

TOOLIOM TL-EF9242B

TOOLIOM TL-EF9242B Solar Powered Auto Darkening Welding Helmet Instruction Manual

Model: TL-EF9242B

1. INTRODUCTION

This manual provides essential information for the safe and effective use of your TOOLIOM TL-EF9242B Solar Powered Auto Darkening Welding Helmet. Please read these instructions carefully before operating the helmet and retain them for future reference. This helmet is designed to protect your eyes and face from sparks, spatter, and harmful radiation under normal welding conditions.

2. SAFETY INFORMATION

WARNING: Failure to read, understand, and follow all instructions can result in serious injury, electric shock, or death.

- Always wear appropriate personal protective equipment (PPE) in addition to the welding helmet, including safety glasses, welding gloves, and protective clothing.
- Do not use the helmet if the lens is cracked, scratched, or damaged. Replace damaged parts immediately.
- Ensure the helmet is properly adjusted for a secure and comfortable fit before beginning any welding or grinding operation.
- Never look directly at the welding arc without proper eye protection. The auto-darkening filter may fail unexpectedly.
- This helmet is not suitable for laser welding or oxyacetylene welding/cutting applications.
- Avoid exposing the helmet to extreme temperatures or moisture.
- Keep the solar cells and arc sensors clean and unobstructed for proper function.

3. PRODUCT COMPONENTS AND FEATURES

3.1 Lens Specifications

LENS SPECIFICATIONS

1 Test Knob

2 Low Battery

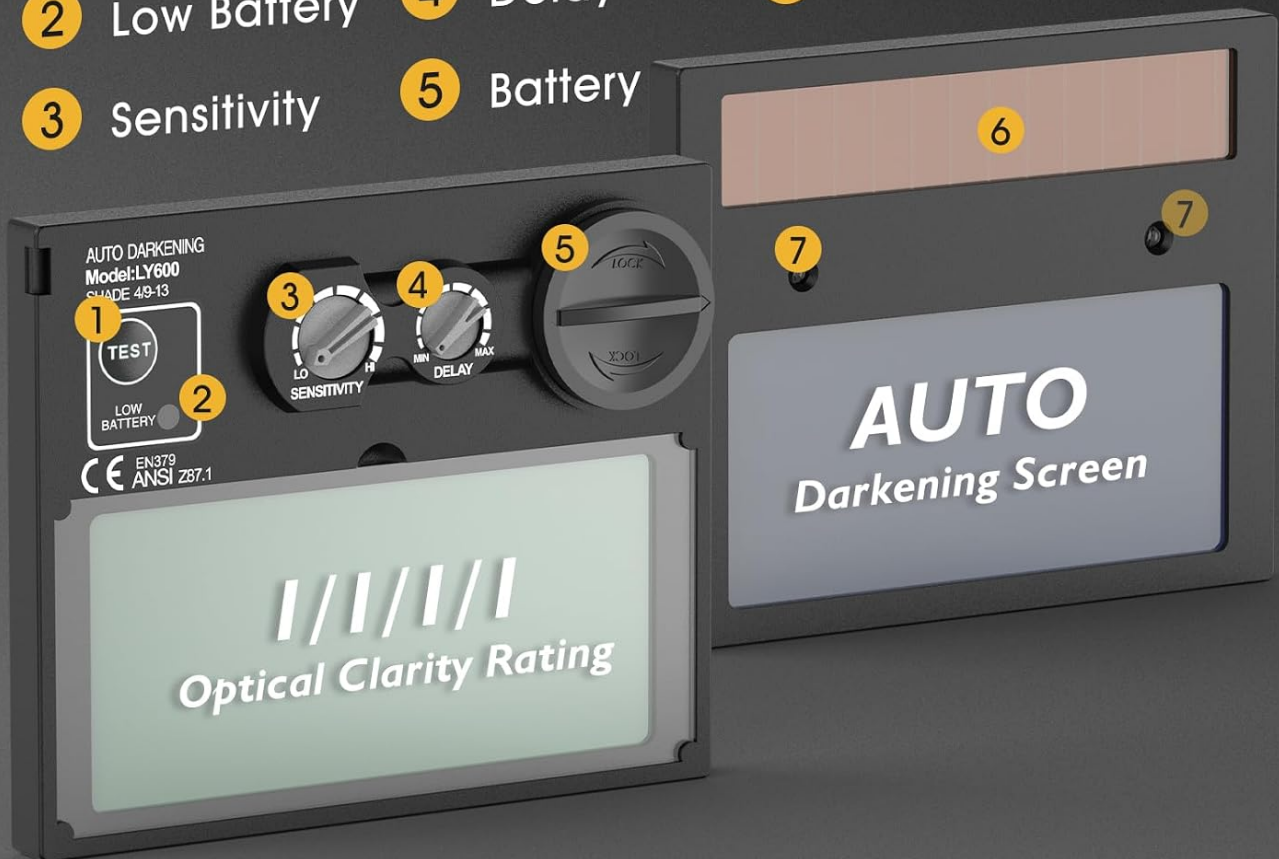
3 Sensitivity

4 Delay

5 Battery

6 Solar Cell

7 Arc Sensor



This image illustrates the key components of the auto-darkening lens. It highlights the Test Knob (1), Low Battery Indicator (2), Sensitivity Control (3), Delay Control (4), Battery (5), Solar Cell (6), and Arc Sensor (7). The optical clarity rating is also displayed as 1/1/1/1.

- **Test Knob:** Used to verify the auto-darkening function before welding.
- **Low Battery Indicator:** Illuminates when the battery needs replacement.
- **Sensitivity Control:** Adjusts the lens's responsiveness to arc light.
- **Delay Control:** Sets the time the lens remains dark after the arc stops.
- **Battery:** Powers the auto-darkening filter (CR2450 Lithium Ion).
- **Solar Cell:** Extends battery life by charging from welding arc light.
- **Arc Sensor:** Detects the welding arc to trigger darkening.
- **Auto Darkening Screen:** The main viewing area that darkens upon arc detection.
- **Optical Clarity Rating:** 1/1/1/1 indicates high optical quality.

3.2 Headgear Adjustments



Head
Circumference Knob

Flip
Adjustment

Head Wear
Range Adjustment

130°
Rotation



HEADGEAR

This image details the adjustable features of the helmet's headgear, designed for a comfortable and secure fit. It shows the Head Circumference Knob, Flip Adjustment, Head Wear Range Adjustment, and 130° Rotation capability.

- **Head Circumference Knob:** Adjusts the fit around the head.
- **Flip Adjustment:** Allows the helmet to be flipped up or down.
- **Head Wear Range Adjustment:** Modifies the vertical position of the helmet on the head.
- **130° Rotation:** Provides flexibility in helmet positioning.

3.3 Additional Features

- **True Color Technology:** Enhances visibility of the weld puddle and surrounding area in natural colors.
- **Grind Mode (DIN 4):** Allows the helmet to be used for grinding operations without darkening. Activated via an external knob.
- **Weld Mode (DIN 9-13):** Provides adjustable shade levels for various welding processes.
- **Fast Auto Darkening:** Reacts to the welding arc in 1/25000 seconds.
- **Cheater Lens Compatible:** Designed to accommodate magnifying cheater lenses (not included) for improved

vision.

4. SETUP

4.1 Headgear Adjustment

1. Loosen the head circumference knob and place the helmet on your head.
2. Tighten the knob until the headgear fits snugly and comfortably.
3. Adjust the top strap to position the helmet correctly on your head, ensuring the viewing area is at eye level.
4. Adjust the distance between the helmet and your face using the side knobs to achieve optimal viewing and balance.

4.2 Battery Installation/Check

The helmet comes with a CR2450 Lithium Ion battery pre-installed. Before first use, ensure the battery is properly seated and functional.



This image demonstrates the process for replacing the CR2450 battery. Twist off the battery cover counter-clockwise, place the new battery, then turn clockwise to secure the cover.

1. Locate the battery compartment on the auto-darkening filter.
2. Twist the battery cover counter-clockwise to open.
3. Insert a new CR2450 battery with the positive (+) side facing up.
4. Twist the battery cover clockwise to secure.

4.3 Function Test

Before each use, perform a function test:

1. Put on the helmet and ensure it is in weld mode (not grind mode).
2. Press the 'TEST' button on the auto-darkening filter. The lens should momentarily darken and then return to its light state.
3. If the lens does not darken, check the battery and ensure the arc sensors are clean and unobstructed. Do not use the helmet if the test fails.

5. OPERATING INSTRUCTIONS

5.1 Selecting Weld or Grind Mode



This image highlights the external knob used to switch between Grind Mode (DIN 4) and Weld Mode (DIN 9-13).

- **Grind Mode:** Turn the external knob to 'GRIND' (DIN 4). The auto-darkening function will be disabled, providing clear vision for grinding tasks.
- **Weld Mode:** Turn the external knob to a shade setting between DIN 9 and DIN 13. The auto-darkening function will be active.

5.2 Adjusting Sensitivity and Delay

- **Sensitivity:** Use the internal 'SENSITIVITY' knob to adjust how easily the lens reacts to light. Higher sensitivity is suitable for low-amp TIG welding or when arc light is partially obstructed.
- **Delay:** Use the internal 'DELAY' knob to set how long the lens remains dark after the welding arc extinguishes. A longer delay is recommended for high-amp welding to prevent eye fatigue from afterglow.

5.3 Welding Operation



This image shows a welder using the helmet during a welding task, demonstrating its application.

APPLICATION SCENARIO



This image displays the helmet's suitability for various welding processes, including MIG, Stick, and TIG.



This image demonstrates the rapid auto-darkening function, showing the lens changing from light to dark in 1/25000 seconds when an arc is detected, and then returning to light.

- Ensure the helmet is in Weld Mode and the shade level is appropriate for your welding process.
- Position the helmet over your face. The lens will be in its light state (DIN 4).
- As soon as the welding arc is struck, the lens will automatically darken to the selected shade within 1/25000 seconds.

- When the arc is extinguished, the lens will return to its light state after the set delay time.

6. MAINTENANCE

6.1 Cleaning

- Clean the helmet shell with mild soap and water. Avoid harsh solvents.
- Clean the auto-darkening filter and protective lenses with a soft, clean cloth and a non-abrasive lens cleaning solution. Do not use paper towels or abrasive materials.
- Keep the solar cells and arc sensors clean and free of debris to ensure proper operation.

6.2 Battery Replacement

Refer to Section 4.2 for detailed instructions on replacing the CR2450 battery.

6.3 Protective Lens Replacement



This image illustrates the four steps for replacing the protective lenses: open the clips under the welding lens, remove the old welding lens, remove the protective film from the new lens, and place the new protective lens.

- Replace outer and inner protective lenses when they become scratched, pitted, or too dirty to clean effectively.
- Carefully open the clips holding the protective lens in place.
- Remove the old protective lens.
- Peel off any protective film from the new lens.
- Insert the new protective lens and secure it with the clips.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Lens does not darken when arc is struck.	Low battery; dirty/obstructed arc sensors; incorrect sensitivity setting; helmet in grind mode.	Replace battery; clean sensors; increase sensitivity; switch to weld mode.
Poor visibility through the lens.	Dirty protective lens; scratched protective lens; incorrect shade setting.	Clean protective lens; replace protective lens; adjust shade setting.
Helmet feels uncomfortable or unstable.	Improper headgear adjustment.	Re-adjust head circumference, top strap, and distance settings.
Lens remains dark after arc stops.	Delay setting too high.	Decrease delay setting.

8. SPECIFICATIONS

Feature	Specification
Model Number	TL-EF9242B
Viewing Area	3.62" x 1.65" (92mm x 42mm)
Light State Shade	DIN 4
Dark State Shade	DIN 9-13 (Adjustable)
UV/IR Protection	DIN 16 (Permanent)
Switching Time	1/25000 seconds
Delay Time	Adjustable (Min-Max)
Sensitivity	Adjustable (Low-High)
Power Supply	Solar Cell & Replaceable Lithium Ion Battery (CR2450)
Material	Plastic
Weight	870 g (0.87 kg)
Operating Temperature	Refer to product labeling for specific range
Optical Clarity	1/1/1/1
Applications	TIG, MIG, MMA/Stick Welding, Grinding

9. WARRANTY AND SUPPORT

For warranty information, technical support, or to purchase replacement parts, please contact TOOLIOM customer service through the retailer where the product was purchased or visit the official TOOLIOM website. Please have your model number (TL-EF9242B) and purchase date available when contacting support.

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ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question