

TOOLIOM TL-200TP Pro

TOOLIOM TIG Welder User Manual

Model: TL-200TP Pro

Brand: TOOLIOM

1. INTRODUCTION

This manual provides comprehensive instructions for the safe and effective operation, setup, maintenance, and troubleshooting of your TOOLIOM TL-200TP Pro TIG Welder. This multifunctional welding machine is designed for DC TIG, Spot TIG, Pulse TIG, and Stick welding applications, offering dual voltage compatibility (110V & 220V) and a large digital display for precise control.

Key Features:

- **Four Welding Functions:** Capable of DC TIG, Spot TIG, Pulse TIG, and Stick welding.
- **Dual Voltage Operation:** Supports both 110V and 220V power inputs.
- **Large Digital Display:** Provides clear and precise parameter readings.
- **Remote Control Capability:** Features a 5-pin foot pedal interface for current adjustment (foot pedal not included).
- **Advanced Arc Control:** Equipped with Hot Start and Arc Force functions for Stick welding.
- **Material Compatibility:** Suitable for welding stainless steel, alloy steel, iron, and other non-ferrous metals. *Note: This machine is not designed for AC welding and therefore cannot weld aluminum.*
- **Safety Certifications:** ETL certified with intelligent protection against over-voltage, over-current, and over-heat.

2. SAFETY PRECAUTIONS

Always prioritize safety when operating welding equipment. Failure to follow safety guidelines can result in serious injury or death.

- **Personal Protective Equipment (PPE):** Always wear appropriate welding helmet with proper shade, flame-resistant clothing, welding gloves, and safety shoes. Protect bystanders with welding screens.
- **Ventilation:** Ensure adequate ventilation to remove welding fumes. Work in a well-ventilated area or use fume extraction equipment.

- **Electrical Safety:** Connect the welder to a properly grounded power supply. Do not operate in wet conditions. Inspect cables and connections for damage before each use.
- **Fire Prevention:** Keep flammable materials away from the welding area. Have a fire extinguisher readily available.
- **Gas Cylinders:** Secure gas cylinders to prevent tipping. Use appropriate regulators and hoses. Ensure proper gas flow and connections.
- **Hot Surfaces:** Welding equipment and welded materials become extremely hot. Allow them to cool before handling.
- **Electromagnetic Fields:** Pacemaker wearers should consult their doctor before operating welding equipment.

3. COMPONENTS AND ACCESSORIES

The TOOLIOM TL-200TP Pro TIG Welder comes with the following standard components:



The TOOLIOM TL-200TP Pro TIG Welder unit shown with its standard accessories, including the TIG torch, ground clamp, and electrode holder.

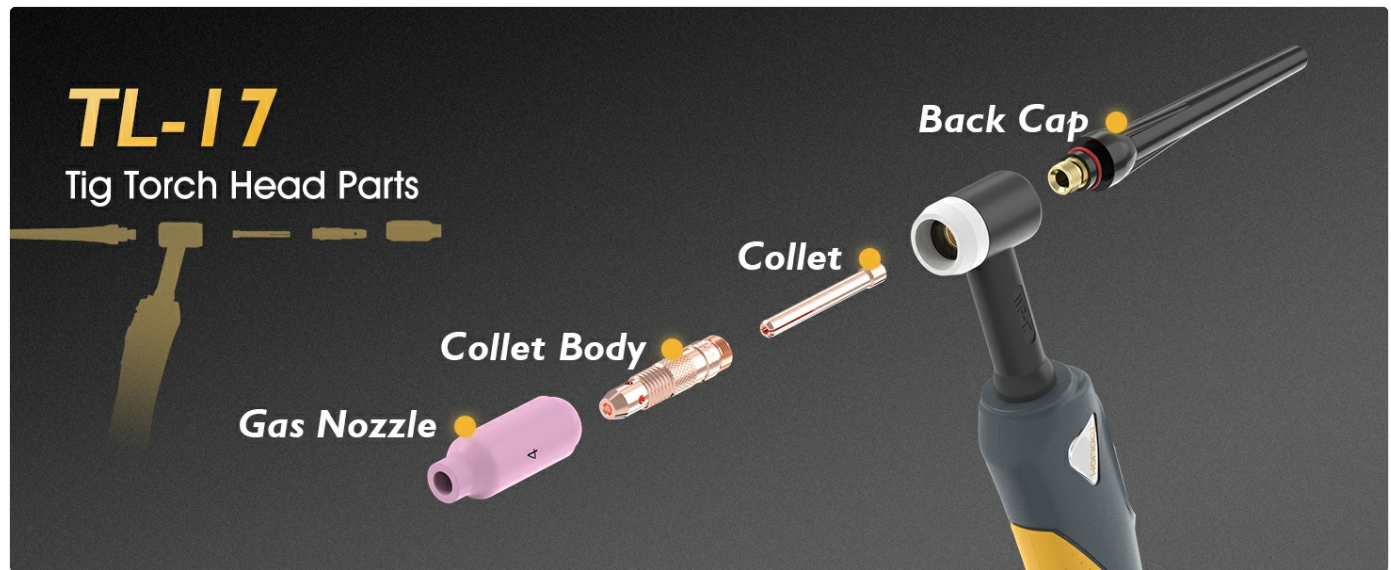


A visual representation of the accessories: 1. Ground Clamp, 2. Electrode Holder, 3. TIG Torch, 4. Power Adapter Cord, 5. Shielding Gas Hose.

- **TIG Welder Unit:** The main power source.
- **TIG Torch:** For TIG welding operations.
- **Electrode Holder:** For Stick (MMA) welding.
- **Ground Clamp:** To establish the electrical circuit.

- **Power Adapter Cord:** For connecting to power supply.
- **Shielding Gas Hose:** For connecting to an argon gas cylinder. *Note: Some users have reported the supplied argon hose being larger than the machine's nipple; ensure compatibility or acquire a suitable adapter/hose.*

TIG Torch Head Parts (TL-17):



Exploded view of the TL-17 TIG torch head parts, including Gas Nozzle, Collet Body, Collet, and Back Cap.

4. SETUP INSTRUCTIONS

Follow these steps to set up your TOOLIOM TIG Welder for operation:

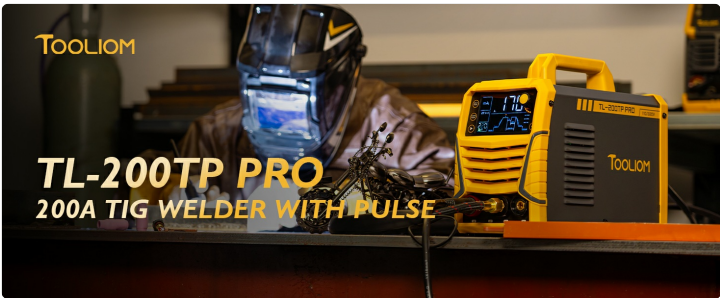
1. **Placement:** Place the welder on a stable, level surface in a well-ventilated area, away from moisture and flammable materials.
2. **Power Connection:** Connect the power adapter cord to the welder and then to a suitable 110V or 220V power outlet. The machine automatically detects the input voltage. Ensure the power circuit can handle the welder's current draw to prevent breaker trips, especially on 110V.
3. **Ground Clamp Connection:** Connect the ground clamp cable to the appropriate terminal on the welder (usually the negative terminal for DC TIG/Stick). Securely attach the ground clamp to the workpiece or welding table, ensuring good electrical contact.
4. **TIG Torch Connection:** For TIG welding, connect the TIG torch cable to the positive terminal on the welder. Connect the gas hose from the torch to the gas outlet on the welder.
5. **Electrode Holder Connection (for Stick Welding):** For Stick welding, connect the electrode holder cable to the positive terminal on the welder.
6. **Shielding Gas Connection (for TIG Welding):** Connect the shielding gas hose from the welder to your argon gas cylinder regulator. Ensure all connections are tight to prevent gas leaks. Open the gas cylinder valve slowly.
7. **Foot Pedal (Optional):** If using a foot pedal (not included), connect it to the 5-pin interface on the welder. This allows for remote current adjustment.

5. OPERATING INSTRUCTIONS

The TOOLIOM TL-200TP Pro features a large LCD display and intuitive controls for selecting welding modes and adjusting parameters.



The large LCD display provides real-time welding parameters and settings.



Overview of the control panel: 1. LCD Display, 2. Welding Mode, 3. Steps Mode, 4. Welding Data, 5. Control & Confirm Knob.

Welding Modes:

- DC TIG (2T/4T):

PANEL BUTTON INTRODUCTION

1: LCD Display

2: Welding Mode

3: Steps Mode

4: Welding Data

5: Control & Confirm Knob

MODEL: TL-200		S/N:					
ANSI/IEC STD. 60974-1							
		U ₁ =110V		U ₁ =220V			
		10A/10.4V~160A/16.4V		10A/10.4V~200A/18V			
		X	60% 100%	X	60% 100%		
		I ₂	160A 124A	I ₂	200A 155A		
U ₀ =65V		U ₂	16.4V 15V	U ₂	18V 16V		
		U ₁ =110V		U ₁ =220V			
		10A/20.4V~140A/25.6V		10A/20.4V~160A/26.4V			
		X	60% 100%	X	60% 100%		
		I ₂	140A 108A	I ₂	160A 124A		
U ₀ =65V		U ₂	25.6V 24.3V	U ₂	26.4V 25V		
		U ₁ =110V		I ₁ max=48A		I ₁ eff=35A	
		U ₁ =220V		I ₁ max=34A		I ₁ eff=26.4A	
Cooling Mode: Fan Cooling				Insulation Grade: F		IP21S	

A close-up of the control panel of the TOOLIOM TL-200TP Pro. The panel features a large LCD display (1), a welding mode selector (2), a steps mode selector (3), a welding data selector (4), and a control & confirm knob (5). The device is yellow and black, and the text 'TOOLIOM' and 'TL-200TP PRO' are visible on the front.

Parameters for DC TIG in 2T/4T mode: I' (A), Slope Up (S), Slope Down (S), I Stop (A), Pre Gas (S), Post Gas (S).

Use for general TIG welding of steel and stainless steel. 2T (Two-Touch) mode requires holding the torch button for the arc to maintain. 4T (Four-Touch) mode allows for continuous welding without holding the button, pressing once to start and once to stop.

- **DC TIG (Spot):**



Parameters for DC TIG Spot mode: I' (A), Spot Time, Pre Gas (S), Post Gas (S).

Ideal for reinforcement welds or tacking. The Spot Time parameter controls the duration of the weld.

- **Pulsed TIG (2T/4T):**



Parameters for Pulsed TIG in 2T/4T mode: I' (A), I² (A), Slope Up (S), Slope Down (S), I Start (A), I Stop (A), Duty Cycle %, Pulse Hz, Pre Gas (S), Post Gas (S).

Performs better in thin metal welding by minimizing heat input and deformation. Adjust Pulse Hz (frequency) and Duty Cycle (percentage of peak current time) for desired results.

- **Pulsed TIG (Spot):**

Pulsed TIG (2T/4T)

Performs Better in thin Metal Welding

Pulsed TIG **2T / 4T**

- ▼ I¹ (A) ▼ I² (A)
- ▼ Slope up (S) ▼ Slope Down (S)
- ▼ I Start (A) ▼ Duty Cycle % ▼ I Stop (A)
- ▼ Pre Gas (S) ▼ Pulse Hz ▼ Post Gas (S)



Parameters for Pulsed TIG Spot mode: I¹ (A), I² (A), Duty Cycle %, Spot Time, Pulse Hz, Pre Gas (S), Post Gas (S). Combines the benefits of pulsed welding with spot welding for fine, controlled welds.

- **Stick (MMA) Welding:**



DC TIG






PULSED TIG






STICK




The welder supports Stick (MMA) welding for various applications.

The machine is equipped with Hot Start and Arc Force functions for improved arc ignition and stability during Stick welding. Adjust amperage based on electrode type and material thickness.

Special Functions:

- **Hot Start:**



TIG DC & TIG DC WITH PULSE

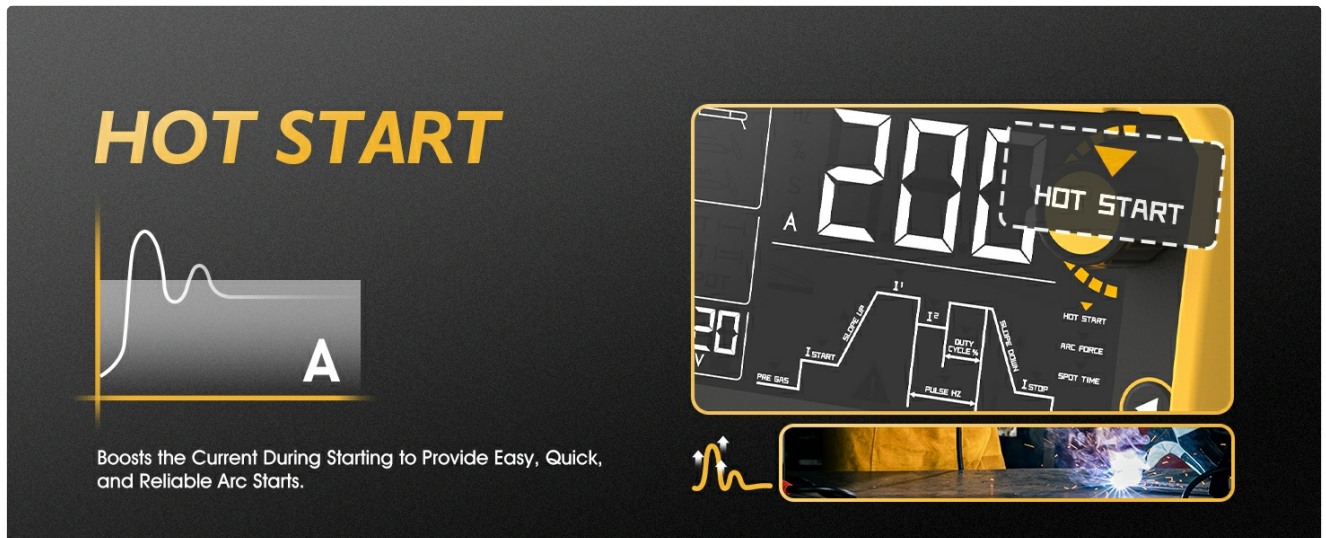
Minimizes deformation of base material, Perfect for welding various thin metal, such as stainless steel, carbon steel and copper etc.



Hot Start boosts the current during arc ignition for easy and reliable starts.

Automatically boosts the current at the beginning of the weld to ensure quick and reliable arc ignition, especially useful for Stick welding.

- **Arc Force:**



HOT START



Boosts the Current During Starting to Provide Easy, Quick, and Reliable Arc Starts.



Arc Force superimposes a current value to prevent sticking and ensure smooth welds.

Helps prevent the electrode from sticking to the workpiece by temporarily increasing the current when the arc length shortens, resulting in smoother welds.

- **Foot Pedal Control:**

FOOT PEDAL REMOTE CONTROL

(NOT INCLUDED)



The welder features a 5-pin interface for connecting an optional foot pedal, allowing for remote amperage adjustment. The 5-pin foot pedal interface allows for remote ON/OFF control and current adjustment, freeing up your hands for precise torch manipulation. *Note: The foot pedal is not included. The machine's torch button may not offer proportional amperage control; an external foot pedal is recommended for fine control.*

6. MAINTENANCE

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

- **Cleaning:** Regularly clean the exterior of the welder with a dry, soft cloth. Use compressed air to blow out dust and debris from the cooling vents. Ensure the machine is unplugged before cleaning.
- **Cable Inspection:** Periodically inspect all welding cables, power cords, and gas hoses for cuts, abrasions, or damage. Replace any damaged components immediately.
- **Torch and Electrode Holder:** Clean the TIG torch consumables (collet, collet body, gas nozzle) regularly. Replace worn-out parts. Ensure the electrode holder jaws are clean and provide good contact.

- **Storage:** Store the welder in a clean, dry environment, away from extreme temperatures and humidity.

7. TROUBLESHOOTING

This section addresses common issues you might encounter with your TOOLIOM TIG Welder.

Problem	Possible Cause	Solution
Welder does not power on.	No power supply; faulty power cord; internal fault.	Check power outlet and circuit breaker. Inspect power cord for damage. If problem persists, contact support.
Arc is difficult to start or unstable.	Poor ground connection; incorrect settings; contaminated tungsten/electrode; insufficient gas flow (TIG).	Ensure ground clamp has good contact. Adjust amperage, Hot Start, or Arc Force settings. Clean or replace tungsten/electrode. Check gas flow and connections.
Breaker trips frequently (especially on 110V).	Overload; insufficient circuit capacity; prolonged welding at high amperage.	Reduce amperage. Ensure the circuit can handle the welder's load (dedicated 20A circuit recommended for 110V). Allow for duty cycle cool-down periods. Consider using 220V if available for higher power demands.
No gas flow (TIG).	Gas cylinder empty; valve closed; hose kinked/disconnected; regulator issue.	Check gas cylinder level. Open cylinder valve. Inspect gas hose for kinks or disconnections. Verify regulator is functioning correctly.
Cannot weld aluminum.	Machine is DC only.	This welder is a DC TIG machine and is not designed for AC welding, which is typically required for aluminum. It cannot weld aluminum.
Post-flow gas duration seems fixed/unadjustable.	Preset post-flow setting.	The machine may have a preset post-flow duration (e.g., 3 seconds) that is not user-adjustable despite manual references to adjustable settings. Operate within this limitation.
Argon hose supplied does not fit.	Incompatible hose size.	Acquire a compatible 1/4" argon hose or an appropriate adapter to connect the supplied hose to the machine's nipple.

8. SPECIFICATIONS

Technical specifications for the TOOLIOM TL-200TP Pro TIG Welder:



Dimensions: 14.9" x 6.5" x 11" (380mm x 165mm x 280mm). Weight: 11.11 lbs.

Attribute	Value
Model Name	TL-200TP Pro
Manufacturer	TOOLIOM
Item Weight	20.1 pounds
Package Dimensions	16.34 x 13.58 x 11.42 inches
Style	200A TIG Welder with Pulsed
Material	Steel, Stainless Steel
Power Source	AC (110V & 220V Dual Voltage)
Included Components	TIG Welder
Cooling Mode	Fan Cooling
Insulation Grade	F
Protection Class	IP21S
Date First Available	March 13, 2024

Welding Data (ANSI/IEC STD.60974-1):

Mode	Input Voltage	I2 (A)	U2 (V)	Duty Cycle
TIG	U1=110V	10A/10.4V - 160A/16.4V	16.4V	60%
	U1=220V	10A/10.4V - 200A/18V	18V	60%
Stick	U1=110V	20A/20.8V - 140A/25.6V	25.6V	60%
	U1=220V	20A/20.8V - 160A/26.4V	26.4V	60%

9. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please refer to the documentation included with your purchase or contact TOOLIOM customer service directly. Keep your purchase receipt as proof of purchase for warranty claims.

For additional resources and product information, you may visit the official TOOLIOM store on Amazon:[TOOLIOM Store](#)

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