3M G5-02

3M Speedglas Welding Helmet G5-02 Instruction Manual

Model: G5-02 | Brand: 3M

1. INTRODUCTION AND OVERVIEW

The 3M Speedglas Welding Helmet G5-02 is designed for professional welders, featuring the world's first curved auto-darkening filter (ADF). This innovative design enhances peripheral vision and reduces reflections. Engineered to meet ISO 16321 TIG+ standards, it offers reliable performance even at low TIG settings. The helmet incorporates 3M Speedglas Natural Color Technology for improved clarity and a light state of 2.5 for better visibility before welding. Bluetooth connectivity allows for advanced customization and data logging via the 3M Connected Equipment app.

Image 1.1: Front view of the 3M Speedglas Welding Helmet G5-02.

2. SAFETY INFORMATION

3M industrial and occupational products are intended, labeled, and packaged for sale to trained industrial and occupational customers for workplace use. Unless specifically stated otherwise on the applicable product packaging or literature, these products are not intended, labeled, or packaged for sale to or use by consumers (e.g., for home, personal, primary or secondary school, recreational/sporting, or other uses not described in the applicable product packaging or literature), and must be selected and used in compliance with applicable health and safety regulations and standards (e.g., U.S. OSHA, ANSI), as well as all product literature, user instructions, warnings, and other limitations, and the user must take any action required under any recall, field action, or other product use notice. Misuse of 3M industrial and occupational products may result in injury, sickness, death, or property damage. For help with product selection and use, consult your on-site safety professional, industrial hygienist, or other subject matter expert.

3. PACKAGE CONTENTS

Verify that all components are present in the package:

- 3M Speedglas G5-02 08-0100-50iC Welding Helmet with auto-darkening filter
- Adjustable Headband
- Cleaning Cloth
- Storage Bag

Image 3.1: Included items: G5-02 helmet, headband, cleaning cloth, and helmet bag.

4. SETUP

4.1 Initial Inspection

Before each use, inspect the helmet for any signs of damage, cracks, or loose parts. Ensure the auto-darkening filter (ADF) is clean and free from scratches. Replace any damaged components immediately.

4.2 Headband Adjustment

Adjust the headband for a comfortable and secure fit. The helmet should sit evenly on your head, with the center of gravity close to the center of your head for optimal balance and reduced strain. Use the adjustment

knobs and straps to achieve a snug fit without excessive pressure.

4.3 Battery Check

Ensure the ADF battery is properly installed and has sufficient charge. Refer to the maintenance section for battery replacement instructions.

4.4 Bluetooth Pairing (Optional)

To utilize the advanced features of the 3M Connected Equipment app, pair your helmet with a compatible smartphone. Activate Bluetooth on your phone and follow the pairing instructions within the app. This allows for programming memory modes and accessing usage statistics.

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5. OPERATING INSTRUCTIONS

5.1 Auto-Darkening Filter (ADF) Features

The G5-02 helmet features a curved ADF with several advanced functionalities:

- **Curved Glass Technology:** Provides a 100% wider field of view compared to previous models, following the natural curvature of your head and peripheral vision. This design also helps reduce internal reflections and distracting glares.
- **Natural Color Technology:** Enhances color perception, making colors appear brighter and more realistic in both light and dark states.
- **Light State 2.5:** Offers improved clarity and visibility when the ADF is not darkened, allowing for better preparation before welding.
- **TIG+ Standards:** The ADF reliably switches even at very low TIG settings (e.g., 1 amp), meeting ISO 16321 TIG+ standards.
- **4 Arc Sensors:** Ensures consistent and reliable detection of the welding arc for quick darkening.

Why Curved?

The only way to get wider views without making the helmet wider is by inventing a curved filter

Image 5.1: Illustration of the curved glass technology providing a wider field of view.

Greatly Reduce Distracting Reflections

The combination of the curved welding filter and a slimmer helmet can help reduce reflections and other distracting glares inside the helmet.

Image 5.2: The slim helmet design, combined with the curved filter, helps reduce internal reflections.

5.2 ADF Controls

The ADF controls are intuitively placed for easy access:

- **Shade Adjustment (8-12):** Use the '+' and '-' buttons to select the desired dark shade level for welding.
- **Sensitivity:** Adjusts how easily the ADF detects the welding arc. Higher sensitivity is suitable for low-amp TIG welding.
- **Delay:** Controls the time it takes for the ADF to return to its light state after welding stops.
- **Shade Lock:** Locks the ADF in a specific shade, preventing accidental changes during operation.
- **Bluetooth Button:** Activates Bluetooth for connection to the 3M Connected Equipment app.

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Designed to be more intuitive:

· Controls are located on both sides of viewing area
· The most frequently used controls (SHADE and SENSITIVITY)
 are in the most accessible locations

Image 5.3: Intuitive controls for shade, sensitivity, and delay on the ADF.

Image 5.4: A welder utilizing the 3M Speedglas G5-02 helmet during operation.

5.3 3M Connected Equipment App

The Bluetooth-enabled helmet connects to the 3M Connected Equipment app, offering:

- **Memory Modes:** Program and store up to 10 custom welding settings (dark shades, sensitivity, delay) for different applications.
- **Maintenance Logs:** Record and track helmet maintenance activities.
- **Usage Statistics:** Monitor data such as when the welding filter was first activated, hours in dark state, hours in light state, and number of on/off cycles.
- **User Manuals:** Access digital user manuals directly through the app.

Image 5.5: Interacting with the 3M Connected Equipment app for helmet settings and data.

6. MAINTENANCE

6.1 Cleaning

Regular cleaning ensures optimal performance and longevity:

- **Helmet Shell:** Clean the helmet shell with a mild soap and water solution. Avoid harsh solvents or abrasive cleaners.
- **Auto-Darkening Filter (ADF):** Use the provided cleaning cloth or a soft, lint-free cloth to gently wipe the ADF surface. Do not use abrasive materials or chemicals that could scratch the lens.
- **Headband:** Clean the headband with a damp cloth.

6.2 Storage

When not in use, store the helmet in the provided storage bag in a dry, clean environment away from direct sunlight and extreme temperatures. This protects the ADF and helmet components from dust and damage.

6.3 Battery Replacement

The ADF is powered by replaceable batteries. When the low battery indicator appears, replace the batteries according to the instructions provided in the full user manual. Ensure correct battery type and polarity.

7. TROUBLESHOOTING

If you encounter issues with your 3M Speedglas G5-02 helmet, consider the following basic troubleshooting steps:

- **ADF Not Darkening:** Check battery level and replace if necessary. Ensure arc sensors are clean and unobstructed. Verify sensitivity settings are appropriate for the welding process.
- **Poor Visibility:** Clean the ADF and cover lenses. Ensure the light state is set correctly.
- **Bluetooth Connectivity Issues:** Ensure Bluetooth is enabled on both the helmet and your device. Restart both devices and attempt pairing again. Check the 3M Connected Equipment app for specific connection guidance.
- **Uncomfortable Fit:** Re-adjust the headband for a secure and balanced fit.

For persistent issues, refer to the comprehensive user manual available via the 3M Connected Equipment app or the 3M website.

8. SPECIFICATIONS

Feature	Specification
Model Number	G5-02
Product Dimensions	12 x 9.8 x 9.7 inches
Item Weight	2.63 Pounds
Auto-Darkening Filter (ADF)	Curved Glass Technology, Light State 2.5
Arc Sensors	4
Standards Met	ISO 16321 TIG+, ANSI Z87.1-2015
Connectivity	Bluetooth Enabled (3M Connected Equipment app)
Color	Black
Manufacturer	3M

9. WARRANTY AND SUPPORT

Warranty information for the 3M Speedglas Welding Helmet G5-02 is typically provided with the product at the time of purchase. Please refer to the documentation included in your product packaging for specific warranty terms and conditions.

For additional product information, technical support, or to access comprehensive user manuals, please visit the official 3M website:

www.3M.com