bestarc MIG165

bestarc MIG165 11GEN 4-in-1 Welder Instruction Manual

Model: MIG165 | Brand: bestarc

1. Introduction

This manual provides essential information for the safe and effective operation, setup, and maintenance of your bestarc MIG165 11GEN 4-in-1 Welder. This versatile machine supports Gas MIG, Gasless Flux Core MIG, Lift TIG, and Stick (MMA) welding processes, offering dual voltage compatibility (110V/220V) and synergic control for optimized performance.

The bestarc MIG165 11GEN is designed for both beginners and experienced professionals, featuring a large LED digital display for clear parameter monitoring and adjustment.

Image 1.1: The bestarc MIG165 11GEN 4-in-1 Welder with included accessories.

2. Safety Information

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

- **Electric Shock Can Kill:** Do not touch live electrical parts. Wear dry welding gloves and protective clothing. Ensure the workpiece is properly grounded.
- **Fumes and Gases Can Be Dangerous:** 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. Wear safety glasses with side shields. Use protective clothing to cover exposed skin.
- **Fire and Explosion Hazard:** Remove all flammables from the welding area. Have a fire extinguisher readily available.
- **Hot Parts Can Cause Severe Burns:** Allow equipment to cool before touching. Wear protective gloves.
- **Magnetic Fields:** Pacemaker wearers should consult their doctor before operating.

3. Package Contents

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

- 1 × bestarc MIG165 Welder
- 1 × MIG Torch
- 1 × Earth Clamp
- 1 × Stick Holder
- 1 × 0.040" Flux Cored Wire Spool
- 1 × 0.030" Solid Wire Spool
- 1 × 0.030"/0.035"/0.040" Contact Tip Set
- 1 × 0.030"/0.035" Wire Feed Rollers
- 1 × 2-meter Gas Hose
- 1 × 220V to 110V Wire Adapter
- 1 × Shoulder Strap
- 1 × User Manual

Image 3.1: All components included with the bestarc MIG165 11GEN welder.

4. Setup

4.1 Power Connection

- The MIG165 11GEN supports dual voltage (110V/220V) and automatically detects the input voltage.
- Connect the power cord to a suitable power outlet. Use the provided 220V to 110V adapter if operating on a 110V circuit.
- Ensure the power source meets the welder's requirements to prevent damage.

4.2 Connecting Welding Accessories

- **Earth Clamp:** Connect the earth clamp cable to the appropriate terminal on the welder (usually the negative terminal for MIG/Stick, or positive for Lift TIG depending on polarity). Securely attach the clamp to the workpiece or welding table.
- **MIG Torch:** Connect the MIG torch to the front panel connector. Ensure it is securely fastened.
- **Stick Holder:** For Stick welding, connect the stick holder cable to the appropriate terminal (polarity depends on electrode type).
- **Lift TIG Torch (Optional):** If performing Lift TIG, connect a compatible TIG torch (not included) to the designated port.

4.3 Wire Installation (MIG)

1. Open the side panel of the welder to access the wire feeder compartment.
2. Place the wire spool onto the spindle, ensuring it rotates freely.
3. Thread the welding wire through the wire guide and into the drive roller mechanism.
4. Ensure the correct drive roller (V-groove for solid wire, knurled for flux-cored wire) and contact tip size are installed for your chosen wire diameter (0.030", 0.035", 0.040").
5. Close the drive roller tension arm and adjust the tension. It should be firm enough to feed the wire without slipping, but not so tight that it deforms the wire.
6. Press the wire feeding button on the welder to feed the wire through the MIG torch liner until it exits the contact tip.

Image 4.1: Inner wire feeder mechanism and wire path.

4.4 Gas Connection (for Gas MIG)

- Connect one end of the gas hose to the gas inlet on the rear of the welder.
- Connect the other end of the gas hose to your shielding gas regulator, which should be attached to a suitable gas cylinder (e.g., Argon/CO2 mix for MIG).
- Ensure all connections are tight to prevent gas leaks.

Image 4.2: Gas connection setup for MIG welding.

5. Operating Instructions

5.1 Control Panel Overview

The bestarc MIG165 11GEN features a large LED digital display and a single rotary knob for intuitive control.

Image 5.1: Digital screen display showing welding parameters.

- **Digital Display:** Shows real-time voltage, current, and other selected parameters.

- **Rotary Knob:** Used to navigate menus, select welding modes, and adjust parameters. Pushing the knob typically confirms selections or accesses fine-tuning options.
- **Mode Selection:** Cycle through Gas MIG, Gasless MIG, Lift TIG, and Stick welding modes using the control panel.

5.2 Synergic Control

The welder utilizes synergic technology to automatically recommend optimal voltage and wire feed speed (current) based on the selected welding process and wire type. This simplifies setup for beginners.

- Select your desired welding process and wire type. The machine will display recommended settings.
- You can fine-tune the voltage by adjusting it between -3V and +3V from the synergic preset using the rotary knob.

5.3 Welding Process Selection and Operation

Ensure the correct accessories are connected and settings are configured for your chosen welding process.

Image 5.2: Different welding configurations supported by the MIG165 11GEN.

- **Gas MIG Welding:** Use solid wire and appropriate shielding gas (e.g., Argon/CO2). Ideal for clean, precise welds on stainless or carbon steel.
- **Gasless Flux Core MIG Welding:** Use flux-cored wire (E71T-GS). No external shielding gas is required, making it suitable for outdoor or windy conditions.
- **Lift TIG Welding:** Requires a separate TIG torch and shielding gas (e.g., Argon). Touch the tungsten to the workpiece and lift slightly to initiate the arc.
- **Stick (MMA) Welding:** Use coated electrodes. Polarity depends on the electrode type.

6. Maintenance

Regular maintenance ensures the longevity and optimal performance of your welder.

- **Cleaning:** Periodically clean the welder's exterior with a dry cloth. Use compressed air to clear dust and debris from internal components, ensuring proper ventilation.
- **Contact Tip:** Inspect and replace the contact tip on the MIG torch regularly. A worn or clogged tip can lead to poor wire feeding and arc instability.
- **Drive Rollers:** Check drive rollers for wear and ensure they are clean. Replace if grooves are worn. Ensure correct drive roller type and tension for the wire being used.
- **Cables and Connections:** Inspect all welding cables, torch, and earth clamp for damage. Replace any frayed or damaged components immediately.
- **Gas Hose:** Check the gas hose for kinks or leaks if using Gas MIG.

7. Troubleshooting

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

Problem	Possible Cause	Solution
No Arc / Weak Arc	• Poor earth clamp connection • Incorrect welding parameters • Damaged contact tip or electrode • Insufficient power supply	• Ensure earth clamp is on clean metal • Adjust voltage/current settings • Replace contact tip or electrode • Verify power input (110V/220V)
Wire Feeding Issues	• Incorrect drive roller type or size • Insufficient drive roller tension • Kinked or clogged MIG torch liner • Wire spool tangled or too tight	• Install correct drive roller for wire type/size • Adjust drive roller tension • Inspect and clear/replace liner • Ensure wire spool unwinds freely
Inconsistent Weld Quality	• Incorrect wire feed speed or voltage • Improper shielding gas flow (Gas MIG) • Contaminated workpiece • Worn contact tip	• Adjust synergic settings or fine-tune manually • Check gas cylinder and regulator, ensure proper flow • Clean workpiece thoroughly • Replace contact tip
Overheating	• Exceeding duty cycle • Blocked ventilation	• Allow welder to cool down • Ensure clear airflow to vents

8. Specifications

Feature	Specification
Manufacturer	bestarc
Model Number	MIG165
Part Number	MIG165-11GEN
Item Weight	22.4 pounds
Product Dimensions	5.9 x 9.4 x 13.07 inches
Style	MIG165 11GEN
Power Source	AC (110V/220V Dual Voltage)
Welding Processes	Gas MIG, Gasless Flux Core MIG, Lift TIG, Stick (MMA)
Maximum Current	165 Amp
Wire Sizes Supported	0.030"/0.035"/0.040" (Flux Core), 0.030" (Solid Wire)

9. Warranty and Support

bestarc products are manufactured to high-quality standards. For warranty information, please refer to the warranty card included with your product or contact bestarc customer support directly.

If you require technical assistance, have questions about operation, or need to report a defect, please contact bestarc customer service through their official channels. Provide your model number (MIG165) and purchase details for efficient support.