

## TOOLIOM TL-14AK

# TOOLIOM TL-14AK MIG Welding Gun Instruction Manual

Model: TL-14AK | Brand: TOOLIOM

## 1. INTRODUCTION

This manual provides essential information for the safe and effective use of your TOOLIOM TL-14AK MIG Welding Gun. This 160 AMP MIG welding gun, with a total length of 8.2 feet (2.5m), is designed as a direct replacement for the TOOLIOM TL-180M-LT-PRO MIG welder.

It utilizes standard Lincoln front-end consumable nozzles and is easy to install. The wire diameter range supported is 0.030 - 0.035 inches. Please read this manual thoroughly before operation to ensure proper setup, safe use, and optimal performance.

## 2. SAFETY INSTRUCTIONS

Always prioritize safety when working with welding equipment. Failure to follow these instructions can result in serious injury or death.

- **Wear Personal Protective Equipment (PPE):** Always use a welding helmet with appropriate shade, flame-resistant clothing, welding gloves, and safety shoes.
- **Ensure Proper Ventilation:** Welding fumes can be hazardous. Work in a well-ventilated area or use a fume extractor.
- **Prevent Fire Hazards:** Remove all flammable materials from the welding area. Have a fire extinguisher readily available.
- **Electrical Safety:** Ensure your welding machine is properly grounded. Do not operate in wet conditions. Inspect cables and connections for damage before each use.
- **Hot Surfaces:** The welding gun and workpiece will become extremely hot during and after operation. Allow

them to cool before handling.

- **Gas Cylinders:** If using shielding gas, secure cylinders properly and handle them with care.

### 3. PACKAGE CONTENTS

Verify that all items are present and undamaged upon unpacking.

- 1 x TOOLIOM TL-14AK MIG Welding Gun (160 AMP, 8.2 ft / 2.5m cable)
- 1 x 0.030 inch (0.8mm) Contact Tip (pre-installed)
- 1 x Additional 0.030 inch (0.8mm) Contact Tip
- 1 x Additional 0.035 inch (0.9mm) Contact Tip



Figure 3.1: The TOOLIOM TL-14AK MIG Welding Gun with included contact tips.

### 4. SPECIFICATIONS

Feature	Specification
Model Number	TL-14AK
Amperage Rating	160 AMP
Cable Length	8.2 ft (2.5 m)
Compatible Welder	TOOLIOM TL-180M-LT-PRO
Wire Diameter Range	0.030 - 0.035 inches (0.8 - 0.9 mm)
Consumable Type	Standard Lincoln front-end nozzles
Product Dimensions (L x W x H)	9.84 x 2.75 x 11.02 inches (24.99 x 6.99 x 27.99 cm)
Product Weight	921 g
Color	Black
UPC	630128777388

## 5. SETUP

Before connecting the welding gun, ensure your welding machine is turned off and unplugged from the power source.

1. **Verify Compatibility:** It is crucial to check that the TL-14AK welding gun matches your existing TOOLIOM TL-180M-LT-PRO MIG welder before attempting connection.
2. **Connect the Power Cable:** Align the connector of the welding gun cable with the corresponding receptacle on your MIG welder. Push firmly and twist the collar to secure the connection.
3. **Connect the Control Cable:** Plug the smaller control cable connector into its designated port on the welder.
4. **Install Wire Spool:** Ensure the correct diameter welding wire (0.030" or 0.035") is installed in your welder's wire feeder according to your welder's manual.
5. **Feed Welding Wire:** Carefully feed the welding wire through the gun's liner until it emerges from the contact tip. Ensure the wire feed tension is set correctly on your welder.
6. **Connect Shielding Gas (if applicable):** If using gas-shielded MIG welding, connect your gas hose to the welder's gas inlet and ensure the gas cylinder valve is open and regulator pressure is set.

# TL-14AK

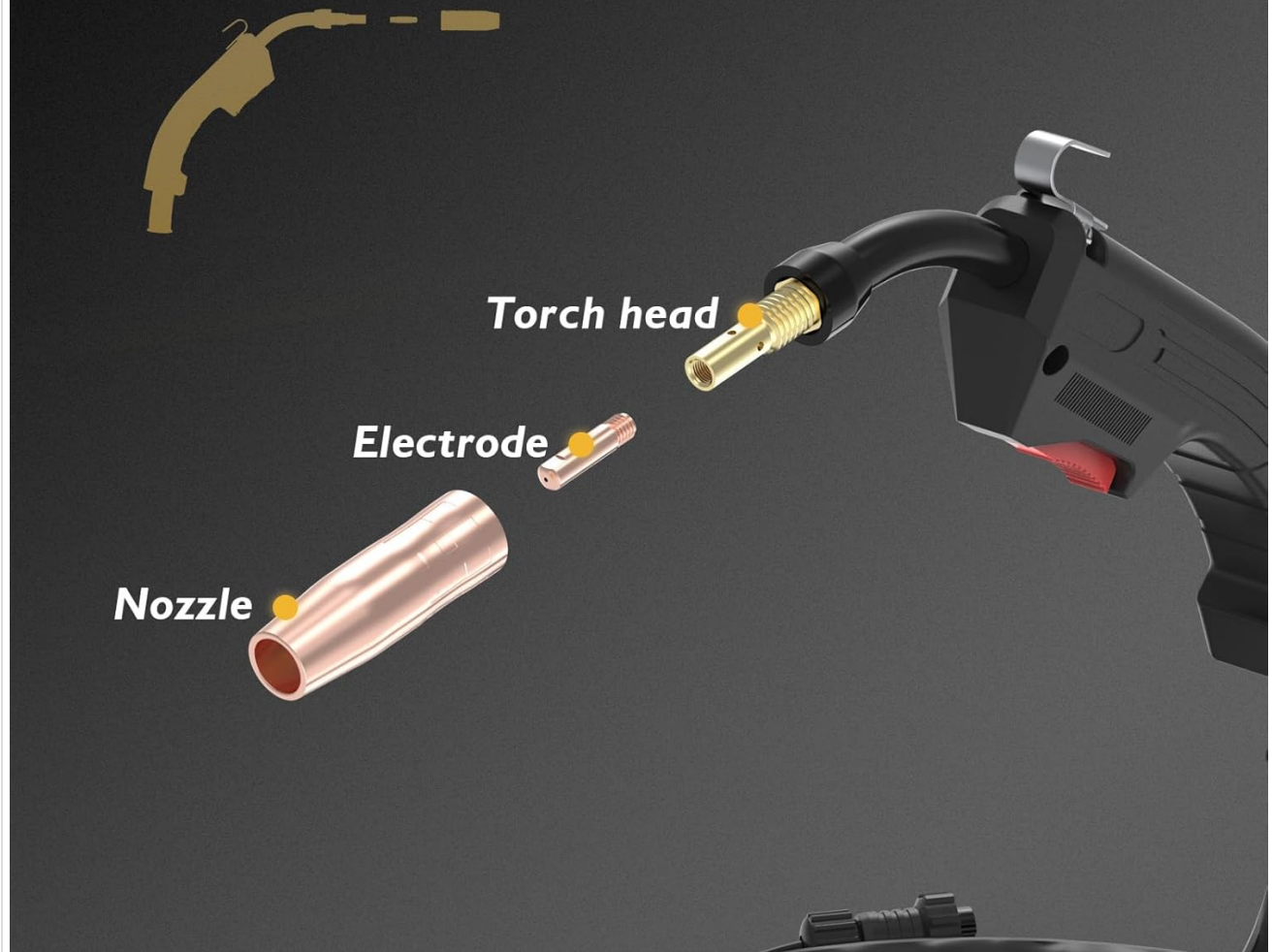


Figure 5.1: Key components of the MIG welding gun: Nozzle, Electrode (Contact Tip), and Torch Head.

## 6. OPERATING INSTRUCTIONS

Once the welding gun is properly connected and the welder is set up, you can begin operation. Always refer to your main welder's instruction manual for detailed operating procedures.

1. **Power On:** Plug in and turn on your TOOLIOM TL-180M-LT-PRO MIG welder.
2. **Set Welding Parameters:** Adjust the voltage, wire feed speed, and inductance settings on your welder according to the material thickness and type of weld you are performing.
3. **Prepare Workpiece:** Ensure the workpiece is clean and free of rust, paint, or oil. Connect the ground clamp securely to the workpiece or welding table.
4. **Position the Gun:** Hold the welding gun firmly. Position the contact tip approximately 1/4 to 3/8 inch (6-10mm) from the workpiece, maintaining a consistent angle (typically 10-15 degrees push or drag angle depending on the process).

5. **Initiate Arc:** Press the trigger on the welding gun. This will start the flow of shielding gas (if applicable) and initiate the wire feed and arc.
6. **Perform Weld:** Move the gun steadily along the joint, maintaining a consistent travel speed and arc length to create a uniform weld bead.
7. **Release Trigger:** Release the trigger to stop the welding process. The gas flow will typically continue for a short post-flow period to protect the cooling weld.

## 7. MAINTENANCE

Regular maintenance of your welding gun will ensure its longevity and consistent performance.

- **Clean Nozzle:** Periodically remove spatter from inside and outside the nozzle. Use anti-spatter spray to prevent buildup.
- **Inspect and Replace Contact Tip:** The contact tip is a consumable part. Replace it when the opening becomes enlarged or clogged, or if you experience poor arc stability or wire feeding issues. Ensure the correct tip size for your wire diameter.
- **Check Diffuser/Gas Nozzle:** Ensure the gas diffuser is clean and not obstructed, allowing for proper shielding gas flow.
- **Inspect Liner:** If wire feeding becomes erratic, the liner inside the gun cable may be worn or kinked. Consult your welder's manual for liner inspection and replacement procedures.
- **Cable Inspection:** Regularly inspect the entire length of the welding gun cable for cuts, abrasions, or damage. Do not use a damaged cable.

## 8. TROUBLESHOOTING

This section addresses common issues you might encounter during operation.

Problem	Possible Cause	Solution
No Arc / Poor Arc Start	Loose ground clamp, incorrect contact tip, no power to welder, wire feed issue.	Check ground connection, replace contact tip, ensure welder is on and plugged in, check wire feed.
Erratic Wire Feed	Worn contact tip, kinked liner, incorrect drive roll tension, wrong drive roll size.	Replace contact tip, inspect/replace liner, adjust drive roll tension, verify drive roll size.
Excessive Spatter	Incorrect voltage/wire speed, dirty workpiece, improper gun angle.	Adjust welder settings, clean workpiece, correct gun angle.
Porous Welds	Insufficient shielding gas, clogged gas nozzle/diffuser, gas leaks, dirty workpiece.	Check gas supply/flow, clean nozzle/diffuser, check for gas leaks, clean workpiece.
Overheating Gun	Exceeding duty cycle, poor connections.	Allow welder to cool, check all connections for tightness.

## 9. WARRANTY AND SUPPORT

For information regarding warranty coverage, technical support, or replacement parts for your TOOLIOM TL-14AK MIG Welding Gun, please refer to the warranty documentation included with your original TOOLIOM TL-180M-LT-PRO MIG welder or contact TOOLIOM customer service directly.

Keep your purchase receipt and model number (TL-14AK) readily available when contacting support.