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> AZZUNO MIG Welder 145A & Welding Helmet Auto Darkening with Large Viewing 3.94"×3.82" and Side Viewing 1.97"× 3.82", 110V/220V Dual Voltage 4 in 1 Gas/Gasless Flux Core MIG Welder/Lift TIG/Stick Weld

AZZUNO MIG-145L

AZZUNO MIG Welder 145A & Welding Helmet User Manual

Model: MIG-145L

1. INTRODUCTION

This manual provides comprehensive instructions for the safe and effective operation, setup, and maintenance of your AZZUNO MIG Welder 145A and accompanying Auto-Darkening Welding Helmet. Please read this manual thoroughly before using the equipment to ensure proper function and personal safety.



Figure 1: AZZUNO MIG Welder 145A and Auto-Darkening Welding Helmet. This image displays the complete welding system, including the main welder unit and the auto-darkening helmet, ready for use.

2. SAFETY INFORMATION

WARNING: Welding can be hazardous. Always follow safety precautions to prevent injury or death.

- **Electric Shock:** Can kill. Ensure proper grounding. Do not touch live electrical parts. Wear dry gloves.
- **Fumes and Gases:** Can be hazardous to your health. Keep your head out of the fumes. Use ventilation or exhaust to remove fumes from the breathing zone.
- **Arc Rays:** Can burn eyes and skin. Wear a welding helmet with a proper shade filter to protect your eyes and face. Wear appropriate protective clothing.
- **Fire and Explosion:** Welding sparks can cause fire or explosion. Keep flammable materials away from the welding area. Have a fire extinguisher readily available.
- **Hot Parts:** Can cause severe burns. Allow equipment to cool before touching.
- **Noise:** Excessive noise can damage hearing. Wear ear protection.

Always consult local safety regulations and standards before operating welding equipment.

3. PACKAGE CONTENTS

Verify that all items listed below are included in your package. If any items are missing or damaged, contact AZZUNO customer support.

ACCESSORIES



Electrode Holder



Ground Clamp



MIG Torch (14AK)



Contact Tip*2



Hose Band*2



Drive Roller



Hammer

13LBS



Gas Hose



**Flux Wire*1
Solid Wire*1**



**110V~220V
Adapter Cord**

Figure 2: Included Accessories. This image illustrates the various components and accessories that come with the AZZUNO MIG Welder 145A, such as the electrode holder, ground clamp, MIG torch, contact tips, hose bands, drive roller, hammer, gas hose, flux wire, solid wire, and 110V~220V adapter cord.

- AZZUNO MIG-145L Welder Unit
- Auto-Darkening Welding Helmet (AZNH-1098)
- Electrode Holder

- Ground Clamp
- MIG Torch (14AK)
- Contact Tips (x2)
- Hose Bands (x2)
- Drive Roller
- Hammer
- Gas Hose
- Flux Wire (1lb)
- Solid Wire (1lb)
- 110V~220V Adapter Cord

4. PRODUCT FEATURES

- **4-in-1 Welding Capability:** Supports Gas MIG, Gasless Flux Core MIG, Lift TIG, and Stick welding modes.
- **Dual Voltage Input:** Compatible with both 110V and 220V power sources.
- **Large Clear LED Display:** Upgraded oversized screen for intuitive operation and setting adjustments.
- **Synergic Control:** Automatically adjusts settings for optimal welding performance.
- **Welding Modes:** Includes 2T (manual), 4T (continuous), and SPOT (timed) weld settings.
- **Manual Wire Feed Button:** For quick wire feeding.
- **Auto-Darkening Welding Helmet:**
 - **True Color Large Viewing:** Main lens (3.94"×3.82") with 1/1/1/1 optical clarity.
 - **Side Viewing:** Two 1.97"×3.82" side lenses (DIN5, non auto-darkening).
 - **Advanced Auto-Darkening:** 4 premium arc sensors for rapid transition from light to dark (1/30000s).
 - **Adjustable Shade:** Dark shade range 5-8/9-13 (Grind mode 4).

4-IN-1 WELDER



FLUX MIG



GAS MAG



STICK



LIFT TIG



Figure 3: Four Welding Modes. This image visually represents the four distinct welding processes supported by the AZZUNO MIG-145L: Flux MIG, Gas MAG, Stick, and Lift TIG.

LARGE LED DISPLAY



- Press and hold the button "A" for 3 seconds to turn on SYN.
 - The knob "B" can also be used as a button.
- 1 Select VRD/Arc Force/Hot Start
 - 2 Press and hold for 3 seconds to switch from Amp adjustment to voltage adjustment.

Figure 4: Large LED Display. This image highlights the welder's large LED display, showing voltage, amperage, and various setting indicators, along with control knobs and buttons for adjustment.

AUTO-DARKENING WELDING HELMET



1.97" × 4.33"
Side Viewing
(non auto-darkening)



3.94" × 3.82"
Large Viewing
(auto-darkening)



1/1/1/1
True Color Lens



1/30000s
Auto-Darkening



5-8/9-13/GRIND(4)
Dark Shade #



Figure 5: Auto-Darkening Welding Helmet. This image details the features of the welding helmet, including its side viewing areas, large auto-darkening main lens, true color lens technology, and rapid auto-darkening speed.

5. SETUP

5.1 Welder Unit Setup

- Power Connection:** Connect the welder to a suitable 110V or 220V power outlet using the provided adapter cord. The machine automatically detects the input voltage.
- Ground Clamp Connection:** Attach the ground clamp cable to the designated ground terminal on the welder. Securely attach the ground clamp to the workpiece or welding table to ensure a good electrical connection.
- Wire Spool Installation:**
 - Open the wire spool compartment.
 - Place the appropriate wire spool (flux core or solid wire) onto the spindle.
 - Thread the wire through the drive roller mechanism. Ensure the correct drive roller groove is used for the wire size.
 - Close the compartment and adjust the tension on the drive roller to prevent slipping or crushing the wire.

4. **MIG Torch Connection:** Connect the MIG torch to the front panel of the welder. Ensure it is securely fastened.
5. **Gas Connection (for Gas MIG):** If performing Gas MIG welding, connect the gas hose from your shielding gas cylinder (e.g., CO2/MIX) to the "GAS IN" port on the welder. Ensure all connections are tight to prevent gas leaks.
6. **Electrode Holder / TIG Torch Connection (for Stick/Lift TIG):** For Stick welding, connect the electrode holder to the positive (+) terminal and the ground clamp to the negative (-) terminal. For Lift TIG, connect the TIG torch to the negative (-) terminal and the ground clamp to the positive (+) terminal.



Figure 6: Welder Setup with Wire Spools. This image shows the AZZUNO MIG-145L welder with wire spools installed, demonstrating the connections for the MIG torch and ground clamp, and highlighting the gas and gasless ports.

5.2 Welding Helmet Setup

1. **Headgear Adjustment:** Adjust the headgear straps to ensure a comfortable and secure fit on your head. The helmet should sit firmly without being too tight.
2. **Sensitivity Adjustment:** Locate the sensitivity knob on the helmet's lens cartridge. Adjust it according to the ambient light conditions and the welding process to ensure the lens darkens appropriately when an arc is

struck.

3. **Delay Adjustment:** Adjust the delay knob to control how long the lens remains dark after the arc stops. A longer delay is useful for high amperage welding to prevent eye strain from residual glow.
4. **Shade Adjustment:** Set the shade level according to the welding process and amperage. Refer to standard welding shade charts for guidance. The helmet offers shades 5-8/9-13.
5. **Test Button:** Press the "TEST" button to verify the auto-darkening function before welding. The lens should momentarily darken and then return to clear.

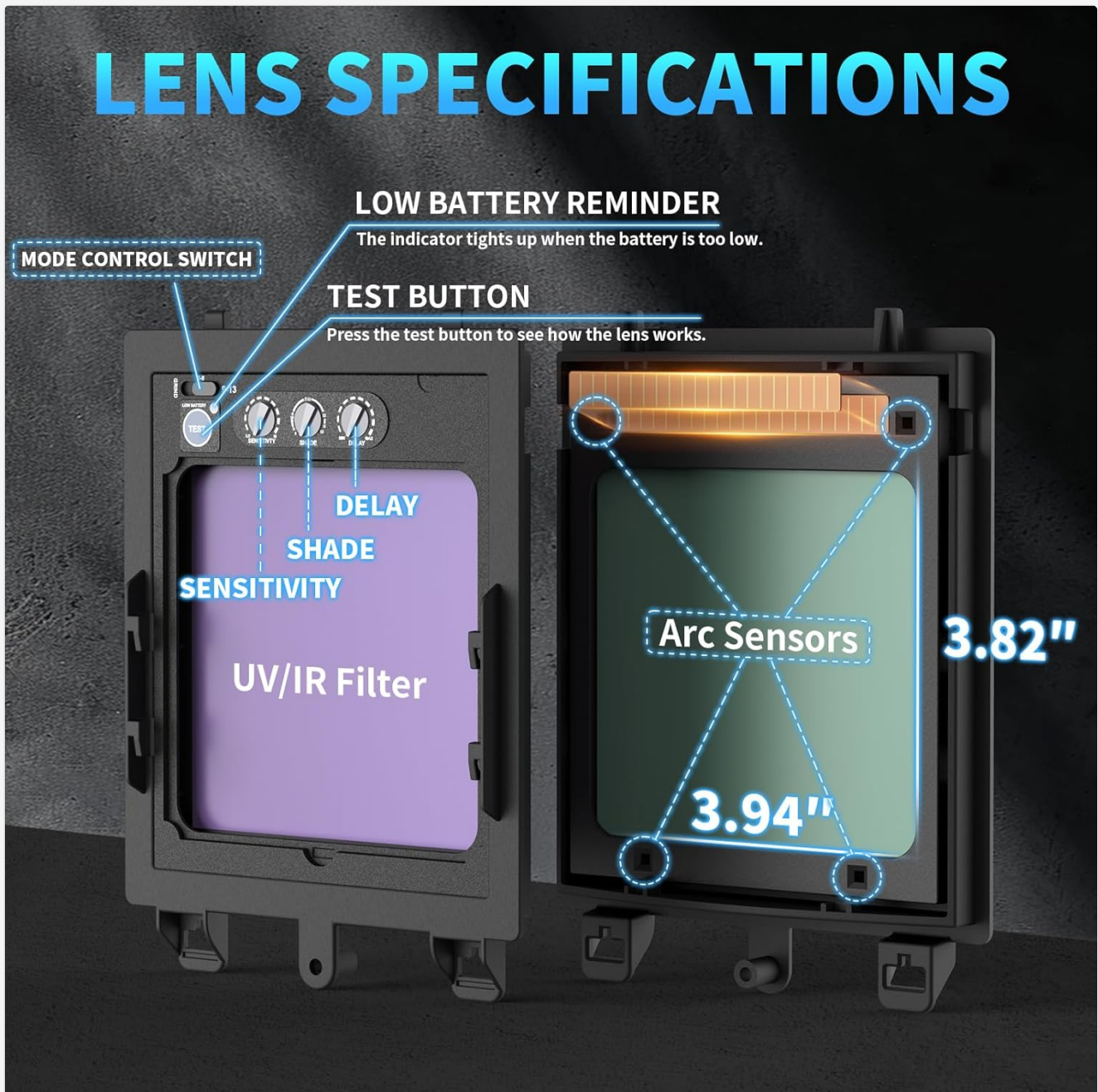


Figure 7: Welding Helmet Lens Controls. This image details the internal view of the welding helmet's auto-darkening lens, showing the location of the sensitivity, shade, and delay controls, as well as the test button and arc sensors.

6. OPERATING INSTRUCTIONS

6.1 General Operation

1. **Power On:** Turn on the main power switch located on the welder. The LED display will illuminate.
2. **Mode Selection:** Use the control buttons on the front panel to select your desired welding mode: Gas MIG,

Gasless Flux Core MIG, Lift TIG, or Stick.

3. **Synergic Mode:** For simplified setup, press and hold button "A" for 3 seconds to activate SYNERGIC mode. In this mode, the machine automatically adjusts voltage and wire feed speed based on the selected amperage and wire type.
4. **Manual Adjustment:** If not using Synergic mode, or for fine-tuning, use the main knob "B" to adjust amperage (A) or voltage (V). Press and hold knob "B" for 3 seconds to switch between amperage and voltage adjustment.
5. **Wire Feed Button:** Press and hold the dedicated wire feed button to quickly feed wire through the torch without striking an arc.

LARGE LED DISPLAY



- Press and hold the button "A" for 3 seconds to turn on SYN.
 - The knob "B" can also be used as a button.
- 1 Select VRD/Arc Force/Hot Start
 - 2 Press and hold for 3 seconds to switch from Amp adjustment to voltage adjustment.

Figure 8: Welder Control Panel. This image provides a close-up view of the welder's control panel, showing the LED display, mode selection buttons, and the main adjustment knob, along with indicators for various settings.

6.2 Welding Modes and Settings

- **MIG Welding (Gas/Gasless Flux Core):**

- Select the appropriate MIG mode (Gas or Gasless).
- Choose wire type and size (.030"/.035"/.040" flux core, .030" solid wire).
- Adjust amperage/voltage and wire feed speed.
- **2T Mode:** Press and hold the torch trigger to weld; release to stop.
- **4T Mode:** Press and release trigger to start weld; press and release again to stop. Ideal for long welds.
- **SPOT Mode:** For timed spot welds. Adjust the spot time setting.

- **Lift TIG Welding:**

- Select Lift TIG mode.
- Connect TIG torch and ground clamp as specified in Setup.
- Adjust amperage.
- To start arc, touch the tungsten electrode to the workpiece and then lift slightly.

- **Stick Welding:**

- Select Stick mode.
- Connect electrode holder and ground clamp as specified in Setup.
- Choose appropriate electrode (e.g., E6013).
- Adjust amperage based on electrode type and size.

2T/4T/SPOT SETTINGS

cater to diverse welding requirements.



⤴ **2T** ⤵
HOLD ———— RELEASE

⤴⤵ **4T** ⤴⤵
OPEN ———— CLOSE

Spot time can be
adjusted
----- **SPOT**

Figure 9: 2T/4T/SPOT Settings. This image illustrates the different trigger control modes available on the welder: 2T (Hold-Release), 4T (Open-Close), and SPOT (adjustable timed weld), catering to diverse welding requirements.

7. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your welding equipment.

- **Cleaning:**

- Periodically clean the welder's exterior with a dry cloth.
- Use compressed air to blow out dust and debris from the internal components, ensuring proper

ventilation.

- Clean the welding helmet's lenses regularly with a soft cloth and mild cleaner. Replace scratched or damaged outer protective lenses.

- **Wire Feed System:**

- Inspect the drive rollers for wear and cleanliness. Clean any wire residue.
- Ensure the wire liner in the MIG torch is free from kinks and blockages. Replace if necessary.
- Replace contact tips as they wear out to ensure good electrical contact and consistent arc.

- **Cable and Connections:** Regularly inspect all cables, connections, and torch components for damage, fraying, or loose connections. Replace damaged parts immediately.

8. TROUBLESHOOTING

This section addresses common issues you might encounter. For problems not listed here, contact AZZUNO customer support.

Problem	Possible Cause	Solution
Welder does not power on.	No power supply; loose power cord; tripped circuit breaker.	Check power outlet, ensure cord is securely plugged in, reset circuit breaker.
No arc when welding.	Poor ground connection; incorrect settings; wire feed issue; worn contact tip.	Ensure ground clamp is secure; verify welding mode and settings; check wire feed system; replace contact tip.
Wire feed is inconsistent or jammed.	Incorrect drive roller tension; wrong drive roller groove; dirty wire liner; wire spool tangled.	Adjust drive roller tension; ensure correct groove; clean/replace wire liner; untangle wire spool.
Welding helmet does not darken.	Low battery (if applicable); sensors blocked; sensitivity too low; lens damaged.	Check battery indicator (if present); ensure sensors are clean and unobstructed; increase sensitivity; replace lens cartridge if damaged.
Poor weld quality (e.g., porosity, spatter).	Incorrect settings (voltage/amperage/wire speed); improper gas flow (MIG); contaminated workpiece; wrong wire/electrode.	Adjust settings according to material and thickness; check gas cylinder/flow rate; clean workpiece; use correct consumables.

9. SPECIFICATIONS

Feature	Detail
Model	MIG-145L
Input Voltage	110V/220V Dual Voltage
Welding Processes	Gas MIG, Gasless Flux Core MIG, Lift TIG, Stick
Compatible Wire Sizes	.030"/.035"/.040" flux core wire, .030" solid wire
Compatible Electrodes	E6013 (and others suitable for Stick welding)

Feature	Detail
Control Features	Synergic Control, 2T/4T/SPOT modes, Manual Wire Feed Button
Welding Helmet Main Lens Viewing Area	3.94" × 3.82" (Auto-Darkening)
Welding Helmet Side Lens Viewing Area	1.97" × 3.82" (DIN5, Non Auto-Darkening)
Welding Helmet Optical Clarity	1/1/1/1
Welding Helmet Arc Sensors	4 Premium Arc Sensors
Welding Helmet Switching Speed	1/30000s
Welding Helmet Dark Shade Range	5-8/9-13 (Grind mode 4)
Weight (Welder Unit)	Approx. 13 lbs
Dimensions (Welder Unit)	Approx. 15" x 8.8" x 5.7"

10. WARRANTY AND SUPPORT

AZZUNO provides a limited warranty for this product. Please refer to the warranty card included with your purchase or visit the official AZZUNO website for detailed warranty terms and conditions.

For technical support, troubleshooting assistance, or to inquire about replacement parts, please contact AZZUNO customer service through their official channels. When contacting support, please have your product model number (MIG-145L) and purchase information ready.

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