Total TSP9103

Total Auto Darkening Welding Helmet TSP9103

User Instruction Manual

Introduction

The Total Auto Darkening Welding Helmet TSP9103 is designed to provide superior eye and face protection during welding operations. Featuring advanced auto-darkening technology, it ensures optimal visibility and safety for various welding tasks. This manual provides essential information for the proper setup, operation, maintenance, and troubleshooting of your welding helmet.

Safety Information

Always prioritize safety when using welding equipment. Failure to follow these safety guidelines may result in serious injury or damage to the helmet.

- **Eye Protection:** This helmet provides UV/IR protection up to DIN 16, even in the light state. However, always ensure the auto-darkening function is working correctly before starting any welding.
- **Ventilation:** Ensure adequate ventilation in your work area to avoid inhaling welding fumes.
- **Electrical Safety:** Do not use the helmet if it is damaged or if any electrical components are exposed.
- **Temperature Range:** Operate the helmet within the specified temperature range of -5°C to +55°C.
- **Cleaning:** Use only recommended cleaning methods and materials to avoid damaging the lens or sensors.
- **Battery Safety:** Ensure correct battery polarity when installing. Replace batteries promptly when the low battery indicator appears.

Product Overview

The TSP9103 welding helmet is designed for professional and DIY welding applications, offering advanced features for enhanced performance and user comfort.

- **Optical Classification:** 1/1/1/1 for superior clarity.
- **Large Viewing Area:** 100 x 67 mm for an expansive field of view.
- **Sensors:** Equipped with 4 sensors for reliable arc detection.
- **Shade Control:** Stepless adjustment from DIN 5-9/9-13 (dark state) and DIN 3 (light state).
- **Fast Switching Time:** 0.04 ms from light to dark.

- **Material:** Constructed from durable nylon.

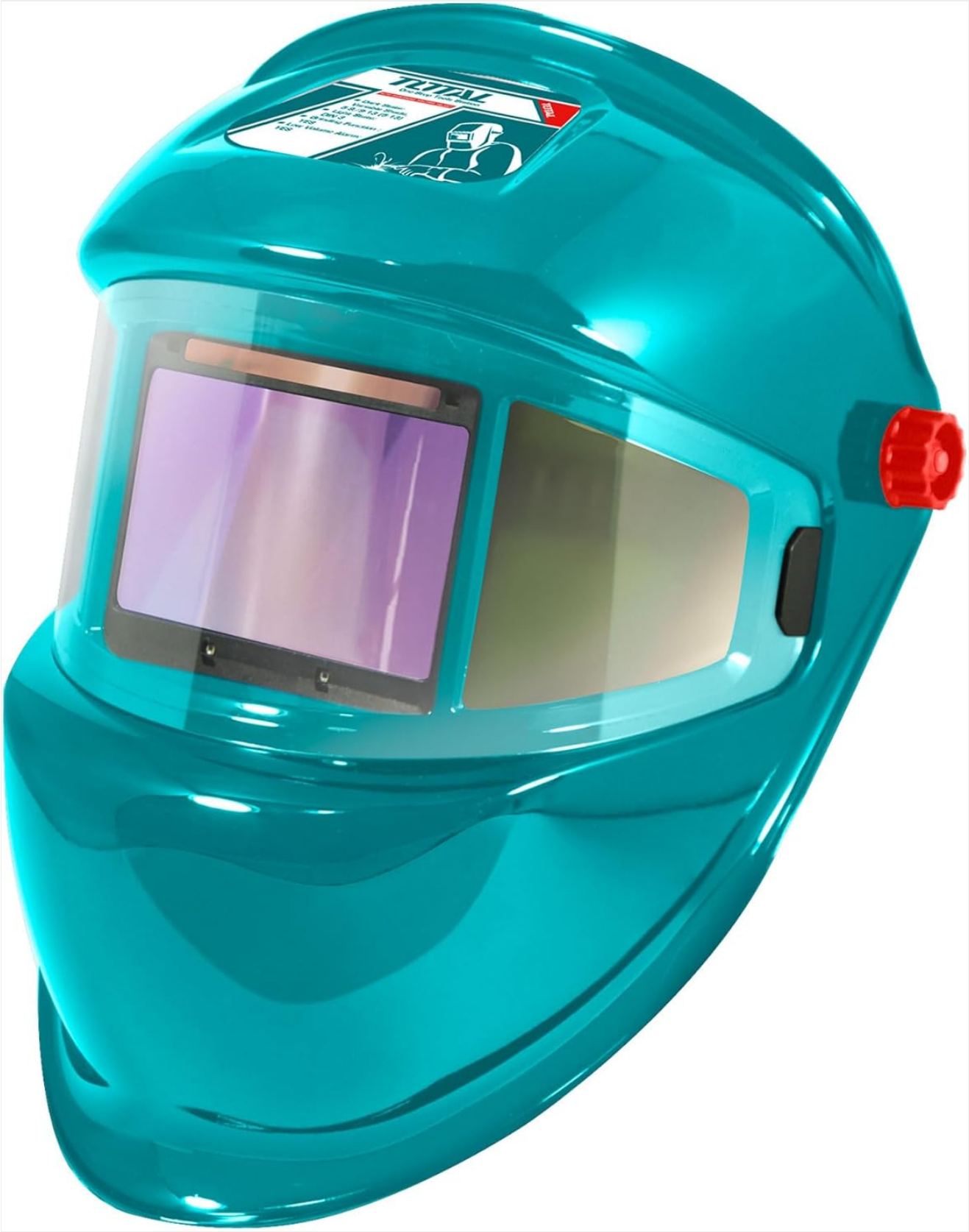

Figure 1: Front view of the Total Auto Darkening Welding Helmet TSP9103. This image shows the helmet's overall design, including the auto-darkening filter and the adjustable headgear.

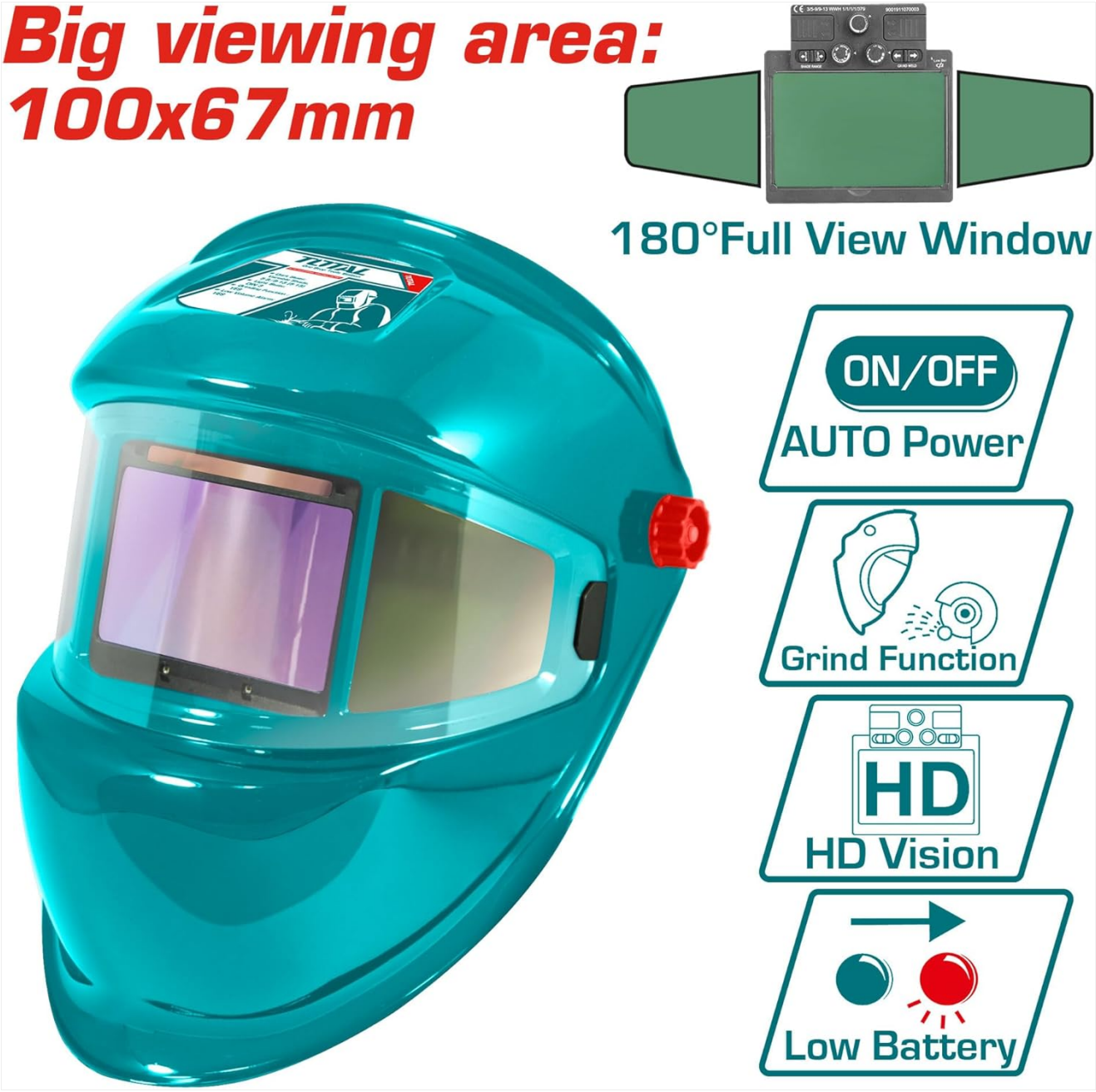

Figure 2: Detailed view highlighting key features of the TSP9103 helmet. This image illustrates the large 100x67mm viewing area, 180° full view window, ON/OFF auto power, grind function, HD vision, and low battery indicator.

Setup

1. **Unpacking:** Carefully remove the welding helmet and all accessories from the packaging. Inspect for any signs of damage.
2. **Battery Installation:** The helmet is battery-powered. Locate the battery compartment (usually on the inside of the helmet or the auto-darkening filter cartridge). Insert the required batteries, ensuring correct polarity. *(Note: Batteries are not included with the product.)*
3. **Headgear Adjustment:**
    - Adjust the top strap to fit the crown of your head comfortably.
    - Rotate the knob at the back of the headgear to tighten or loosen the fit around your head.
    - Adjust the distance between the helmet and your face, and the angle of the helmet, using the side pivots. Ensure the viewing area is centered with your eyes.
4. **Pre-Operation Check:** Before welding, perform a quick test. Hold the helmet up to a bright light source (not

direct sunlight or a welding arc) and briefly press the test button (if available) or quickly flash a light at the sensors. The lens should darken instantly.

Operating Instructions

1. **Power On/Off:** The helmet features an automatic power-on/off function. It will activate when exposed to light and deactivate after a period of inactivity.
2. **Shade Adjustment:**
    - Locate the shade control knob on the side or inside of the helmet.
    - Rotate the knob to select the desired shade level (DIN 5-9 or DIN 9-13) based on your welding process and amperage. Refer to standard welding shade charts for guidance.
3. **Sensitivity Control:**
    - Adjust the sensitivity knob to control how easily the filter reacts to the welding arc. Higher sensitivity is suitable for low amperage welding or when the arc is partially obstructed.
    - Adjust sensitivity to avoid false triggering from ambient light or adjacent welding arcs.
4. **Delay Control:**
    - The delay control knob determines how long the filter remains dark after the welding arc stops.
    - A shorter delay is suitable for tack welding, while a longer delay helps protect eyes from afterglow or sparks during high amperage welding.
5. **Grind Function:** If your helmet has a grind mode, activate it when grinding. This mode disables the auto-darkening function, allowing you to use the helmet as a face shield without the lens darkening. Remember to switch back to welding mode before striking an arc.

Maintenance

- **Cleaning the Lens:**
    - Regularly clean the outer and inner protective lenses with a soft, clean cloth and a mild cleaning solution.
    - Do not use abrasive cleaners or solvents, as they can damage the lens coating.
- **Battery Replacement:** When the low battery indicator illuminates, replace the batteries immediately. Refer to the battery compartment for the correct battery type (e.g., CR2032).
- **Sensor Cleaning:** Keep the sensors on the front of the helmet clean and free from debris to ensure proper auto-darkening function.
- **Storage:** Store the helmet in a clean, dry place away from direct sunlight and extreme temperatures.
- **Inspection:** Periodically inspect the helmet for cracks, damage to the headgear, or loose parts. Replace any damaged components before use.

Troubleshooting

Problem	Possible Cause	Solution

Problem	Possible Cause	Solution
Lens does not darken when arc is struck.	• Low or dead batteries. • Sensors are dirty or obstructed. • Sensitivity setting is too low. • Helmet is not in welding mode (if grind function exists).	• Replace batteries. • Clean sensors. • Increase sensitivity. • Switch to welding mode.
Lens flickers or darkens intermittently.	• Low batteries. • Sensors partially obstructed. • Interference from other light sources.	• Replace batteries. • Clean sensors. • Adjust sensitivity or reposition work area.
Poor visibility through the lens.	• Protective lenses are dirty or scratched. • Incorrect shade setting.	• Clean or replace protective lenses. • Adjust shade to appropriate level.

SPECIFICATIONS

Feature	Detail
Model Number	TSP9103
Optical Class	1/1/1/1
Viewing Area	100 x 67 mm
Arc Sensors	4
Light State	DIN 3
Dark State	DIN 5-9 / 9-13 (Stepless Adjustment)
UV/IR Protection	Up to DIN 16
Switching Time (Light to Dark)	0.04 ms
Delay Control	Adjustable
Sensitivity Control	Adjustable
Material	Nylon
Weight	Approx. 560 g
Operating Temperature	-5°C to +55°C
Power Source	Battery Powered (Batteries not included)

Limited Warranty

Total Inc. warrants this product against defects in materials and workmanship for a period specified at the time of purchase. This warranty does not cover damage due to misuse, abuse, normal wear and tear, or unauthorized modifications. Please retain your proof of purchase for warranty claims.

Customer Support

For technical assistance, warranty inquiries, or replacement parts, please contact Total Inc. customer support. Visit the official Total website for contact information and frequently asked questions.
Website: www.totaltools.com *(Example link, actual link may vary)*