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› Jackson Safety Solera II ADF Shade 3/10 Auto-Darkening Filter Instruction Manual

Jackson Safety 46410

Jackson Safety Solera II ADF Auto-Darkening Filter

Model: 46410

INTRODUCTION

The Jackson Safety Solera II ADF (Auto-Darkening Filter) is a high-quality replacement filter designed to convert passive welding helmets into auto-darkening units. Featuring True Color technology, it provides a clear view of the weld puddle. This filter is a universal drop-in fit for most 5 x 10.8 cm (2.5" x 4.2") welding helmets, including compatibility with HSL-1, HSL-2, and Huntsman series helmets, as well as many other passive style hoods. It meets or exceeds ANSI Z87.1 and CAN/CSA Z94.3 standards and is CE certified.

This manual provides essential information for the proper setup, operation, maintenance, and troubleshooting of your Solera II ADF.

SAFETY INFORMATION

Always prioritize safety when working with welding equipment. Read and understand all safety warnings and instructions provided with your welding helmet and this ADF before use.

- **Eye Protection:** This ADF provides protection against harmful UV/IR radiation in both light and dark states. However, always ensure the filter is functioning correctly before welding.
- **Inspection:** Before each use, inspect the ADF for any damage, cracks, or scratches on the lens. Replace immediately if any damage is found.
- **Operating Temperature:** Use the ADF within its specified operating temperature range.
- **Compatibility:** Ensure the ADF is correctly installed and compatible with your welding helmet.
- **Cleaning:** Only clean the filter with a soft cloth and mild cleaning solution as specified in the maintenance section.

SETUP AND INSTALLATION

The Solera II ADF is designed for easy drop-in replacement in compatible welding helmets.

1. **Prepare Helmet:** Open your welding helmet and remove any existing passive filter or ADF according to your helmet's instructions.
2. **Insert ADF:** Carefully insert the Jackson Safety Solera II ADF into the designated slot in your welding helmet. Ensure the front side of the ADF (with the viewing area) faces outwards and the solar cells are unobstructed.
3. **Secure:** Secure the ADF in place using the helmet's retaining frame or clips. Ensure it is seated firmly and cannot

shift during use.

4. **Protective Lenses:** Install the appropriate inner and outer protective lenses as required by your welding helmet manufacturer to protect the ADF from spatter and scratches.



Image: Front view of the Jackson Safety Solera II ADF, showing the viewing area and solar cells.



Image: Back view of the Jackson Safety Solera II ADF, displaying certification markings such as CE, ANSI Z87.1, and CSA Z94.3.

OPERATING INSTRUCTIONS

The Solera II ADF is designed for automatic operation. It has a fixed light shade of 3 and a fixed dark shade of 10.

1. **Power On:** The ADF is solar-powered with battery assist and is always ready for use. There is no manual on/off switch.
2. **Pre-Weld Check:** Before starting any welding operation, perform a quick check to ensure the ADF darkens properly. Briefly expose the sensor to a bright light source (not the welding arc itself) to confirm it darkens and then returns to the light state.
3. **Welding:** Position your helmet correctly. When the welding arc is struck, the ADF will automatically switch from its light state (Shade 3) to its dark state (Shade 10) within milliseconds, protecting your eyes.
4. **Post-Weld:** Once the arc is extinguished, the filter will automatically return to the light state, allowing you to inspect your work.

The True Color technology provides a more natural and clear view, enhancing visibility of the weld puddle and surrounding environment.

MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your ADF.

- **Cleaning the Lens:** Clean the ADF viewing area and solar cells regularly with a clean, soft cloth and a mild soap and water solution. Do not use abrasive cleaners, solvents, or harsh chemicals, as these can damage the filter.
- **Battery Replacement:** The ADF uses a Lithium Manganese Dioxide battery with an estimated life of 2 years. While batteries are included and needed for operation, specific user-replacement instructions are not provided, suggesting it may be a sealed unit or require professional service. If the ADF fails to darken, ensure it is exposed to sufficient light for solar charging. If issues persist, consider replacing the unit.
- **Storage:** Store the ADF in a clean, dry place away from extreme temperatures and direct sunlight when not in use. Protect it from impacts and scratches.

TROUBLESHOOTING

If you encounter issues with your Solera II ADF, refer to the following common problems and solutions:

- **ADF Does Not Darken:**
 - Ensure the solar cells are clean and unobstructed.
 - Verify the ADF is correctly installed in the helmet and the sensors are facing the arc.
 - Confirm there is sufficient ambient light for the solar cells to charge.
 - If the battery life is expired (approximately 2 years), the unit may need replacement.
- **Poor Visibility / Blurry View:**
 - Clean the ADF lens and any inner/outer protective lenses.
 - Check for scratches or damage on the ADF or protective lenses. Replace damaged components.
- **Inconsistent Darkening:**
 - Ensure the sensors are not partially blocked.
 - Confirm the welding arc is stable and consistent.

If problems persist after attempting these solutions, contact Jackson Safety customer support for further assistance.

SPECIFICATIONS

Feature	Detail
Model Number	46410 (JCK46410)
Manufacturer	Jackson Safety
Viewing Area Dimensions	2.5" x 4.2" (5 x 10.8 cm)
Light State Shade	Shade 3
Dark State Shade	Shade 10

Technology	True Color
Power Source	Solar with Lithium Manganese Dioxide Battery Assist
Battery Life	Approximately 2 years
Weight	1.3 Ounces (36.85 g)
Product Dimensions	21.08 x 17.53 x 2.03 cm (8.3 x 6.9 x 0.8 inches)
Certifications	ANSI Z87.1, CAN/CSA Z94.3, CE Certified

WARRANTY AND SUPPORT

For information regarding warranty coverage or to obtain technical support, please refer to the official Jackson Safety website or contact their customer service department. Keep your purchase receipt for warranty claims.

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