loosen both Adjustment Knobs to adjust the distance between the helmet and your face in the down position.
5. Slide the helmet nearer or further from your face. It is important that your eyes are each the same distance from the lens. Otherwise the darkening effect may appear uneven.
6. Re-tighten both Adjustment Knobs.

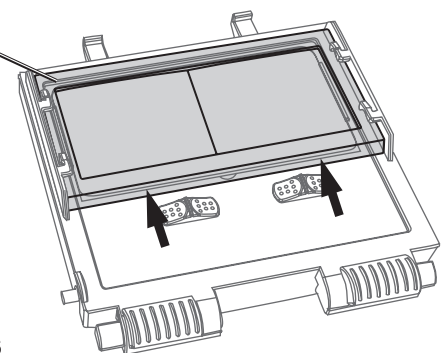
**Note:** Numbers correspond to steps above.



**Figure C: Helmet Adjustment**

## Installing Magnifying Lens

compatible  
Magnifying Lens  
(not included)



**Figure D:  
Installing  
Magnifying  
“Cheater” Lens**

Slide magnifying “cheater” lens into place INSIDE the helmet under the four tabs, as shown above.

**WARNING! Do not use a different Magnifying Lens design or install lens outside welding helmet.**

Welding Process	Arc Current (Amperes)																	
	10		20		40		80		125		175		250		300		450	
	5	15	30	60	100	150	225	275	350	500								
Stick/Arc			9	10	11		12		13		14							
Mild Steel MIG (argon shielded)					10	11	12		13		14							
Mild Steel MIG (CO <sub>2</sub> shielded)				10	11	12	13		14									
Aluminum MIG					10	11		12	13		14							
TIG		9	10	11		12		13		14								
Flux Core						10	11	12	13	14								
Plasma Cutting					11		12		13									
Plasma Welding		8	9	10	11	12		13		14								

**Table A: Shade Guide**

## Operation Instructions



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

- Before each use, check the Front Lens Cover to make sure that it is clean, and that no dirt is covering the two sensors on the front of the Filter Cartridge. Also check the Inside Lens Cover and the Front Lens Retaining Frame, and make sure that they are secured in place.
- Inspect all operating parts before each use for signs of wear or damage. Any scratched, cracked, or pitted parts should be replaced immediately before using again to avoid severe personal injury.
- Turn the shade knob to the correct shade for the application as shown in Table A: Shade Guide. If a selection of shades are recommended for your application, **try the darkest setting (highest number) first.**
- Set the switches as explained on the facing page.
- Adjust the headband so that the helmet is seated on your head as low as possible and close to your face. Adjust the helmet's angle when in the lowered position by turning the Adjustment Knobs.

### **WARNING! TO PREVENT SERIOUS INJURY FROM ACCIDENTAL EXPOSURE:**

Test the filter lens before welding.

While wearing the helmet, briefly strike an arc, keeping your face and eyes turned slightly away, and to one side. The lens should darken evenly when not directly facing the arc. If it does not darken properly, do not use the Welding Helmet.

- After use, wipe with a clean cloth. Store in a dry, safe place, away from children.

## Troubleshooting

### 1. Irregular Darkening or Dimming

Headband has been set unevenly between the two sides of the helmet (unequal distances from the eyes to filter's lens).

### 2. Filter Lens Does Not Darken Or Flickers

- Shade Control Knob set to "Grind", disabling auto-darkening function (turn shade knob to desired shade setting).
- Front Lens Cover is soiled or damaged (change the Lens Cover).
- Sensor is soiled (clean sensor).
- Welding current is too low (turn Sensitivity Switch from low to high).

### 3. Slow Response

Operating temperature is too low (do not use at temperatures below 23° F).

### 4. Poor Vision

- Front/Inner Lens Cover and/or filter damaged/dirty (change/clean it).
- Insufficient ambient light (increase work area ambient lighting).
- Shade number is incorrectly set (reset shade number).

### 5. Welding Helmet Slips

Headband is not adjusted properly (tighten).

**WARNING:** Stop using the Welding Helmet **IMMEDIATELY** if any of the above-mentioned problems cannot be corrected.



## ⚠ WARNING

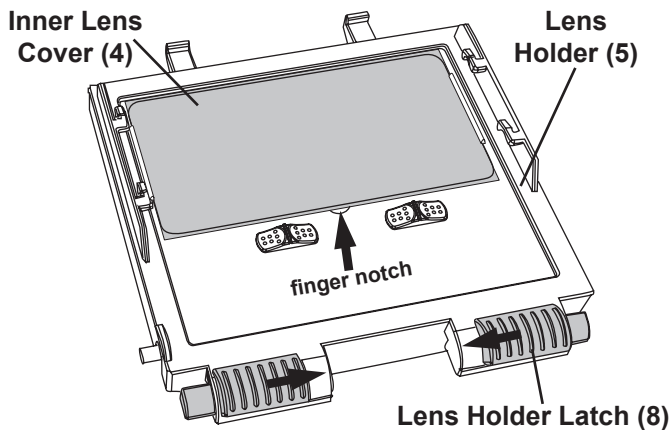
### TO PREVENT SERIOUS INJURY FROM HELMET FAILURE:

**Do not use damaged equipment. If damage or abnormal operation occurs, have the problem corrected before further use.**

1. **BEFORE EACH USE**, inspect the general condition of the helmet. Check for loose hardware, misalignment or binding of moving parts, cracked or broken parts, damaged electrical wiring, and any other condition that may affect its safe operation.
2. Replace the Lens Cover(s) (2, 4) if they are cracked, scratched, soiled, pitted or damaged in any way:

## Front Lens Cover Replacement

1. Squeeze the Lens Holder Latches (8) inside the Helmet at the base of the Lens Holder (5) together and pull the bottom of the Lens Holder towards the inside of the helmet. See Figure E.



**Figure E: Lens Holder Latches and Finger Notch**

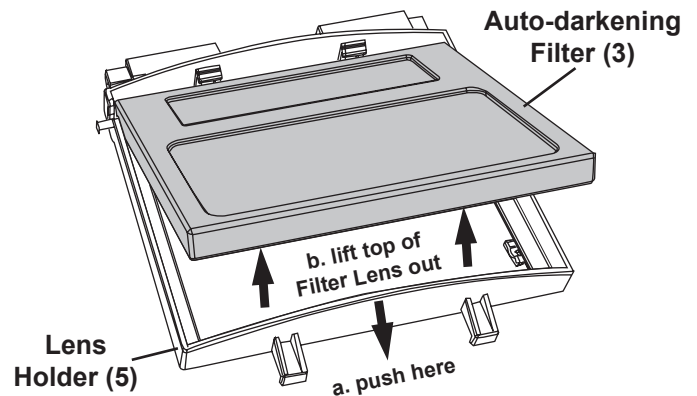
2. Remove Front Lens Cover (2) from Shell (1).
3. Remove any protective film from both sides of the new Lens.
4. Assemble Front Lens Cover, Lens, and Lens Holder into Shell the same way they were removed.

## Inner Lens Cover Replacement

1. Remove the old Inner Lens Cover (4) by pulling it up at the finger notch. See Figure E.
2. Remove any protective film from both sides of the new Lens cover.
3. Line up the new Inner Lens Cover with the flanges at the sides of the lens and snap it into place.

## Filter Lens Replacement

1. Squeeze the Lens Holder Latches (8) inside the Helmet at the base of the Lens Holder (5) together and pull the bottom of the Lens Holder towards the inside of the helmet. See Figure E.
2. Gently pull the Shade Control Knob (7) off the side of the Helmet. See Figure G.
3. Remove Auto-darkening Filter (3) from Lens Holder:
  - a. Push up on top center of front of Lens Holder and,
  - b. lift top of Auto-darkening Filter out. See Figure F.

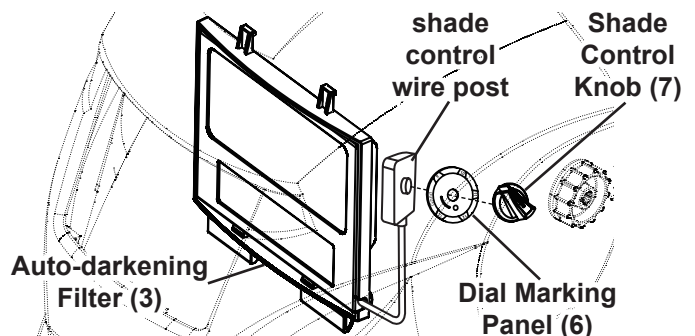


**Figure F: Removing Auto-darkening Filter**

### **WARNING! TO PREVENT SERIOUS INJURY AND BLINDNESS:**

**Replace the Auto-darkening Filter ONLY with an exact replacement. Other filters may not protect properly from welding light, or may not fit helmet closely enough to block all light at the edges.**

4. Remove any protective film from both sides of the new Lens.
5. Install new Filter Lens into the Lens Holder and replace Lens Holder into Shell.
6. Place shade control wire up against side of Shell (1). Attach Shade Control Knob (7) to post of shade control wire. See Figure G.



**Figure G: Shade control wire post**

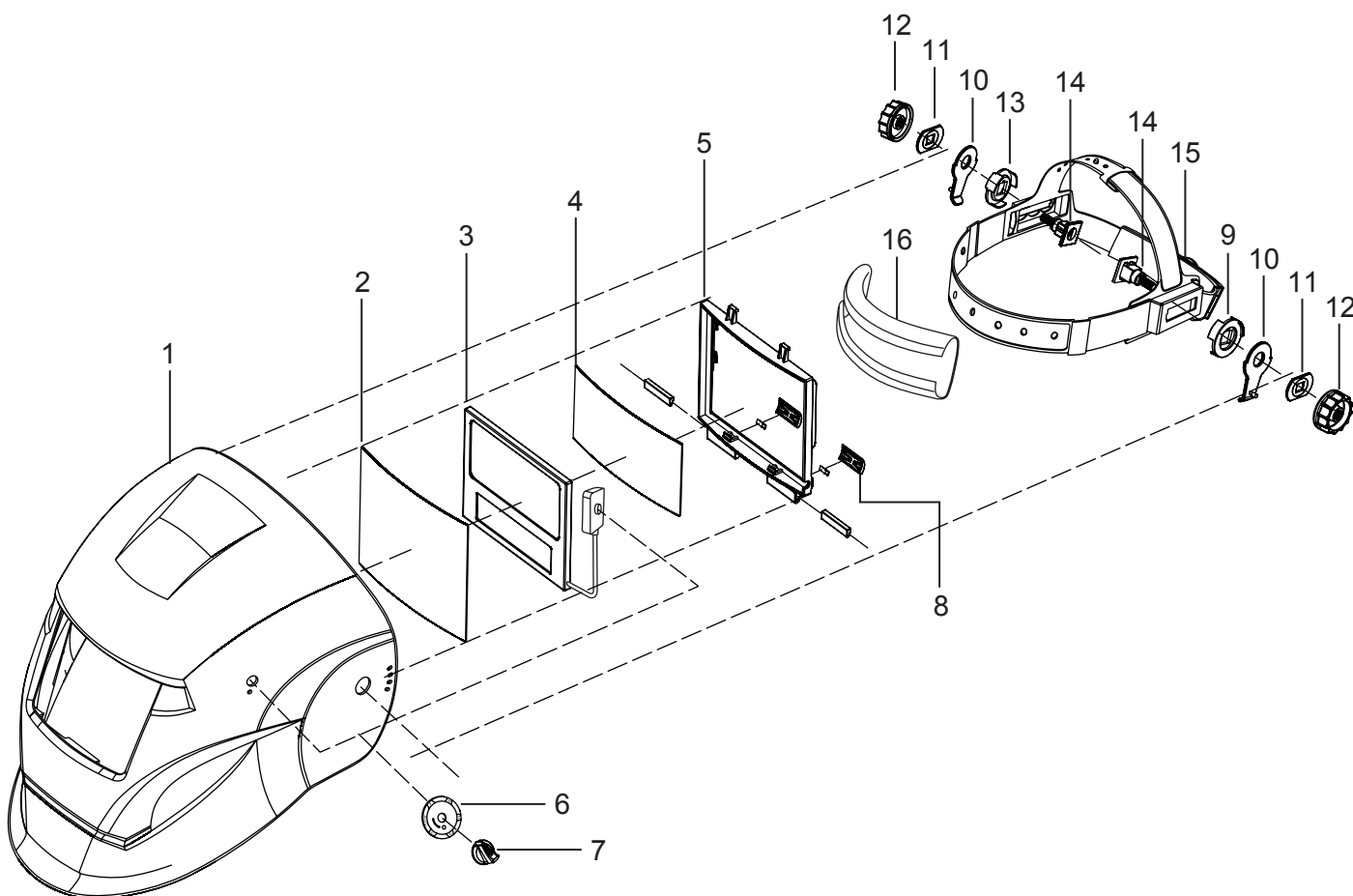
## PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

### Parts List and Assembly Diagram

Part	Description	Qty.
1	Shell	1
2	Front Lens Cover	1
3	Auto-darkening Filter	1
4	Inner Lens Cover	1
5	Lens Holder	1
6	Dial Marking Panel	1
7	Shade Control Knob	1
8	Lens Holder Latch	2

Part	Description	Qty.
9	Left Limitation Washer	1
10	Angle Adjustment Washer	2
11	Washer	2
12	Adjustment Knob	2
13	Right Limitation Washer	1
14	Screw	2
15	Adjustable Headband	1
16	Sweatband	1



Record Product's Serial Number Here: \_\_\_\_\_

**Note:** If product has no serial number, record month and year of purchase instead.

**Note:** Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

## 90 Day Warranty

Harbor Freight Tools Co. makes every effort to assure 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 90 days 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.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election 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.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

