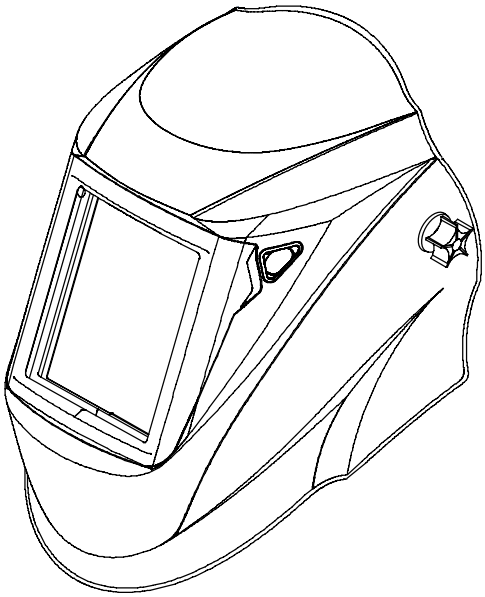
OM-240 362B
2008–11

Expert Series Auto-Darkening Helmets
Model: XVX



For more information, visit www.HobartWelders.Com

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SECTION 1 – SAFETY PRECAUTIONS – READ BEFORE USING

Protect yourself and others from injury — read and follow these precautions.

1-1. Symbol Usage

DANGER! – Indicates a hazardous situation which, if not avoided, will result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text.

Indicates a hazardous situation which, if not avoided, could result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text.

NOTICE *– Indicates statements not related to personal injury.*

☞ *Indicates special instructions.*

This group of symbols means Warning! Watch Out! ELECTRIC SHOCK, MOVING PARTS, and HOT PARTS hazards. Consult symbols and related instructions below for necessary actions to avoid the hazards.

1-2. Hazards

ARC RAYS can burn eyes and skin.

Arc rays from the welding process produce intense visible and invisible (ultraviolet and infrared) rays that can burn eyes and skin. Sparks fly off from the weld.

- Wear a welding helmet fitted with a proper shade of filter to protect your face and eyes when welding or watching (see ANSI Z49.1 and Z87.1 listed in Safety Standards). Refer to Shade and Sensitivity charts in Sections 3-4 and 3-5.
- Wear approved safety glasses with side shields under your helmet.
- Use protective screens or barriers to protect others from flash and glare; warn others not to watch the arc.
- Wear protective clothing made from durable, flame-resistant material (leather and wool) and foot protection.

WELDING HELMETS do not provide unlimited eye, ear and face protection.

- Use impact resistant safety spectacles or goggles and ear protection at all times when using this welding helmet.
- Do not use this helmet while working with or around explosives or corrosive liquids.
- Do not weld in the overhead position while using this helmet.
- Inspect the auto-lens frequently. Immediately replace any scratched, cracked, or pitted cover lenses or auto-lenses.

NOISE can damage hearing.

Noise from some processes or equipment can damage hearing.

- Wear approved ear protection if noise level is high.

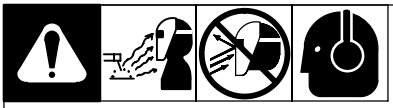
SECTION 2 – SPECIFICATIONS

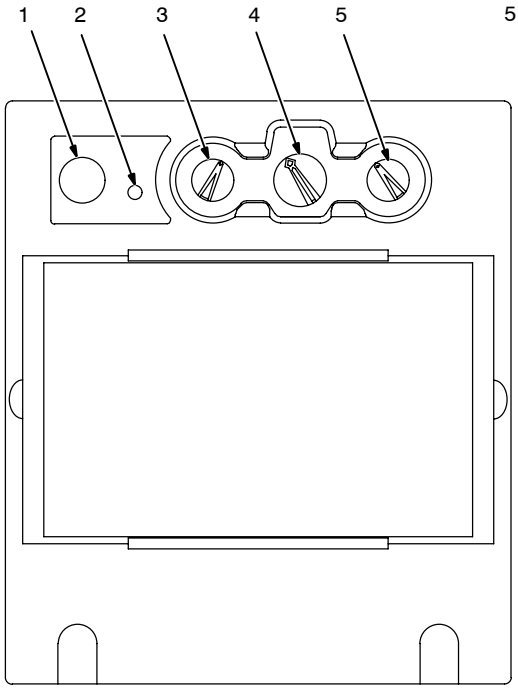
Viewing Field	97 x 60mm/3.875 x 2.375 in
Reaction Time	0.0000500sec (1/20,000)
Available Shades	Darkened State: No. 9 – No. 13 / Light State: No. 4 provides continuous UV and IR protection
Sensitivity/Grind Mode Control	Adjusts for varying ambient light and welding arc
Delay Control	Slows lens dark-to-light state between 0.1 and 1.0 seconds
Automatic Power Off	Shuts lens Off 15–20 minutes after last arc is struck
Low Battery Indicator	Red LED light illuminates to indicate 2–3 days remaining battery life
Power Supply	CR2450 Lithium Batteries (Hobart Part No. 770 284)
Sensors	Independent/Redundant (Four)
Operating Temperature	14°F to 131°F / –10°C to +55°C ☞ *When stored in extremely cold temperatures, warm helmet to ambient temperature before welding.*
Storage Temperature	–4°F to 158°F / –20°C to +70°C ☞ *When stored in extremely cold temperatures, warm helmet to ambient temperature before welding.*
Total Weight	510.3 g (1 lb 2oz)
Standards	ANSI Z87.1-2003 and DIN/CSA/TUV
Warranty	2 years from date of purchase (see Section 11)

☞ *The helmets in this manual are covered by one or more of the following patents:*
U.S. Patent – No. 6,552,316, No. 6,483,090, No. 6,614,409
U.S. Patent Application – No. 29/223,100, No. 11/053,977
DE. Patent – No. 199 59 944 C2, No. 199 59 945 C2
FR. Patent – No. 9916004

SECTION 3 – OPERATING INSTRUCTIONS

3-1. Helmet Controls





1 Reset Button (See Section 3-2)

2 Low Battery Indicator (See Section 3-2)

3 Variable Shade Control (See Section 3-4)

4 Sensitivity Control (See Section 3-5)

5 Lens Delay Control (See Section 3-3)

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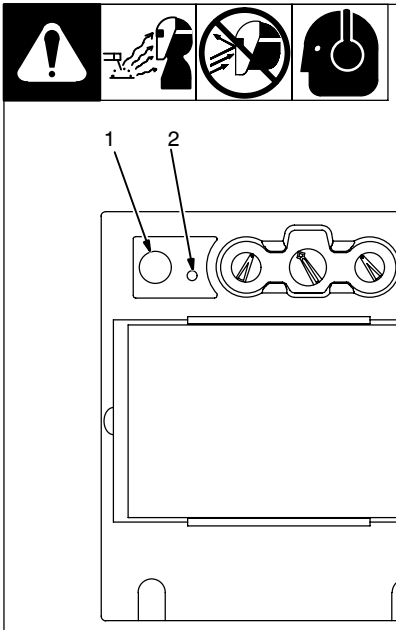
3-2. Reset Button And Low Battery Indicator



☞ *The auto-darkening lens turns on (darkens) automatically when welding begins and turns off 15 – 20 minutes after welding stops.*

1 Reset Button

Press Reset button to check if the lens is working properly.

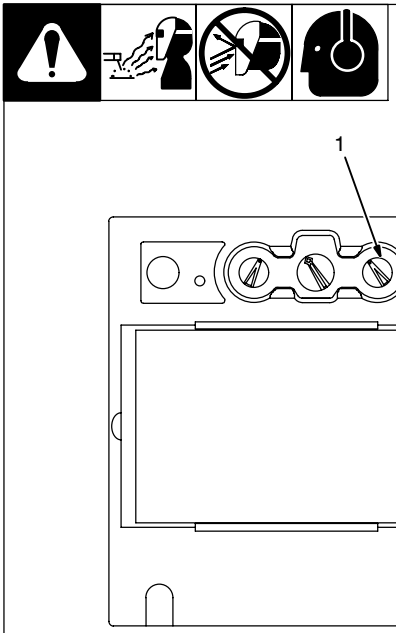
When the Reset button is pressed, the lens should darken twice and return to the clear state. Do not use the helmet if the lens does not function as described. (See Section 9, Troubleshooting.)

2 Low Battery Indicator

The low battery indicator lights when 2–3 days of battery life remain.

If battery power is low, replace with CR2450 lithium batteries (2 required) (Hobart Part No. 770 284) (see Section 6).

3-3. Lens Delay Control

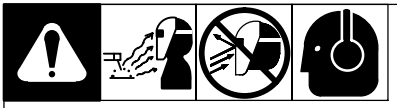


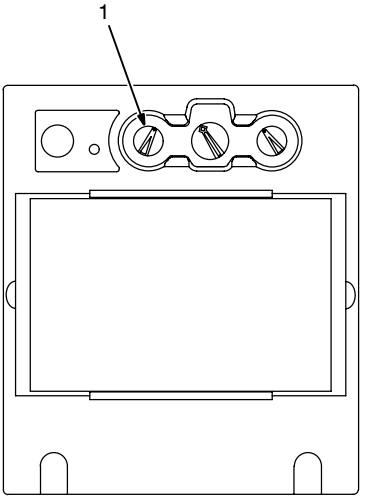
1 Lens Delay Control

The lens delay control is used to adjust the time for the lens to switch to the clear state after welding.

The delay is particularly useful in eliminating bright after-rays present in higher amperage applications where the molten puddle remains bright momentarily after welding. Lens delay adjusts from min (0.10 second) to max (1.0 second.).

3-4. Variable Shade Control (No. 9 – 13)





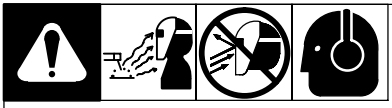
1 Variable Shade Control (No. 9 – 13)

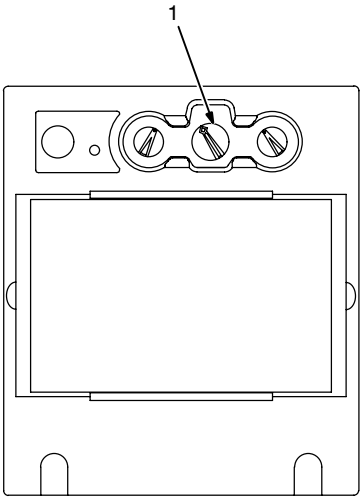
Use the control to adjust the lens shade in the darkened state. Use the table below to select proper shade control setting based on your welding process.

Start at shade 12 and adjust lighter to suit the welding application and your personal preference.

Application Welding	Arc Current in Amperes	Protective Shade No.
Stick Electrodes	Less than 40 40–80 80–175 175–300 300–500	9 10 11 12 13
MIG	Less than 100 100–175 175–300 300–500	10 11 12 13
Gas Tungsten Arc Welding (TIG)	Less than 50 50–100 100–200 200–400	10 11 12 13
Air Carbon	Less than 500 500–700	12 13
Plasma Arc Cutting	60–150 150–250 250–400	11 12 13
Plasma Arc Welding	Less than 50 50–200 200–400	9 10 12

3-5. Sensitivity Control





1 Sensitivity Control

Weld Mode

Use control to make the lens more responsive to different light levels in various welding processes. **Use a Mid-Range or 30–50% sensitivity setting for most applications.**

It may be necessary to adjust helmet sensitivity to accommodate different lighting conditions or if lens is flashing On and Off. Adjust helmet sensitivity as follows:

☞ *Adjust helmet sensitivity in lighting conditions helmet will be used in.*

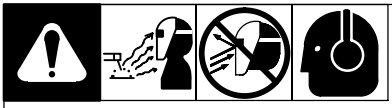
- Turn sensitivity control to lowest setting.
- Press Reset button to turn helmet On. Helmet lens will darken twice and then clear.
- Face the helmet in the direction of use, exposing it to the surrounding light conditions.
- Gradually turn sensitivity setting clockwise until the lens darkens, then turn sensitivity control counterclockwise until slightly past setting where lens clears. Helmet is ready for use. Slight readjustment may be necessary for certain applications or if lens is flashing on and off.

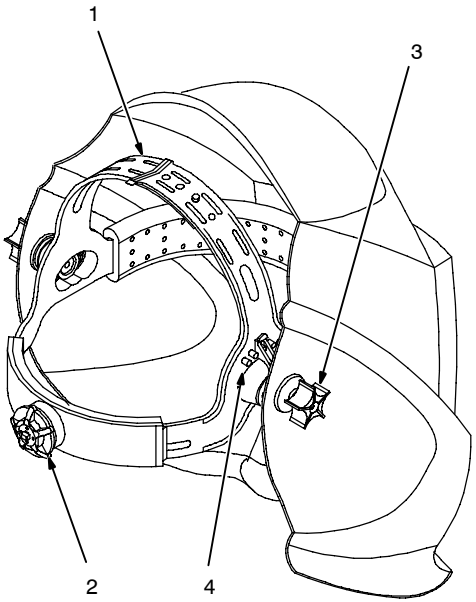
Grind Mode

☞ *Do not weld in the Grind mode; the lens will not darken.*

To use the Grind mode, turn the Sensitivity control clockwise to the far right position (Grind). To resume welding, return the control to the desired sensitivity setting.

Recommended Sensitivity Settings	
Stick Electrode	Mid-Range
Short Circuiting (MIG)	Low/Mid-Range
Pulsed & Spray (MIG)	Mid-Range
Gas Tungsten Arc (TIG)	Mid/High-Range
Plasma Arc Cutting/Welding	Low/Mid-Range
Grind Mode	Grind Position – Far Right (Clockwise)





☞ *There are four headgear adjustments: headgear top, tightness, angle adjustment, and distance adjustment.*

1 Headgear Top

Adjusts headgear for proper depth on the head to ensure correct balance and stability.

2 Headgear Tightness

To adjust, push in the adjusting knob located on the back of the headgear and turn left or right to desired tightness.

☞ *If adjustment is limited, it may be necessary to remove the comfort cushion.*

3 Distance Adjustment

Adjusts the distance between the face and the lens. To adjust, loosen both outside tension knobs and press inward to free from adjustment slots. Move forward or back to desired position and retighten. (Both sides must be equally positioned for proper vision.)

4 Angle Adjustment

Four pins on the right side of the headband top provide adjustment for the forward tilt of the helmet. To adjust, loosen the right outside tension adjustment knob then lift on the control arm tab and move it to the desired position. Retighten tension adjustment knob.

☞ *When using the back distance adjustment positions, only the back three angle adjustment pins can be used.*

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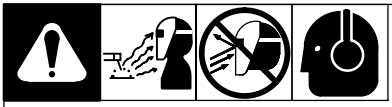
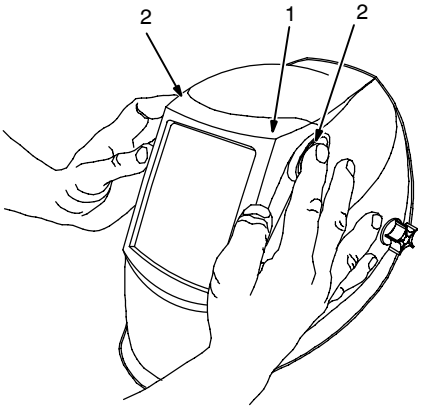
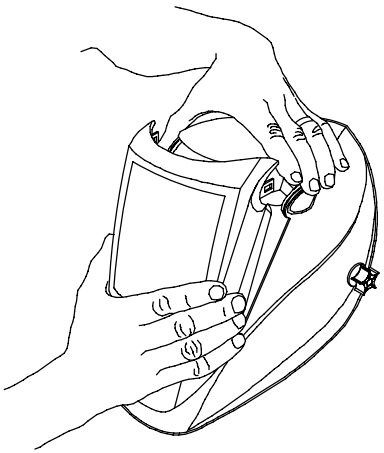
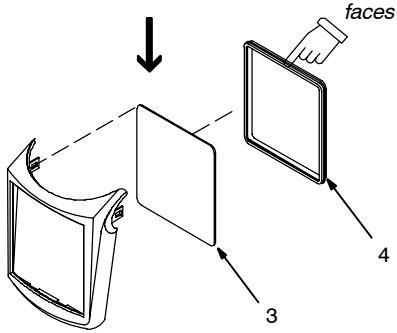
SECTION 5 – REPLACING THE LENS COVERS

5-1. Replacing Outside Lens Cover









Be sure flat side of gasket faces lens cover holder.

Never use the auto-darkening lens without the inside and outside lens covers properly installed. Welding spatter will damage the auto-darkening lens and void the warranty.

1 Front Lens Holder

2 Release Points

3 Lens Cover

4 Gasket

Remove front lens holder by pressing release points and pulling the holder away from the helmet.

Remove lens cover and gasket from the holder. Replace lens cover and reinstall gasket and lens in holder. Reinstall holder in helmet.

☞ *Be sure the flat side of lens cover gasket faces the lens cover holder.*

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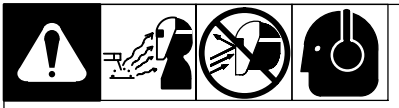
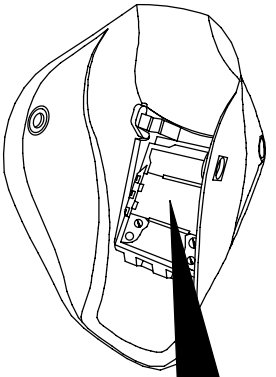
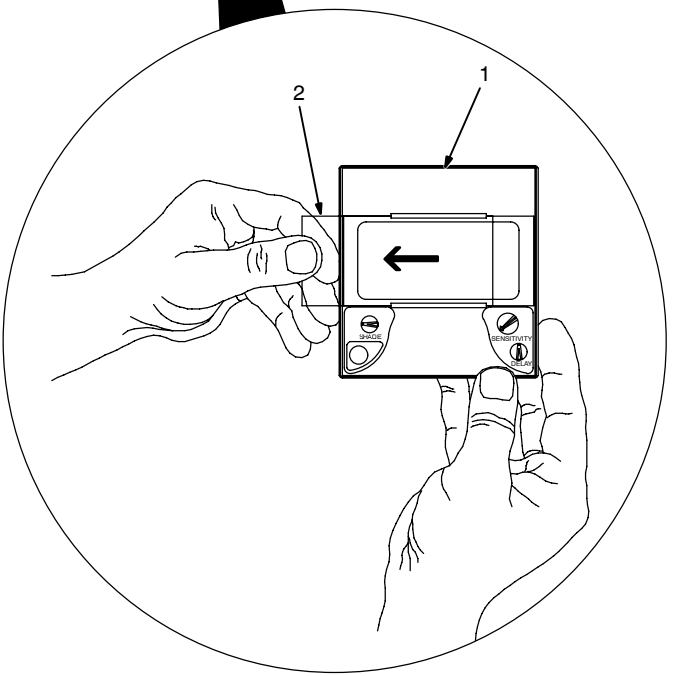
5-2. Replacing Inside Lens Cover







Never use the auto-darkening lens without the inside and outside lens covers properly installed. Welding spatter will damage the auto-darkening lens and void the warranty.

1 Lens Assembly

2 inside Lens Cover

Remove the lens cover holder (see Section 5-1). Remove lens assembly.

Remove the inside lens cover by prying the cover up at either thumbnail opening at each side of the cover. Slide cover it out of either side of frame. Replace lens cover and reinstall the assembly in the helmet by reversing the above procedure.

☞ *Be sure the cover lens is seated properly (flat) to prevent fogging.*

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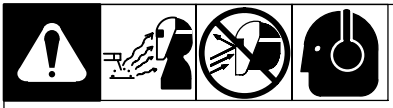
SECTION 6 – REPLACING THE BATTERY



To replace the batteries, remove the auto-darkening lens assembly (see Section 5).

1 Battery Tray

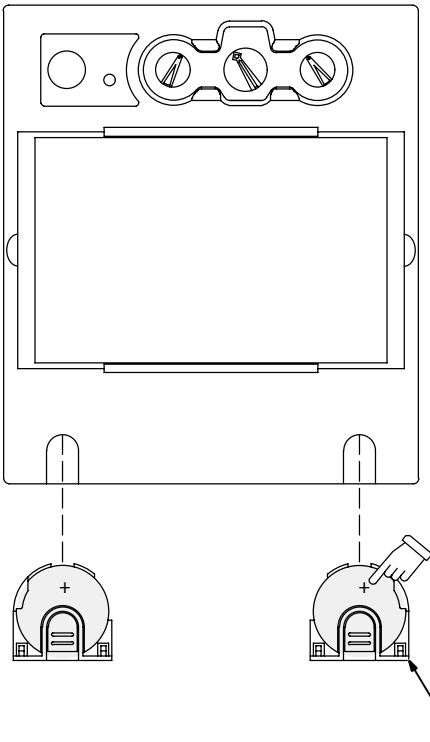
After removing the lens assembly, slide the battery holding trays out and remove the old batteries.

Replace with CR2450 lithium type batteries (2 required) or equivalent (Hobart Part No. 770 284).

☞ *Be sure Positive (+) side of the battery faces up (toward inside of helmet).*

Reinstall the battery trays. To test, press the Reset button. The lens should flash dark twice. Reinstall the lens assembly.

☞ *Left and right battery trays are not interchangeable. The auto–darkening helmet will not work if battery trays are installed on the wrong sides.*



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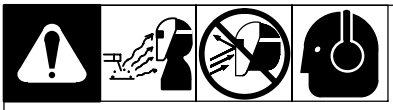
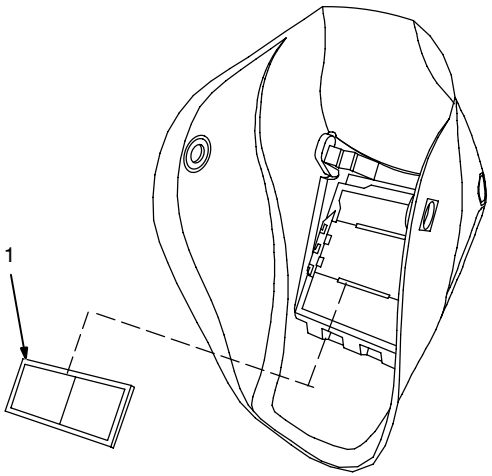
SECTION 7 – INSTALLING OPTIONAL MAGNIFYING LENS





1 Optional Magnifying Lens

Starting at the bottom, slide magnifying lens into the helmet retaining brackets. Align the magnifying lens with the auto-darkening lens assembly.

- Remove lens holding frame (with auto-darkening lens) from helmet shell.
- Remove auto-darkening lens from lens holder.
- Position lens holder with magnifying lens holding tabs facing toward you. From the bottom up, slide magnifying lens into position. (Slide magnifying lens up or down slightly as desired.)
- Reinstall the auto-darkening lens in the lens holder.
- Reverse procedure to remove magnifying lens.

☞ *To prevent lens fogging, install flat side of magnifying lens toward auto-darkening lens.*

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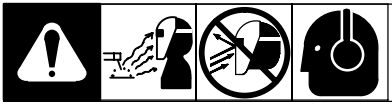
SECTION 8 – MAINTENANCE

NOTICE *– Never use solvents or abrasive cleaning detergents.*

NOTICE *– Do not immerse the lens assembly in water.*

The helmet requires little maintenance. However, for best performance clean after each use. Using a soft cloth dampened with a mild soap and water solution, wipe the cover lenses clean. Allow to air dry. Occasionally, the filter lens and sensors should be cleaned by gently wiping with a soft, dry cloth.

SECTION 9 – TROUBLESHOOTING



Trouble	Remedy
Auto lens not ON – auto-lens will not darken momentarily when the Reset button is pressed.	Check batteries and verify they are in good condition and installed properly. Also, check battery surfaces and contacts and clean if necessary. Check battery for proper contact and gently adjust contact points if necessary. This is particularly important if the helmet has been dropped. Verify left and right battery trays are installed on the correct sides.
Not switching – auto-lens stays light and will not darken when welding.	Stop welding immediately: Press the Reset button if lens is Auto-On type. If lens if Manual-On type, make sure the lens is turned On. If power is on, review the sensitivity recommendations and adjust sensitivity. Clean lens cover and sensors of any obstructions. Make sure the sensors are facing the arc; angles of 45° or more may not allow the arc light to reach the sensors.
Not Switching – auto-lens stays dark after the weld arc is extinguished, or the auto-lens stays dark when no arc is present.	Fine-tune the sensitivity setting by making small adjustments to the control by turning it toward the “min” setting. In extreme light conditions, it may be necessary to reduce the surrounding light levels.
Sections of the auto-lens are not going dark, distinct lines separate the light and dark areas.	Stop welding immediately: The auto-lens may be cracked which can be caused by the impact of dropping the helmet. Weld spatter on the auto lens may also cause cracking. (The lens may need to be replaced; most cracked lenses are not covered by warranty).
Switching or Flickering – the auto-lens darkens then lightens while the welding arc is present.	Review the sensitivity setting recommendations and increase the sensitivity if possible. Be sure the arc sensors are not being blocked from direct access to the arc light. Check the lens cover for dirt and spatter that may be blocking the arc sensors. Increasing Lens Delay 0.1 – 0.3 second may also reduce switching.
Inconsistent or lighter auto-lens shading in the dark-state, noticeable on the outside edges and corners.	Referred to as an angle of view effect, auto-darkening lenses have an optimum viewing angle. The optimum viewing angle is perpendicular or 90° to the surface of the auto-lens. When that angle of view varies in the dark-state, welders may notice slightly lighter areas at the outside edges and the corners of the lens. This is normal and does not represent any health or safety hazard. This effect may also be more noticeable in applications where magnifying lenses are used.

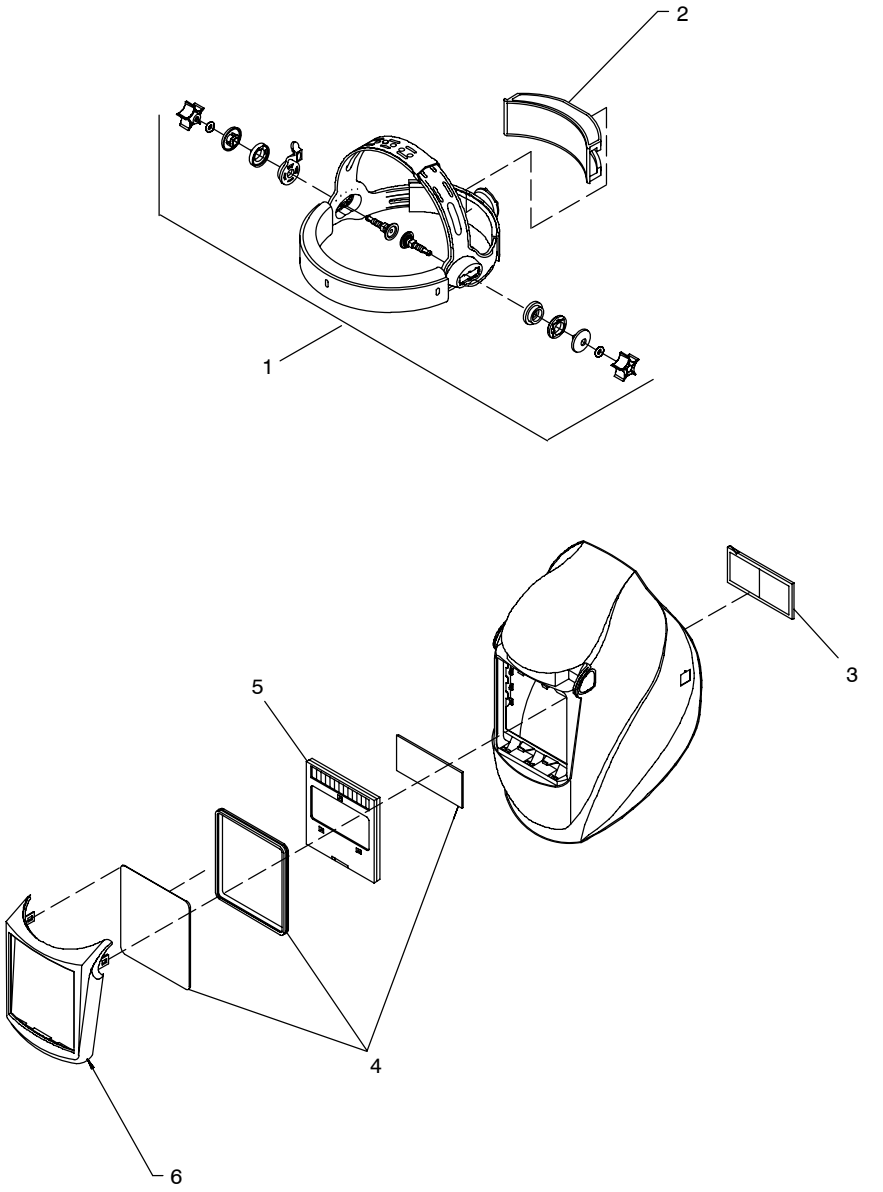


Figure 10-1. Prowler Auto-Darkening Welding Helmet

Item No.	Part No.	Description	Quantity

Figure 10-1. Prowler Auto-Darkening Welding Helmet

1	770613	Ratchet Headgear Assembly (Does Not Include Item 2)	1
2	770616	Comfort Cushion	1
3	770274	Diopter Lens 150X	1
	770275	Diopter Lens 175X	1
	770276	Diopter Lens 200X	1
	770277	Diopter Lens 250X	1
4	770612	Cover Lens (Includes Front Lens Cover Gasket, Front Lens Covers, 2 Inside Lens Covers)	1
5	770614	Auto-Darkening Lens	1
	770284	Battery, CR2450 Lithium (Not Shown)	2
6	770615	Front Lens Holder	1

SECTION 11 – LIMITED WARRANTY

Effective January 1, 2008

LIMITED WARRANTY – Subject to the terms and conditions below. Hobart Welding Retail, Appleton, Wisconsin, warrants to its original retail purchaser that the new Hobart equipment sold after the effective date of this limited warranty is free of defects in material and workmanship at the time it is purchased at the retailer. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OR MERCHANTABILITY AND FITNESS.

Hobart auto-darkening lens helmets are warranted for two (2) years from the date of purchase. **Proof of purchase is required for warranty transactions so it is imperative that a copy of the original invoice or sales receipt be retained.**

For warranty transactions, contact your original Hobart retailer.

Visit our website at

www.HobartWelders.com

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