

3M G5-03

3M Speedglas G5-03 Pro Welding Helmet User Manual

Model: G5-03 Pro | Part Number: 10-0100-30TW

Brand: 3M

1. INTRODUCTION

The 3M Speedglas G5-03 Pro Welding Helmet is engineered with advanced technology to provide dynamic protection for welders. This helmet is designed to meet the challenges of various welding tasks, offering intuitive features such as a haptic tapping function for activating grind or cut modes. It is highly customizable, allowing users to adjust settings for optimal weld pool visibility and enhanced protection against radiation, sparks, and spatter. The G5-03 Pro incorporates 3M Speedglas Natural Color Technology and a Tack Welding Mode (with G5-01/03TW ADF). Optional accessories like a task light and helmet adapter system for hard hat integration further enhance its versatility.



Figure 1.1: The 3M Speedglas G5-03 Pro Welding Helmet, showcasing its robust design and integrated auto-darkening filter.

2. KEY FEATURES

- **Robust, Compact Design:** Engineered for durability and ease of use in demanding environments.
- **Ergonomic, Adjustable Head Suspension:** Provides a comfortable and secure fit for extended wear.
- **GRIND and CUT Mode Functionality:** Easily switch between welding and grinding/cutting tasks using the G5 auto-darkening filters.
- **Available in Two Auto-Darkening Lens Options (VC/TW):** Choose between Variable Color (VC) or Tack Weld (TW) auto-darkening filters to suit specific welding needs.
- **Suitable for Most Types of Arc Welding:** Versatile for a wide range of arc welding applications.

The right equipment for each job.



3M™ Speedglas™
Welding Helmet G5-01

**Heavy duty welding
and grinding**

3M™ Speedglas™
Welding Helmet G5-02

Tig welding

3M™ Speedglas™
G5-03 Pro Series Welding Helmet

Welding and grinding

Figure 2.1: An overview of different 3M Speedglas welding helmets, highlighting the G5-03 Pro's suitability for welding and grinding tasks.

3. WHAT'S IN THE BOX

Upon unboxing, verify that all components are present:

- 3M Speedglas Welding Helmet G5-03 Pro
- G5TW Auto-Darkening Filter (ADF)

4. IMPORTANT SAFETY INFORMATION

3M industrial and occupational products are intended, labeled, and packaged for sale to trained industrial and occupational

customers for workplace use. 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. For additional product information, visit www.3M.com.

Always wear appropriate personal protective equipment (PPE) in conjunction with the welding helmet, such as safety glasses and respirators, as required by your specific welding application and workplace safety regulations.



Figure 4.1: A welder utilizing the 3M Speedglas helmet in a professional setting, emphasizing the importance of proper usage and safety protocols.

5. SETUP AND ADJUSTMENT

5.1 Head Suspension Adjustment

The G5-03 Pro features an ergonomic and adjustable head suspension system for a comfortable and secure fit. Adjust the headband to ensure the helmet sits firmly and balanced on your head without causing pressure points. Use the ratcheting mechanism at the back to tighten or loosen the fit. Adjust the top straps to control the helmet's height and angle relative to your face.



Figure 5.1: Side view of the helmet showing the adjustable head suspension system, crucial for a personalized and stable fit.

5.2 Auto-Darkening Filter (ADF) Installation and Settings

Ensure the G5TW ADF is correctly installed in the helmet. The ADF is powered by a Lithium Metal battery (included). Familiarize yourself with the controls on the ADF for shade, sensitivity, and delay settings. The G5TW ADF offers a light state of 2.5 and variable dark shades from 5/8-13, with 4 arc sensors for reliable detection.



G5-01/03TW
Tack welding mode
+ light stage 2.5

Shade 2.5/5/8-13

4 arc sensors

Figure 5.2: Close-up of the G5-01/03TW Auto-Darkening Filter (ADF), illustrating its controls for shade, sensitivity, and delay, along with the tack welding mode feature.

6. OPERATING INSTRUCTIONS

6.1 Natural Color Technology

The 3M Speedglas G5-03 Pro features Natural Color Technology, which provides a more realistic view of your work area in both light and dark states. This technology enhances clarity and contrast, allowing for better visibility of the weld puddle and surrounding environment.



Figure 6.1: Visual representation of 3M Speedglas Natural Color Technology, demonstrating improved clarity in both light and dark states during welding.



Figure 6.2: An illustration highlighting the enhanced clarity provided by Natural Color Technology throughout the welding process.

6.2 TAP Function for Grind/Cut Mode

The G5-03 Pro introduces a haptic TAP function for quick and easy switching between welding and grind/cut modes without removing the helmet. This feature is particularly useful for welders who frequently alternate between tasks.

1. **Set Filter to GRIND (or CUT) Mode:** Ensure the ADF is set to the desired grind or cut mode.
2. **Activate TAP Function:** Press the + and - buttons on the ADF simultaneously to activate the TAP function.
3. **Switch Modes:** Tap the side of the helmet 3 times to toggle between GRIND (or CUT) mode and WELD mode.
4. **Deactivate TAP Function:** Press the + and - buttons simultaneously again to deactivate the TAP function.

Note: Additional settings and customization options for the TAP function and other helmet features can be accessed via the 3M Connected Equipment App.



How TAP function works

- 1 **Set filter to GRIND (or CUT) mode**
- 2 **Press + and - button simultaneously to activate TAP function**
- 3 **TAP 3 times on side of helmet to switch between GRIND (or CUT) mode and WELD mode**
- 4 **Press + and - button simultaneously to deactivate TAP function**

! Extra settings can be made in the APP

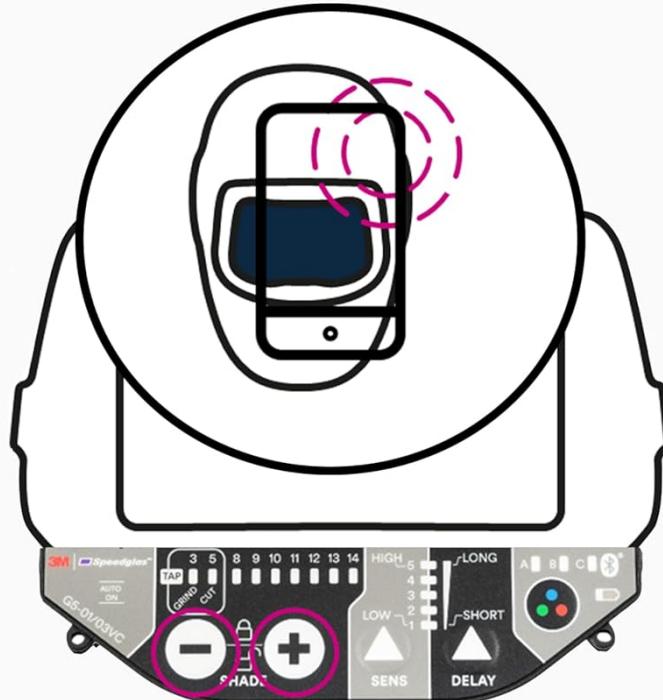


Figure 6.3: A step-by-step guide illustrating the operation of the TAP function for seamless mode switching on the 3M Speedglas G5-03 Pro helmet.



3M™ Connected Equipment App

Figure 6.4: A user demonstrating interaction with the 3M Connected Equipment App, which allows for advanced customization of the helmet's settings.

7. MAINTENANCE AND CARE

7.1 Cleaning

- **Helmet Shell:** Clean the helmet shell with a mild soap and water solution. Avoid abrasive cleaners or solvents that could damage the material.
- **ADF and Lenses:** Gently wipe the auto-darkening filter and protective lenses with a soft, lint-free cloth. Use a specialized lens cleaning solution if necessary. Do not use harsh chemicals or abrasive materials that could scratch the lenses.

7.2 Storage

Store the welding helmet in a clean, dry place away from direct sunlight, extreme temperatures, and corrosive substances. Protect the ADF from impact and scratches when not in use.

7.3 Battery Replacement

The ADF is powered by a Lithium Metal battery. Refer to the specific instructions provided with your ADF for battery replacement procedures. Ensure proper polarity when installing new batteries.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
ADF not darkening	Low battery; Sensors obstructed; Incorrect sensitivity setting; Too little light.	Replace battery; Clean sensors; Adjust sensitivity; Ensure sufficient arc light.
Poor visibility through ADF	Dirty outer/inner lens; Scratched lens; Incorrect shade setting.	Clean lenses; Replace scratched lenses; Adjust shade setting.
Helmet feels uncomfortable or loose	Head suspension not properly adjusted.	Adjust headband and top straps for a snug and balanced fit.
TAP function not responding	Function not activated; Incorrect tapping motion.	Ensure TAP function is activated (press + and - simultaneously); Tap firmly and consistently on the side of the helmet.

9. TECHNICAL SPECIFICATIONS

Specification	Detail
Model Number	G5-03
Package Dimensions	15 x 10 x 10 inches
Item Weight	2.9 Pounds
Department	Safety and Industrial
Batteries	1 Lithium Metal battery required (included)
Manufacturer	3M
Material	Polycarbonate (PC)
Color	Black
Style	Modern
Specification Met	ANSI Z87.1, CSA Z94.3

10. WARRANTY AND SUPPORT

For specific warranty information regarding your 3M Speedglas G5-03 Pro Welding Helmet, please refer to the warranty card included with your product or visit the official 3M website. For technical support, product inquiries, or to purchase replacement parts, please contact 3M customer service or an authorized 3M distributor.

You can find more information and contact details on the official 3M website: www.3m.com.

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