



INSTRUCTIONS FOR:  
WELDING HELMET SOLAR POWERED SHADE 9-13  
MODEL Nos: **PWH699G, PWH699R, PWH699B**

*Thank you for purchasing a Sealey Power Product. Manufactured to a high standard this product will, if used according to these instructions and properly maintained, give you years of trouble free performance.*



**IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY. NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS AND CAUTIONS. USE THIS PRODUCT CORRECTLY AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY. PLEASE KEEP INSTRUCTIONS SAFE FOR FUTURE USE.**

## 1. SAFETY INSTRUCTIONS

- WARNING! THIS HELMET IS NOT SUITABLE FOR USE WITH LASER OR GAS WELDING/CUTTING.**
- ✓ Ensure all workshop safety rules, regulations and conditions are complied with when using welding equipment. The helmet will not offer protection against misuse of workshop tools, equipment, or accessories.
- ✓ Maintain the helmet in good condition and protect cartridge from liquid and dirt contact. Regularly replace the protective lens and replace any damaged or worn parts. *Use genuine parts only. Unauthorised parts may be dangerous and will invalidate the warranty.*
- ✓ Whilst the front cover lens is impact resistant it can break in extraordinary circumstances. **Always wear CE approved safety glasses when using this helmet to provide additional protection against flying particles, splash, spray and spatter.**
- ✓ Ensure the front cover lens is securely in place before use.
- ✓ Fit the helmet and adjust the head band so the helmet will sit as low and near to your face as possible.
- ✓ Use helmet only in temperatures ranging from -10°C to 55°C (14°F to 131°F).
- ✓ Store helmet only in temperatures ranging from -20°C to 70°C (-4°F to 158°F).
- ✓ Remove ill fitting clothing, remove ties, watches, rings and other loose jewellery.
- ✓ Maintain correct balance and footing.
- ✓ Ensure the floor is clear from obstructions, not slippery and wear non-slip shoes.
- ✓ Keep children and unauthorised persons away from the working area.
- WARNING!** The helmet will only protect the eyes and face from radiation and sparks. It will not protect against explosive devices or corrosive liquids.
- x **DO NOT** use helmet for any other purpose, other than face protection when grinding.
- x **DO NOT** use helmet unless you have been instructed in its use by a qualified person.
- x **DO NOT** open or tamper with the shade cartridge.
- x **DO NOT** get the helmet wet or use in damp or wet locations.
- x **DO NOT** leave work place with helmet in lowered position, as bright light source may darken cartridge unexpectedly.
- x **DO NOT** place the helmet on a hot surface.
- x **DO NOT** use helmet without front cover lens fitted. To do so will invalidate your warranty.
- ✓ Clean helmet (see section 5.4) and store the helmet in a safe, dry, childproof location.
- WARNING!** The materials of the helmet may, when coming into contact with the wearers skin, cause an allergic reaction to susceptible individuals.
- WARNING!** Before welding always inspect the cartridge filter to ensure that it is not damaged. To test the filter prior to welding, direct the front of the cartridge filter to a bright light source which will cause the lens to darken. Then using your hand rapidly cover and uncover the sensor. The filter should lighten momentarily then return to a dark state.
- WARNING! DO NOT use the helmet if damaged or you suspect it may be faulty. (Contact your Sealey dealer).**
- ▲ **DANGER! DO NOT USE if, at any time, the face plate in the cartridge FAILS to darken when exposed to a welding spark. Remove cartridge and return to your Sealey dealer for inspection. Continued use of the product knowing that the auto darkening feature is NOT FUNCTIONING may DAMAGE YOUR EYES and CAUSE BLINDNESS.**

## 2. INTRODUCTION

High quality lenses with large viewing area manufactured and tested to BSEN379. Variable shade from 9-13. Fully automatic switching from light to dark on striking arc. Fitted with solar power panel - no batteries required. PWH699 features infinitely adjustable sensitivity and delay switches. PWH699 Range has a special grinding feature enabling the user to grind without having to remove the mask, still offering a full face protection. All models feature deluxe contoured helmets approved to BSEN175 which give full neck protection and protects lens from scratching when helmet is laid down. Comfortable headband and non-slip quick release ratchet mechanism. Suitable for MIG and arc welding.



### 3. SPECIFICATION

PWH699G .....	Colour Grey
PWH699R .....	Colour Red
PWH699B .....	Colour Blue
Shade Active: .....	9 - 13 Variable
Shade Inactive: .....	4
Viewing Area: .....	98 x 47mm
UV/IR Protection: .....	Up to Shade DIN16 at all times
Light/Dark: .....	0.04ms
Temperature Range:.....	-10°C to +55°C
Power: .....	Solar Cells
Grinding.....	YES

### 4. INSTRUCTIONS FOR USE

**WARNING!** Before using the helmet for welding ensure you have read and understood the safety instructions in Section 1.

4.1 The helmet comes ready assembled but before it can be used it must be adjusted to fit the user properly.

#### 4.2 ADJUSTING THE FIT OF THE HELMET.

The overall circumference of the headband can be made larger or smaller by pushing in and rotating the knob on the back of the headband (See adjustment 'A' in fig.1). This can be done whilst wearing the helmet and allows just the right tension to be set to keep the helmet firmly on the head without it being too tight.

4.3 If the headband is riding too high or too low on your head, adjust the strap which passes over the top of your head. To do this release the end of the band by pushing the locking pip out of the hole in the band. Slide the two portions of the band to a greater or lesser width as required and push the locking pip through the nearest hole (See adjustment 'B' in fig.1).

4.4 Test the fit of the headband by lifting up and closing down the helmet a few times whilst wearing it. If the headband moves whilst tilting re-adjust it until it is stable.

#### 4.5 ADJUSTING DISTANCE BETWEEN HELMET & FACE.

To adjust the distance between the helmet and your face in the down position loosen the tilt knobs (D) on either side of the helmet and slide it nearer to or further from your face. (See adjustment 'C' in fig.1) It is important that your eyes are each the same distance from the lens otherwise the darkening effect may appear uneven. Re-tighten the tilt knobs when adjustment is complete.

#### 4.6 SELECTING DELAY TIME/RESPONSE TIME

The delay time in which it takes the lens to change from dark to light or vice versa can be varied from 0.1sec to 1 sec, this adjustment is carried out by turning the delay time knob on the inside of the lens (see fig.3).

#### 4.7 SENSITIVITY

4.7.1 For normal ambient light conditions set the sensitivity knob to the high setting (fig.3).

4.7.2 For conditions where there is an excess of light, which may affect the performance of the lens, turn the knob to the low setting.

#### 4.8 SELECTING SHADE LEVEL

Refer to the shade guide in Section 7 and adjust the knob on the side of the helmet to the correct setting (fig.2).

#### 4.9 SELECTING THE GRIND OPTION

When the shade knob is turned to the "grind" position the shade function is turned off allowing a clear view to grind a weld with the helmet providing face protection. Ensure that the shade function is turned back on before welding again.

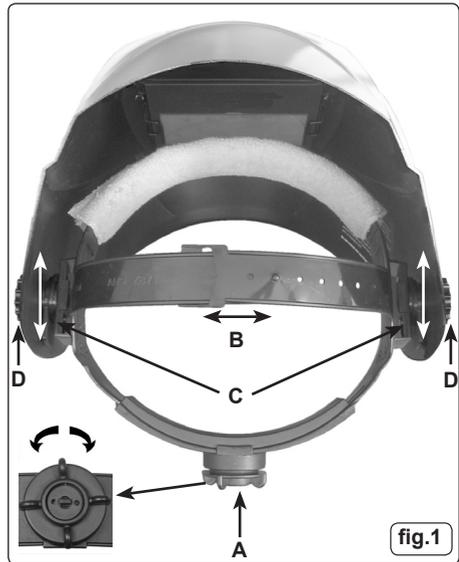


fig.1

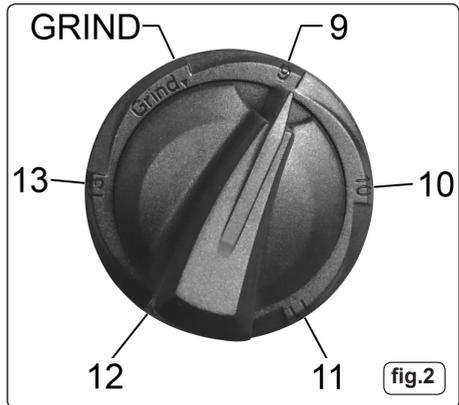


fig.2

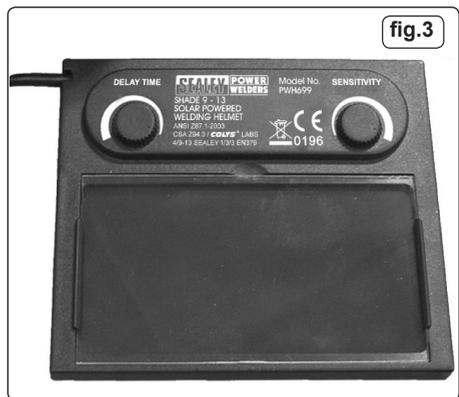
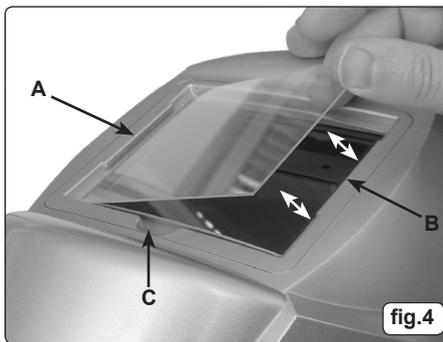


fig.3

## 5. MAINTENANCE

### 5.1 REPLACING PROTECTIVE LENS COVERS.

The shade cartridge is fitted with two protective lens covers to protect the inside and outside from weld splatter. Place your finger or thumb into the recess on the long edge of the cover lens frame and flex the frame upwards until it releases from one edge. (See fig.4-C). Remove the protective film from the new lens. Hook the lens under the side retaining lip shown at 'A' in fig.4. Press on the other side of the frame to snap it under the edge shown at 'B' in fig.4. Use the same procedure for the inner protective lens cover.



### 5.2 CHANGING THE SHADE CARTRIDGE.

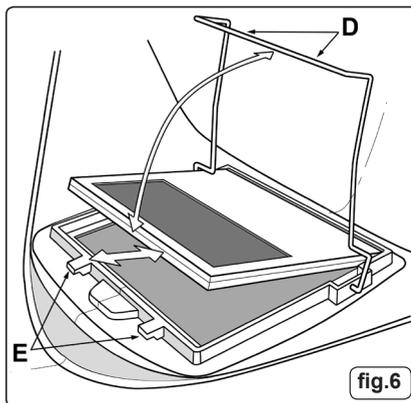
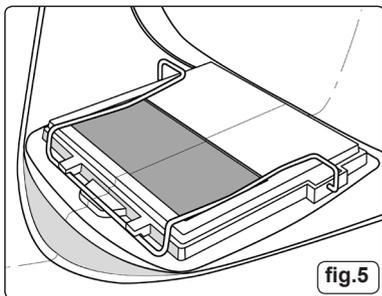
Pull off the shade adjustment knob from the side of the helmet and remove the nut holding the potentiometer. The cartridge is retained by a wire loop clip as shown in fig.5. Release the front edge of the clip (fig.6-D) from its retaining lugs (fig.6-E) and hinge it upwards and out of the way. Lift the shade cartridge out of its frame.

### 5.3 FITTING NEW CARTRIDGE.

Take the new shade cartridge and place the cartridge into its retaining frame inside the helmet. Hinge down the wire loop clip and ensure that the front edge of the loop is properly retained under the retaining lugs as shown in fig.5. Insert the potentiometer through the side of the helmet and secure with the nut. Refit the knob ensuring that the arrow points to the min and max settings when turned.

### 5.4 CLEANING.

Clean helmet by wiping with a soft cloth. Clean cartridge surfaces regularly. Do not use strong cleaning solutions. Clean sensors and solar cells with methylated spirit using a clean cloth and wipe dry with a lint-free cloth.



## 6. PROBLEM SOLVING

Problem	Cause	Solution
Irregular darkening or dimming.	The headband may have been unevenly set on the two sides of the helmet (unequal distances from the eyes to the shade cartridge).	Readjust the distance of the shade cartridge.
Shade cartridge does not darken or flickers.	The sensors are soiled or obstructed.	Clean.
	Front cover lens oiled or damaged.	Clean or replace.
	Welding current too low.	Adjust weld amps.
Poor vision.	Operative lenses and/or shade cartridge soiled.	Check, clean or replace.
	Insufficient background lighting.	Adjust light.
Slow response.	Operating temperature too low.	Do not use at temperatures below -10°C (14°F).
Welding helmet slips.	Headband adjustments incorrect.	Refer to section 4.

## 7. SHADE GUIDE & MARKINGS

SHADE GUIDE													
Welding Process	ARC CURRENT (AMPS)												
	0.5	2.5	10	20	40	80	125	175	225	275	350	450	
	1	5	15	30	60	100	150	200	250	300	400	500	
SMAW					9	10		11		12		13	14
MIG (Heavy)							10	11		12		13	14
MIG (Light)							10	11	12	13	14	15	
TIG/GTAW			9	10	11	12	13	14					
MAG/CO2					10	11	12	13	14	15			
SAW							10	11	12	13	14	15	
PAC						11	12	13					
PAW		8	9	10	11	12	13	14	15				

**SMAW - Shielded Metal Arc Welding**

**TIG/GTAW- Gas Tungsten Arc Welding**

**MIG (Light)- MIG on Light Alloys**

**MIG (Heavy)- MIG on Heavy Metals**

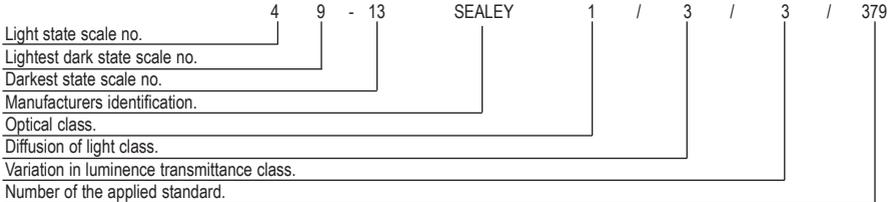
**PAW- Plasma Arc Welding**

**PAC- Plasma Arc Cutting**

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

**MAG/CO2- Metal Active Gas**

Meaning of the markings on the filter:



Meaning of the markings on the helmet:

EN 175  
CE

= Number of the applied standard  
= CE Mark

**Parts support is available for this product. To obtain a parts listing and/or diagram, please log on to [www.sealey.co.uk](http://www.sealey.co.uk), email [sales@sealey.co.uk](mailto:sales@sealey.co.uk) or phone 01284 757500.**

**NOTE:** It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice.  
**IMPORTANT:** No liability is accepted for incorrect use of this product.  
**WARRANTY:** Guarantee is 12 months from purchase date, proof of which will be required for any claim.  
**INFORMATION:** For a copy of our latest catalogue and promotions call us on 01284 757525 and leave your full name and address, including postcode.

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