# WELDING HELMET AUTO DARKENING
## SHADE 9-13
MODEL NO: **PWH601**

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

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

Refer to instruction manual

## 1. SAFETY

❑ **WARNING!** This helmet is not suitable for use with laser welding or CUTTING or for overhead welding applications.
✓ 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.
✓ Ensure the front cover window 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 60°C.
✓ 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.
✗ **DO NOT** use helmet for any purpose for which it is not designed.
✗ **DO NOT** use helmet unless you have been instructed in its use by a qualified person.
✗ **DO NOT** open or tamper with the shade cartridge.
✗ **DO NOT** get the helmet wet or use in damp or wet locations.
✗ **DO NOT** leave work place with helmet in lowered position, as bright light source may darken cartridge unexpectedly.
✗ **DO NOT** place the helmet on a hot surface.
✗ **DO NOT** use helmet without front cover window 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!** 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 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 checking.
▲ **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 infinitely variable shade 9-13 lens manufactured and tested to BS EN 379. Fully automatic switching from light to dark on striking arc. Features adjustable sensitivity and delay switches. Grinding function enables user to grind without removing mask. Deluxe contoured helmet approved to BS EN 175 which gives 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, TIG, arc and gas welding.

## 3. SPECIFICATION

| | |
|---|---|
| **Model No:** | **PWH601** |
| Operating temperature | -10°C to +60°C |
| Operating time light/dark | 0.1m/s |
| Power | Lithium cell battery |
| Shade active | 9-13 variable |
| Shade inactive | 4 |
| Viewing area | 100 x 41mm |

## 4. INSTRUCTIONS

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

**4.1. Adjusting the fit of the helmet (See fig.1)**

4.1.1. The circumference of the headband is adjusted by turning the wheel on the rear.

4.1.2. The two top straps can also be adjusted by releasing the pin from the top strap and adjusting as required.

4.1.3. The distance between the headband assembly and the helmet can be adjusted by undoing the external thumbwheels both sides and sliding the headband assembly forwards or backwards, as required. Retighten the thumbwheels. (See figs.1 and 2.)

4.1.4. Test the fit of the helmet by lifting it up and closing it a few times whilst wearing it. If the headband moves whilst tilting, readjust it until it is stable.

**4.2. Adjusting the helmet tilt (See fig.2)**

4.2.1. If the cartridge window is not aligned with the eyes when the helmet is in the lowered position, adjust the tilt of the helmet in relation to the headband.

4.2.2. Refering to fig.2, loosen the external thumbwheels and lift the tab up to move it to make the helmet tilt up further or to tilt down further. Then retighten the external thumbwheels.

**4.3. Selecting the shade level (See fig.3.)**

4.3.1. Refer to the shade guide in Section 7 and adjust the knob on the side of the helmet to the correct setting.

**4.4. Grind postion (See fig.3)**

4.4.1. Turn the shade knob anticlockwise until it clicks into the grind position.

4.4.2. When grinding is finished it must be turned back to the appropriate shade position before welding again. **Failure to do this could damage your eyes.**

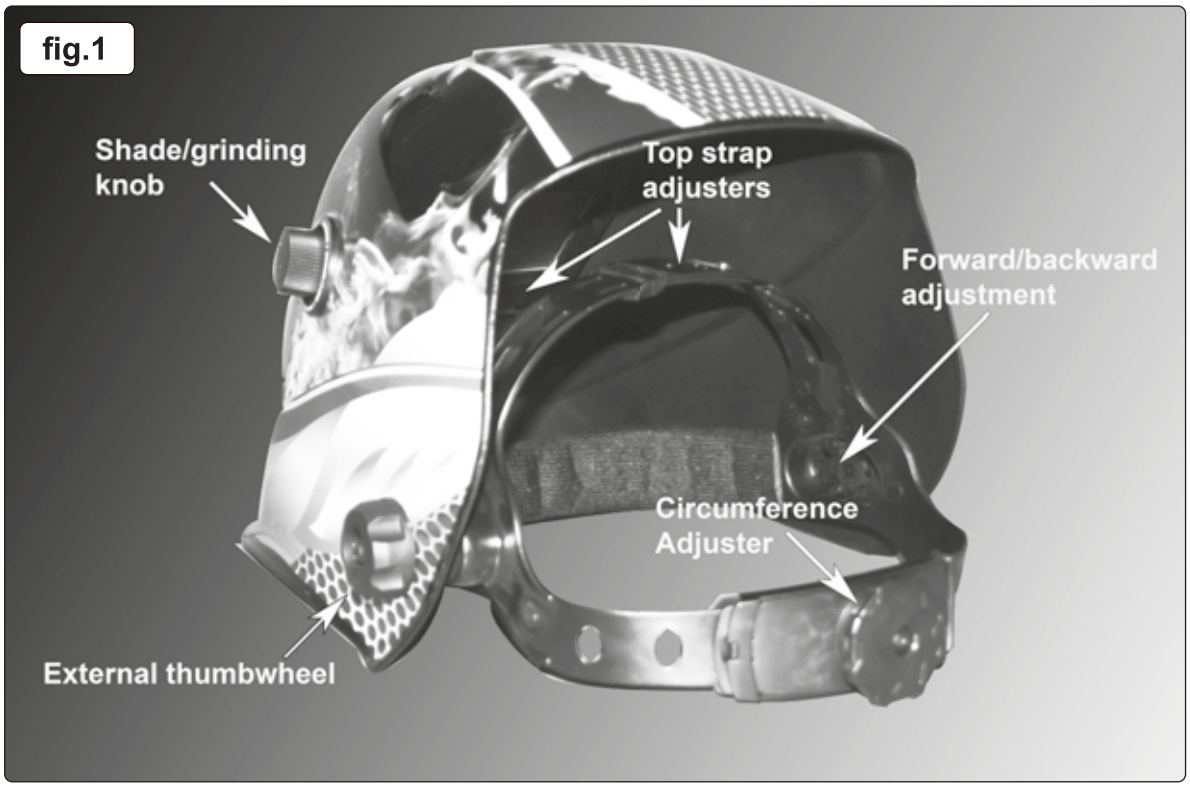
**4.5. Selecting delay/response time (See fig.4)**

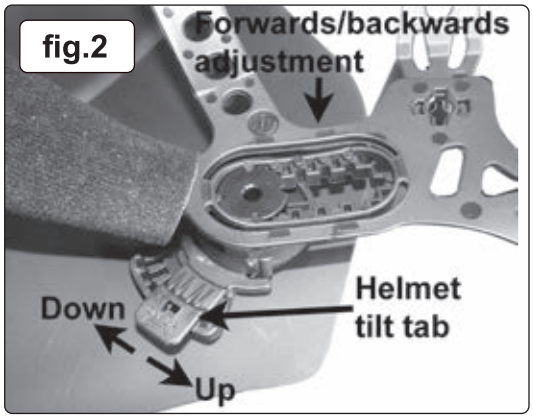
4.5.1. The delay time is the time in which it takes the lens to change from dark to light. This is carried out by adjusting the delay time knob on the cartridge.

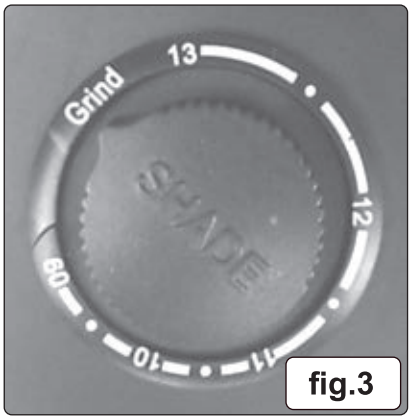
**4.6. Sensitivity (See fig.4)**

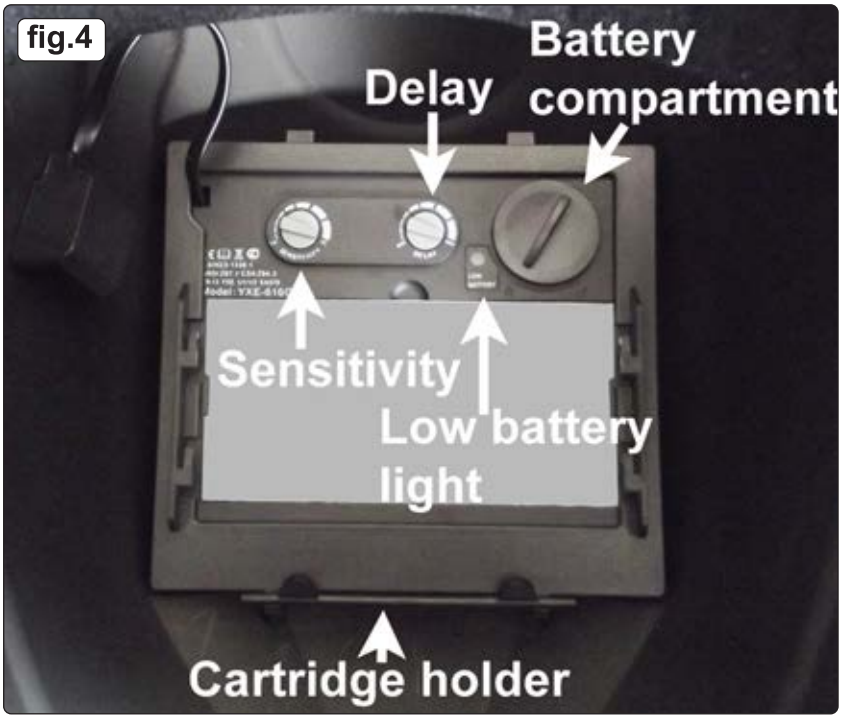
4.6.1. For normal light conditions set the sensitivity knob to the high setting.

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






## 5. MAINTENANCE

**5.1. Changing the cartridge (Refer to fig.4)**

5.1.1. All components clip into the rear of the helmet.

5.1.2. Pull the cartridge holder down pull the cartridge up and then down to disengage it from the top lugs.

5.1.3. Pull the black knob off the potentiometer shaft on the side off the helmet and undo the nut at the base of the shaft and remove it.

5.1.4. Push the potentiometer through into the inside of the helmet.

5.1.5. Carefully unclip the cartridge from its holder and replace.

5.1.6. Reassemble in the reverse order, ensuring that the pointer on the grinding knob is correctly orientated.

**5.2. Replacing the outer protective lens cover**

5.2.1. Follow steps 5.1.2. to 5.1.5.

5.2.2. Gently push the outer lens into the helmet, renew the lens, and refit the cartridge as above.

**5.3. Replacing the inner protective cover lens**

5.3.1. Use the recess on the top edge of the lens to pull it out and renew. Refit the lens under the clips at each side of the cassette.

**5.4. Cleaning**

5.4.1. Clean by wiping with a soft cloth. Clean cartridge surfaces regularly. **DO NOT** use solvent based cleaners. Clean sensors and solar cells with methylated spirits using a clean cloth and wipe dry with a lint free cloth.

**5.5. Replacing the battery (Refer to fig.4) Part No. CR2450**

5.5.1. When the low battery indicator light illuminates turn the battery cover anticlockwise to open it. Insert a new battery making sure that it fits the right way up.

## 6. TROUBLESHOOTING

| 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$^{o}$C (14$^{o}$F). |
| Welding helmet slips. | Headband adjustments incorrect. | Refer to section 4. |

## 7. SHADE GUIDE AND MARKINGS

| WELDING PROCESS | CURRENT (AMPERES) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.5 | 2.5 | 10 | 20 | 40 | 60 | 125 | 175 | 225 | 275 | 350 | 450 | |
| | | 1.0 | 5.0 | 15 | 30 | 50 | 100 | 150 | 200 | 250 | 300 | 400 | 500 |
| Covered Electrode | Shade 9 | | | | | S10 | Shade 11 | | Shade 12 | | Shade 13 | | S14 |
| MIG Plate Welding | Shade 10 | | | | | | Shade 11 | | Shade 12 | | Shade 13 | | S14 |
| MIG Sheet Welding | Shade 10 | | | | | | Shade 11 | | Shade 12 | | S13 | S14 | S15 |
| TIG | Shade 9 | | | | S10 | Shade 11 | | S12 | Shade 13 | | Shade 14 | | |
| MAG | Shade 10 | | | | | | S11 | S12 | Shade 13 | | | S14 | S15 |
| Arc Gouging | Shade 10 | | | | | | | | S11 | S12 | S13 | S14 | S15 |
| Plasma Cutting | Shade 11 | | | | | | | S12 | Shade 12 | | Shade 13 | | |
| Plasma Welding | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | S12 | Shade 13 | | Shade 14 | S15 |

| Meaning of the markings on the filter: | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4 | 9 | 13 | SEALEY | 1 | 3 | 1 | 379 |
| Light state scale no. | Lightest dark state scale no. | Darkest state scale no. | Manufacturers identification. | Optical class. | Diffusion of light class. | Variation in luminence transmittance class. | Number of the applied standard. |

**ENVIRONMENT PROTECTION**

Recycle unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycling centre and disposed of in a manner which is compatible with the environment. When the product becomes completely unserviceable and requires disposal, drain any fluids (if applicable) into approved containers and dispose of the product and fluids according to local regulations.

**WEEE REGULATIONS**

Dispose of this product at the end of its working life in compliance with the EU Directive on Waste Electrical and Electronic Equipment (WEEE). When the product is no longer required, it must be disposed of in an environmentally protective way. Contact your local solid waste authority for recycling information.

**BATTERY REMOVAL (REFER TO SECTION 5.5 ABOVE)**

Li-ion

Under the Waste Batteries and Accumulators Regulations 2009, Jack Sealey Ltd are required to inform potential purchasers of products containing batteries (as defined within these regulations), that they are registered with Valpak's registered compliance scheme. Jack Sealey Ltd's Batteries Producer Registration Number (BPRN) is BPRN00705.

**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 is required for any claim.

**Sealey Group, Kempson Way, Suffolk Business Park, Bury St Edmunds, Suffolk. IP32 7AR**
**01284 757500** **01284 703534** **sales@sealey.co.uk** **www.sealey.co.uk**