

TOOLIOM MCT-520, M800D

TOOLIOM MCT-520 5-in-1 Multiprocess Welder & M800D Large Viewing Welding Helmet User Manual

1. INTRODUCTION

This manual provides essential instructions for the safe and effective operation, setup, and maintenance of your TOOLIOM MCT-520 5-in-1 Multiprocess Welding Machine and TOOLIOM M800D Large Viewing Welding Helmet. Please read this manual thoroughly before using the equipment to ensure proper function and safety.

2. SAFETY INSTRUCTIONS

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

- Always wear appropriate personal protective equipment (PPE), including the welding helmet, flame-resistant clothing, gloves, and safety shoes.
- Ensure adequate ventilation to avoid inhaling fumes and gases.
- Protect bystanders from arc rays and sparks.
- Do not touch live electrical parts.
- Ensure proper grounding of the equipment.
- Keep a fire extinguisher nearby.
- Disconnect power before performing any maintenance or changing accessories.

3. PRODUCT OVERVIEW

3.1 TOOLIOM MCT-520 5-in-1 Multiprocess Welding Machine

The TOOLIOM MCT-520 is a versatile welding and cutting machine offering five functions: MIG welding (Flux and Gas), TIG welding, Plasma Cutting, and Stick welding. It features both synergistic and manual settings for various applications and skill levels.



TOOLIOM MCT-520 5-in-1 Multiprocess Welder with included accessories. This image shows the main welding machine unit, MIG torch, TIG torch, plasma cutting torch, electrode holder, ground clamp, gas regulator, welding wire spool, and welding gloves.

MULTI-FUNCTION WELDING MACHINE



Multi-function welding machine interface. This image illustrates the various welding and cutting modes available on the TOOLIOM MCT-520, including Flux MIG, MIG, Stick, Cut, and TIG, along with the spool gun connection.

EXCLUSIVE LARGE LED DISPLAY



Exclusive large LED display of the TOOLIOM MCT-520. This image details the control panel, showing the digital readouts for amperage, voltage, wire feed speed, and settings for manual/synergic mode, gas type, 2T/4T, and input voltage selection (110V/220V).

3.2 TOOLIOM M800D Large Viewing Welding Helmet

The TOOLIOM M800D welding helmet provides critical eye and face protection during welding and cutting operations. It features a large viewing area, 4 arc sensors, 1/1/1/1 optical classification, and true color technology for enhanced visibility.



TOOLIOM Large Viewing Welding Helmet. This image displays the front view of the auto-darkening welding helmet, highlighting its sleek design and large viewing window.

LENS SPECIFICATIONS

1 Test Knob

2 Low battery

3 Mode

4 Sensitivity

5 Delay

6 Solar Cell

7 Arc Sensor



Welding helmet lens specifications. This image provides a detailed view of the auto-darkening filter cartridge, labeling key components such as the Test Knob, Low Battery indicator, Mode selector, Sensitivity adjustment, Delay adjustment, Solar Cell, and Arc Sensors. It also shows the 1/1/1/1 Optical Clarity Rating.

FEATURES OF WELDING HELMET



Features of the TOOLIOM welding helmet in use. This image shows a welder wearing the helmet while working, highlighting features like True Color technology, Auto Darkening, ANSI Z87.1 compliance, and a Large View area.

4. SETUP

4.1 Welding Machine Setup

1. **Power Connection:** Connect the machine to a suitable 110V or 220V power supply. Ensure the correct voltage is selected on the machine's display.
2. **Ground Clamp:** Attach the ground clamp securely to the workpiece or welding table, ensuring good electrical contact.
3. **MIG Welding Setup:**
 - Install the appropriate welding wire spool (e.g., flux-cored or solid wire).
 - Feed the wire through the MIG torch liner.
 - For gas MIG, connect the gas cylinder (CO2 or Argon/CO2 mix) to the regulator and then to the machine's gas inlet. Set the gas flow rate.

- For aluminum welding, use a spool gun (sold separately) or a MIG gun with a graphite wire feed tube.

4. TIG Welding Setup:

- Connect the TIG torch to the machine.
- Install a tungsten electrode of the correct size and type.
- Connect an Argon gas cylinder to the regulator and then to the machine's gas inlet. Set the gas flow rate.

5. Plasma Cutting Setup:

- Connect the plasma cutting torch to the machine.
- Connect an air compressor to the machine's air inlet and set the appropriate air pressure.

6. Stick Welding Setup:

- Connect the electrode holder to the machine.
- Insert the appropriate welding electrode into the holder.

4.2 Welding Helmet Setup

1. **Headgear Adjustment:** Adjust the headgear straps and top band to ensure a snug and comfortable fit. The helmet should sit securely on your head without being too tight.
2. **Angle Adjustment:** Use the side knobs to adjust the viewing angle of the helmet for optimal visibility and comfort.
3. **Battery Check:** Ensure the internal battery (if applicable) is charged or installed correctly. The helmet typically uses solar cells for power and a backup battery.



Soft
Sponge



Adjust
The Angle



Easy
To Adjust



High Quality
Plastic



Adjustable headgear for the welding helmet. This image demonstrates the various adjustment points on the helmet's headgear, including soft sponge padding, angle adjustment, and easy-to-adjust mechanisms for a comfortable and secure fit.

5. OPERATING INSTRUCTIONS

5.1 General Machine Operation

1. **Power On:** Turn on the main power switch located on the machine.
2. **Mode Selection:** Use the control panel to select the desired welding or cutting mode (MIG, TIG, CUT, Stick).
3. **Parameter Adjustment:** Adjust amperage, voltage, wire feed speed, and other parameters using the control knobs and display. The synergistic setting can simplify parameter selection for MIG.

5.2 Welding Helmet Operation

1. **Mode Selection:** Use the internal controls to select the appropriate mode: Weld (shade 9-13), Cut (shade 5-9), or Grind (shade 4).
2. **Sensitivity:** Adjust the sensitivity to detect the welding arc effectively. Higher sensitivity is for low amperage welding.

3. **Delay:** Adjust the delay time for the lens to return to its light state after the arc stops.
4. **Test Function:** Press the 'TEST' button to ensure the auto-darkening function is working correctly before starting work.

APPLICATION SCENARIO



Application scenarios for the TOOLIOM 5-in-1 welder. This image displays examples of the machine's use in MIG welding, Stick welding, TIG welding, and Plasma Cutting applications.

6. MAINTENANCE

Regular maintenance ensures the longevity and safe operation of your equipment.

- **Machine Cleaning:** Periodically clean the machine's exterior and internal components (if accessible) with compressed air to remove dust and metal particles. Ensure the power is disconnected.
- **Torch and Cable Inspection:** Inspect welding and cutting torches, cables, and connections for wear, damage, or loose connections before each use. Replace damaged parts immediately.
- **Welding Helmet:**
 - Clean the outer and inner protective lenses with a soft cloth and mild cleaner.

- Replace scratched or damaged protective lenses.
- Check the headgear for wear and tear.
- **Plasma Cutter Air Filter:** Regularly check and clean or replace the air filter for the plasma cutting function to maintain optimal performance.

7. TROUBLESHOOTING

Refer to the following table for common issues and their solutions.

Problem	Possible Cause	Solution
No Arc / Weak Arc	Poor ground connection, incorrect settings, power supply issue, worn consumables.	Check ground clamp, verify settings (amperage/voltage), ensure proper power input, replace torch consumables.
Welding Helmet Not Darkening	Low battery, arc sensors blocked, incorrect sensitivity setting, mode not set to 'Weld'.	Check/replace battery, clean arc sensors, adjust sensitivity, ensure 'Weld' mode is selected.
Poor Weld Quality	Incorrect parameters, improper technique, contaminated material, wrong gas/wire.	Adjust settings, practice technique, clean workpiece, use correct consumables for the material.
Plasma Cutter Not Cutting	Insufficient air pressure, worn consumables, incorrect amperage.	Check air pressure, replace nozzle/electrode, adjust amperage.

8. SPECIFICATIONS

8.1 TOOLIOM MCT-520 5-in-1 Multiprocess Welding Machine

- **Functions:** MIG (Flux/Gas), TIG, Plasma CUT, Stick
- **MIG Output:** Up to 200A
- **TIG Output:** Up to 200A
- **Plasma Cutter Output:** Up to 50A
- **Stick Output:** Up to 180A
- **Input Voltage:** 110V/220V Dual Voltage
- **Synergic Control:** Yes (MIG mode)
- **Aluminum Welding:** Yes (with optional spool gun or graphite wire feed tube)

8.2 TOOLIOM M800D Large Viewing Welding Helmet

- **Viewing Area:** 3.94 x 3.27 inches (12.9 sq. inch)
- **Optical Classification:** 1/1/1/1
- **Arc Sensors:** 4
- **Shade Range (Weld Mode):** DIN 9-13
- **Shade Range (Cut Mode):** DIN 5-9
- **Shade Range (Grind Mode):** DIN 4
- **True Color Technology:** Yes

- **Power Supply:** Solar Cell with replaceable battery backup
- **Standards:** ANSI Z87.1

9. WARRANTY AND SUPPORT

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