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› Jackson Safety Freedom Auto-Darkening Welding Helmet Instruction Manual

Jackson Safety 47103

Jackson Safety Freedom Auto-Darkening Welding Helmet Instruction Manual

Model: 47103

INTRODUCTION

This manual provides essential instructions for the safe and effective use, setup, operation, and maintenance of your Jackson Safety Freedom Auto-Darkening Welding Helmet, Model 47103. This helmet is designed for welding, grinding, cutting, and carbon arc gouging applications, offering advanced eye protection and comfort.



Image: The Jackson Safety Freedom Auto-Darkening Welding Helmet, featuring an American flag graphic and an auto-darkening filter.

WARNING: Proposition 65. This product may expose you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

KEY FEATURES

- **Ultra-Lightweight Design:** Weighing only 1.24 lbs, this helmet is ergonomically balanced for reduced stress and fatigue during extended use.
- **Best-in-Class Optical Clarity:** Features a 1/1/1/1 optical clarity rating and a 9.3 sq. inch viewing area, providing a clear view of the weld puddle.
- **Advanced Auto-Darkening Filter (ADF):** Variable shades from 4/5 to 13 with digital controls. Equipped with 4 arc sensors and a rapid switching speed of 1/25,000 second for maximum eye protection.
- **370 Speed Dial Headgear:** Patented ratcheting headgear system with an "Easy Grip-Easy Turn" knob for quick and comfortable adjustments.
- **Enhanced Protection:** Extended front design offers additional neck protection from sparks and slag.
- **Power Source:** Solar-powered with a replaceable CR2032 lithium battery (included).
- **Compliance:** Meets ANSI Z87.1+ and CAN/CSA Z94.3 standards; CE Certified.



Image: A welder utilizing the helmet, demonstrating the best-in-class optical clarity and true color technology for an enhanced view of the weld.

SETUP

1. Headgear Adjustment

The helmet is equipped with a 370 Speed Dial ratcheting headgear system for a secure and comfortable fit. Proper adjustment is crucial for stability and protection.

1. Place the helmet on your head.
2. Turn the red "Easy Grip-Easy Turn" knob at the back of the headgear clockwise to tighten, or counter-clockwise to loosen, until the helmet fits snugly without being too tight.
3. Adjust the top strap to position the helmet correctly on your head, ensuring the viewing area is at eye level.
4. Verify that the helmet is balanced and does not slip during head movements.



Image: The 370 Speed Dial headgear system allows for quick and easy adjustments to ensure a comfortable and secure fit.

2. Battery Installation/Check

The helmet is powered by solar technology and a CR2032 lithium battery. The battery is typically pre-installed but should be checked before first use.

1. Locate the battery compartment on the Auto-Darkening Filter (ADF) unit inside the helmet.
2. Open the compartment and ensure a CR2032 battery is present and correctly oriented (+ side up).
3. If replacing, insert a new CR2032 battery.
4. Close the battery compartment securely.



Image: Internal view of the helmet, highlighting the Auto-Darkening Filter (ADF) unit with its digital controls and battery compartment.

OPERATING INSTRUCTIONS

The Auto-Darkening Filter (ADF) provides various settings to optimize your welding experience and ensure eye protection.



Image: Detailed view of the ADF digital control panel, showing settings for Weld/Grind/Flash modes, Sensitivity, Shade, and Delay.

1. Mode Selection (Weld, Grind, Cut)

- Locate the "WELD GRIND FLASH" button on the ADF control panel.
- Press this button to cycle through the available modes:
 - **Weld Mode:** For all welding processes. The ADF will darken automatically upon arc ignition.
 - **Grind Mode:** The ADF remains in a light state (shade 4) for grinding operations, providing clear vision without darkening.
 - **Flash Mode:** (If available) A specific mode for certain applications, refer to the display for confirmation.

2. Shade Adjustment

The helmet offers variable shades from 4/5 to 13. Select the appropriate shade level based on your welding process and amperage.

- Locate the "SHADE" button and the up/down arrows on the ADF control panel.
- Press the "SHADE" button, then use the up or down arrows to adjust the shade level from 4/5 to 13.
- Consult welding safety charts for recommended shade levels for different welding processes and currents.

3. Sensitivity Adjustment

Sensitivity controls how easily the ADF detects the welding arc and darkens. Adjust this based on ambient light conditions and arc intensity.

- Locate the "SENSITIVITY" button and the up/down arrows on the ADF control panel.
- Press the "SENSITIVITY" button, then use the up or down arrows to adjust the sensitivity level.
- Higher sensitivity is suitable for low amperage welding or when the arc is partially obstructed. Lower sensitivity helps prevent false triggering from ambient light.

4. Delay Adjustment

Delay controls the time the ADF remains dark after the welding arc extinguishes before returning to the light state.

- Locate the "DELAY" button and the up/down arrows on the ADF control panel.
- Press the "DELAY" button, then use the up or down arrows to adjust the delay time.
- A longer delay is recommended for high amperage welding to protect against residual glow from the weld puddle. A shorter delay is useful for tack welding to speed up work.

MAINTENANCE

1. Cleaning

- **Helmet Shell:** Clean the helmet shell with mild soap and water. Avoid harsh abrasives or solvents.
- **Outer Cover Lens:** Clean the outer cover lens with a soft, clean cloth and a mild lens cleaning solution. Replace if scratched or damaged.
- **Inner Cover Lens:** Clean the inner cover lens similarly. Replace if scratched or damaged.
- **ADF Unit:** Gently wipe the ADF unit with a soft, dry cloth. Do not immerse in water or cleaning solutions.

2. Inspection

Regularly inspect your welding helmet for damage to ensure continued protection.

- Check the helmet shell for cracks, chips, or signs of impact.
- Inspect the headgear for wear, cracks, or loose components. Ensure all adjustments function correctly.
- Examine the outer and inner cover lenses for scratches, pitting, or other damage that could impair vision or protection. Replace as needed.
- Verify the ADF unit is securely seated and its sensors are clear of obstructions.

3. Battery Replacement

The CR2032 lithium battery should be replaced when the low battery indicator appears on the ADF display or if the ADF fails to darken properly.

1. Open the battery compartment on the ADF unit.
2. Remove the old CR2032 battery.
3. Insert a new CR2032 battery with the positive (+) side facing up.
4. Close the battery compartment securely.

TROUBLESHOOTING

Problem	Possible Cause	Solution
ADF does not darken when welding.	<ul style="list-style-type: none"> • Low or dead battery. • Sensitivity set too low. • Arc sensors obstructed. • Helmet in Grind Mode. 	<ul style="list-style-type: none"> • Replace CR2032 battery. • Increase sensitivity setting. • Clean or clear obstructions from sensors. • Switch to Weld Mode.
ADF flickers or darkens intermittently.	<ul style="list-style-type: none"> • Sensitivity set too high (false triggering). • Low battery. • Sensors partially obstructed. 	<ul style="list-style-type: none"> • Decrease sensitivity setting. • Replace CR2032 battery. • Clean sensors.
Poor visibility through the lens.	<ul style="list-style-type: none"> • Scratched or dirty cover lenses. • Incorrect shade setting. 	<ul style="list-style-type: none"> • Clean or replace cover lenses. • Adjust shade to appropriate level.
Headgear does not stay in place.	<ul style="list-style-type: none"> • Improper adjustment. • Worn or damaged headgear components. 	<ul style="list-style-type: none"> • Re-adjust the 370 Speed Dial knob and top strap. • Inspect headgear for damage; replace if necessary.

SPECIFICATIONS

- **Model Number:** 47103
- **Style:** Freedom
- **Material:** Plastic
- **Item Weight:** 1.24 lbs (Helmet only), 2.2 lbs (Packaged)
- **Product Dimensions:** 10.24 x 9.45 x 9.84 inches
- **Optical Clarity Rating:** 1/1/1/1
- **Viewing Area:** 9.3 sq. inches
- **Shade Range:** Variable 4/5-13
- **Arc Sensors:** 4
- **Switching Speed:** 1/25,000 second
- **Power Source:** Solar with 1x CR2032 Lithium Metal battery (included)
- **Average Battery Life:** 1500 Hours
- **Standards Met:** ANSI Z87.1+, CAN/CSA Z94.3, CE Certified

WARRANTY AND SUPPORT

This Jackson Safety Freedom Auto-Darkening Welding Helmet comes with a **2-year warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use. For warranty claims or technical support, please contact Jackson Safety customer service through their official

website or authorized distributors.

For additional information and support, please visit the [Jackson Safety Store](#).

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