



3M Electronic Lens Assembly 522-02-30R01

User Instructions

(Keep these User Instructions for reference)

GENERAL SAFETY INFORMATION

Intended Use

The 3M™ Electronic Lens Assembly 522-02-30R01 is NIOSH approved for use with 3M™ R-Series Welding Headgear in place of shade glass. The electronic lens assembly is suitable for any type of welding except: oxyacetylene welding, laser welding, plasma cutting, grinding and low current welding (less than 5 amps).

Important

These instructions provide information about the 3M electronic lens assembly only. Before use, the wearer must read and understand these *User Instructions* and the *User Instructions* provided with the 3M™ R-Series Headgear. Failure to do so may reduce product performance and result in eye injury or blindness. Keep these instructions for reference.

All respirator components must be inspected before each use to ensure good operating condition. Any damaged or defective parts must be replaced before use.



Read and understand these *User Instructions* prior to use of the electronic lens. Because the 3M™ R-Series Faceshields and Welding Shields can be raised from the normal position, ANSI Z87.1-2003 states that safety spectacles or goggles must be worn in conjunction with the headgear. Before use, check the condition of the safety plates and replace if they are cracked, pitted, or scratched. **Misuse may result in eye injury or blindness.** For proper use, see supervisor, *User Instructions*, or call 3M at 1-800-243-4630. In Canada, call Technical Service at 1-800-267-4414.

CAUTION:

- Only operate the 3M electronic lens assembly at temperatures between -5°C (23°F) and $+55^{\circ}\text{C}$ (131°F).
 - Do not store near a heat source or in direct sunlight.
 - Do not clean with solvents. Do not immerse in liquids.
 - Clean by applying household glass cleaner to a clean cotton cloth and wiping the lens to remove soil. Do not apply cleaner directly to the lens.
 - Always check the condition of the cover plate and safety plate. Replace before use if they are cracked, pitted, or scratched.
 - A safety plate, which meets the ANSI Z87.1-2003 requirements for impact and penetration, must be placed behind the lens to help prevent injury in the event of glass breakage.
 - The electronic lens assembly is suitable for any type of welding except: oxyacetylene welding, laser welding, plasma cutting, grinding and low current welding (less than 5 amps).
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ASSEMBLY AND USE

The assembly is installed in the 3M™ Welding Shield 061-31-01R01. Refer to Figure 1 for proper installation of the component parts.

The Electronic Lens Assembly is composed of:

- 1 – 3M™ Electronic Lens Kit (containing Electronic Lens and Adapter 522-02-30R01 and ANSI safety plate 522-02-34R01)
- 1 – 3M™ Anti-Spatter Lens 061-32-04R01
- 1 – 3M™ Welding Lens Gasket 061-35-01R01
- 1 – 3M™ Metal Retaining Clip 522-02-32R01

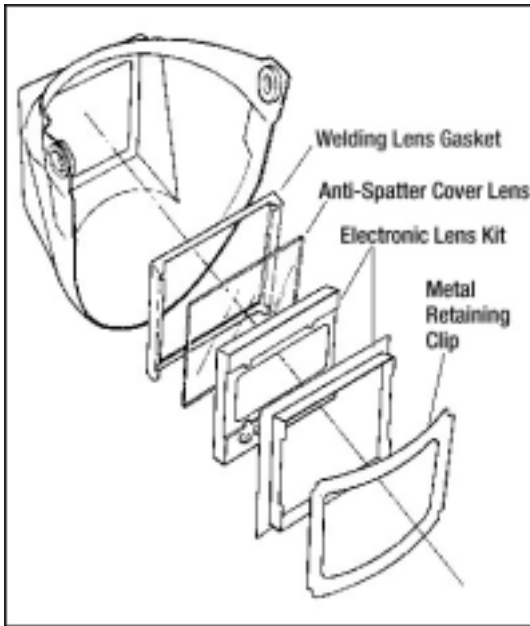


Fig 1

Removing the Lens Stack

1. This may be done without removing the welding shield from the headgear. Remove the plastic retaining clip from the lens aperture and ease off the welding gasket. (A metal retaining clip, included in the Electronic Lens Assembly, will be used in place of the plastic retaining clip.)
2. Carefully remove the parts in the lens stack.

Installing the Electronic Lens Stack

1. Assemble the lens stack parts as shown in Fig. 1. Be sure to stack the parts in the indicated sequence.
2. Lay the welding lens gasket on a flat surface with the side flanges up.
3. Insert an anti-spatter lens into the gasket by sliding the lens under the flanges on each side of the gasket.
4. Check to be sure an ANSI compliant safety plate is installed in the electronic lens assembly on the face with the control knobs. If not, slide a plate into the electronic lens assembly from either side so the plate is underneath the retaining tabs.
5. Insert the electronic lens assembly into the electronic lens adapter. Be sure to orient the electronic lens assembly so that the control knobs face the adapter during insertion.
6. Insert the electronic lens assembly and adapter combination into the lens gasket over the top of the anti-spatter lens by lifting the flanges on either side of the gasket. The edges of the lens gasket must not be rolled over, because light leaks could result.

7. Press the sides of the gasket to ensure the flanges are seated over the sides of the adapter. Check the other side of the gasket to be sure there is no gaps. Adjust as necessary.
8. Lay the welding shield face down on a flat surface.
9. Orient the lens stack so that the control knobs are both towards you and towards the bottom of the welding shield.
10. Place the bottom edge (edge with control knobs) of the lens stack into the bottom of the lens opening in the welding shield. Push the top edge of the stack forward and down so that the lens stack is centered in the welding shield opening.
11. Push the stack firmly down on all sides until the stack is fully seated. Check from the front side of the welding shield to ensure the lens stack is completely down. There should be no gaps.
12. Place one side of the metal retaining clip under one of the retaining ledges in the welding shield. Flex the clip so the other side of the clip can be inserted under the remaining retaining ledge.
13. The clip will be bowed out towards you. Push down in the center of the top and bottom area of the clip until the clip snaps down against the lens stack.

Using the Electronic Lens Assembly

The following pertains to the electronic lens used in the assembly.

1. Install two AAA alkaline batteries.
2. Set the shade control to the level that is appropriate for the welding you will be doing.
3. Install the electronic lens assembly into the respirator as per previous instructions.
4. Wear safety spectacles or goggles and check that the electronic lens assembly is installed properly to avoid light leaks.
5. Turn the unit on by pushing on the button in the lower right corner of the lens. The unit should turn to a green shade. If not, replace the batteries.
6. Turn the sensitivity knob to mid-range. If the lens turns light when it should not, increase the sensitivity by turning the knob clockwise. If the lens turns dark when it should not, decrease the sensitivity by turning the knob counterclockwise.
7. After 20 minutes of non-use, the lens will “power down” or reduce to a light state of shade 5. Black shapes and/or spots may appear in the lens after “power down” or shut off. This is a normal condition of the lens. This effect is caused by the liquid crystal in the lens as it loses its electrical polarity. Be sure to push on the power button again before welding to activate the lens.

SPECIFICATIONS

Switching time	Less than 40 microseconds
Selectable shades	Continuously variable from 9 to 12
Ultraviolet/Infrared	Protection at all times
Light state	Shade 2.75
Battery life	Average 500 hours for 2 AAA Alkaline
Use temperature	-5°C (23°F) to +55°C (+131°F)
Storage temperature	-20°C (-4°F) to +65°C (+149°F)
Viewing area	2.4 in. x 3.8 in. (61 mm x 96 mm)
Auto shutoff	After 20 minutes without switching

FOR MORE INFORMATION

In United States, contact:

Internet: www.3M.com/occsafety
Technical Assistance: 1-800-243-4630

For other 3M products:

1-800-3M-HELPS or 1-651-737-6501

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