

AUTOOL CT 160

AUTOOL CT 160 Automotive Motorcycle 4 Cylinder Ultrasonic Wave Injector Cleaner and Tester User Manual

Comprehensive instructions for optimal performance and longevity.

1. PRODUCT OVERVIEW

The AUTOOL CT 160 is an advanced automotive tool designed for cleaning and testing fuel injectors in both automotive and motorcycle engines. Utilizing ultrasonic cleaning technology and microcomputer-controlled oil pressure, it simulates various engine working conditions to accurately diagnose and restore injector performance. This compact and user-friendly device is suitable for small to medium-sized repair shops and DIY enthusiasts.



Figure 1: AUTOOL CT 160 main unit and included accessories.

2. SAFETY INFORMATION

Always prioritize safety when operating the AUTOOL CT 160. Failure to follow safety guidelines may result in injury or damage to the equipment.

- **Read the Manual:** Thoroughly read and understand this instruction manual before operation.
- **Ventilation:** Operate the unit in a well-ventilated area to prevent the accumulation of hazardous fumes from cleaning and testing fluids.
- **Eye Protection:** Always wear appropriate eye protection (safety goggles) to shield against splashes of fluids.
- **Hand Protection:** Wear chemical-resistant gloves to protect hands from cleaning and testing fluids.
- **Flammable Liquids:** Use only recommended, non-corrosive, and non-flammable cleaning and testing fluids. Keep ignition sources away from the unit.
- **Electrical Safety:** Ensure the power supply matches the unit's requirements (110V or 220V). Do not operate with damaged cords or if the equipment has been dropped or compromised.
- **Fluid Handling:** Avoid skin contact with fluids. In case of contact, wash immediately with soap and

water.

- **Emergency Shut-off:** Familiarize yourself with the location of the power switch for quick shut-off in emergencies.

3. SETUP AND PREPARATION

Before operating the AUTOOL CT 160, ensure all components are correctly installed and fluids are prepared.

3.1 Unboxing and Component Identification

Verify all accessories are present as per the packing list:

- AUTOOL CT160 Fuel Injector Cleaner Tester Main Unit
- Funnel (for adding test fluid)
- Ultrasonic Cleaning Bracket (for placing injectors during cleaning)
- Micro gaskets (for auxiliary installation of special fuel injectors)
- Drain Valve (To drain cleaning fluid and test fluid)
- Locking rods (For fixing the oil separator)
- Locking Nut (For fixing the oil separator)
- Extended plug (used to block the holes on the oil separator)
- Top inlet connectors (various sizes)
- Plugs for oil separator
- Drive signal line (used to transmit pulse signal)
- Adapter cables (For transferring the pulse signal line connector)
- Oil Separator (Distribution device for outputting pressurized test fluid)
- Power Cable
- Sealing gasket kit
- User Manual

APPLICABLE VOLTAGE

Support 110V or 220V power input.

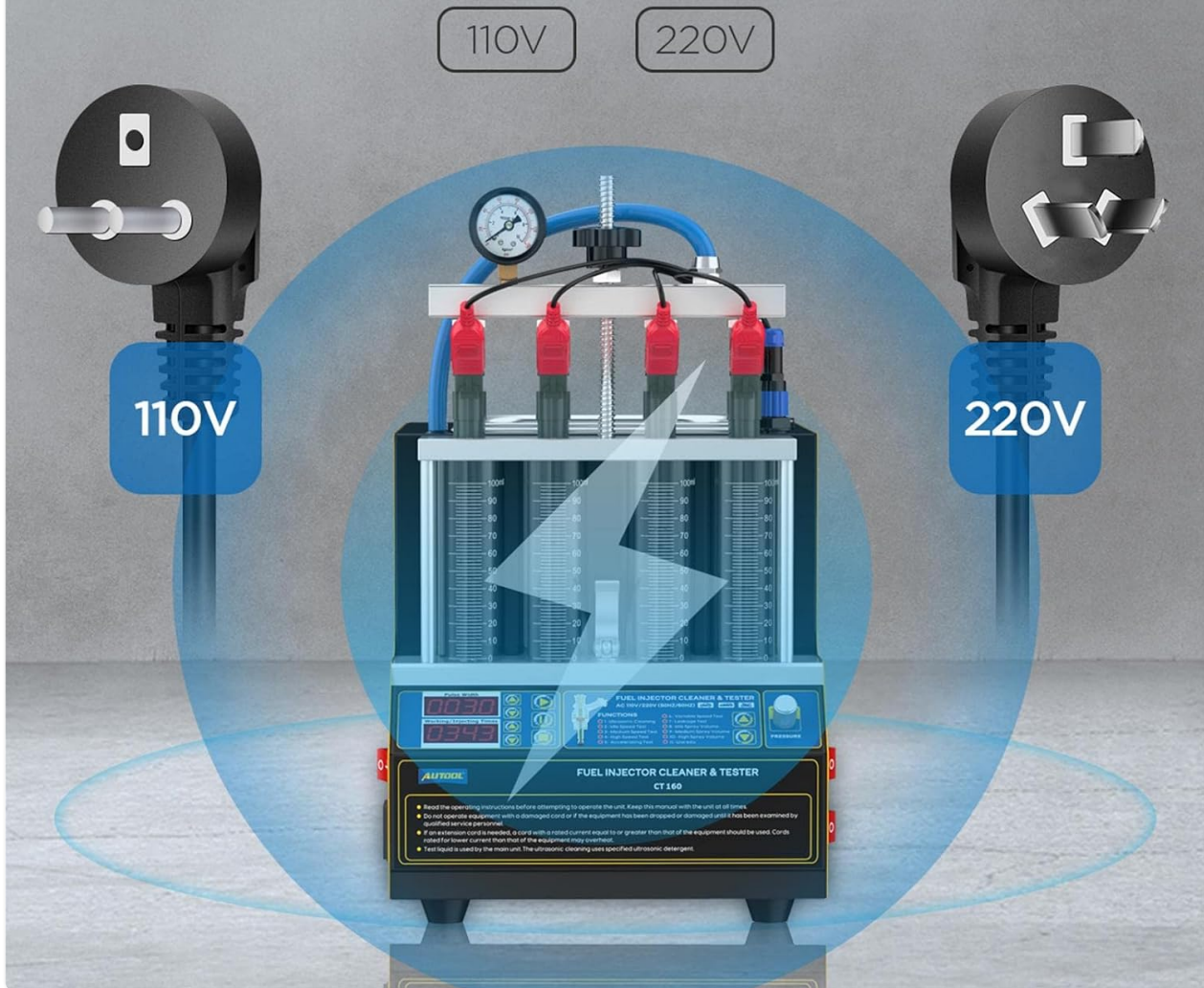


Figure 3: The unit supports both 110V and 220V power input.

4. OPERATING INSTRUCTIONS

The AUTOOL CT 160 offers both ultrasonic cleaning and various testing functions for fuel injectors.

4.1 Ultrasonic Cleaning

This mode uses ultrasonic waves to thoroughly remove carbon deposits and impurities from injectors.

1. **Prepare Injectors:** Remove the fuel injectors from the vehicle.
2. **Connect Injectors:** Attach the pulse signal cables to the injectors and place them onto the ultrasonic cleaning bracket within the bath.
3. **Add Cleaning Fluid:** Pour specialized ultrasonic cleaning fluid into the bath, ensuring the injector nozzles are submerged.
4. **Activate Cleaning:** Turn on the unit's power switch. On the control panel, select the 'Ultrasonic Cleaning' function (usually Function 01).
5. **Start Cleaning:** Press the 'Start' button to begin the ultrasonic cleaning process. The unit will emit high-frequency vibrations.

6. **Heat Cleaning Fluid (Optional):** For enhanced cleaning, activate the 'Heating Switch' to warm the cleaning fluid to approximately 45°C.
7. **Duration:** Allow the cleaning cycle to complete (typically 10-15 minutes, adjustable).
8. **Drain Fluid:** After cleaning, open the cleaning agent drain valve to empty the used fluid into a suitable container.



Figure 4: Ultrasonic cleaning process in the unit's bath.

OUR STORY

AUTOOL was founded in 2014 and is headquartered in Shenzhen, China. It is a high-tech company specializing in the development and production of automotive maintenance and diagnostic products. Over the years, through the successive release of a series of products and the ongoing improvement of quality and service, AUTOOL has progressively become a familiar and highly regarded presence in the automotive industry.

AUTOOL always selects long-lasting and durable product materials, adheres to the production process of excellence, and upholds the spirit of revolution and innovation, committing to creating products with innovative and superior quality for users. We AUTOOL would like to extend a warm invitation to you in casting the legendary brand together and begin our story.

In the present day, AUTOOL has expanded its presence to 160 countries worldwide. AUTOOL will offer infinite possibilities, differentiated by its branding colors, warm yellow and mysterious black. There is always an option for you, which you will find user-friendly and advantageous.



Figure 5: Close-up of injectors undergoing ultrasonic cleaning.

HEATING THE CLEANING FLUID

CT160 is able to heat the cleaning fluid in the cleaning tank, which can improve the cleaning effect on injectors.



Figure 6: Heating the cleaning fluid to improve cleaning efficiency.

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Video 1: Demonstration of the AUTOOL CT 160 Fuel Injector Cleaner and Tester in operation.

4.2 Fuel Injector Testing

The unit simulates various engine conditions to test injector performance.

1. **Install Injectors:** Mount the cleaned injectors onto the oil separator rail, ensuring proper sealing with the provided gaskets. Secure them with the locking rods and nuts.
2. **Connect Pulse Cables:** Connect the pulse signal cables from the unit to each injector.
3. **Add Testing Fluid:** Pour specialized testing fluid into the main tank using the funnel. Observe the liquid level through the viewing window.
4. **Adjust Pressure:** Use the pressure adjustment knob to set the desired test pressure, monitoring the pressure gauge.
5. **Select Test Function:** On the control panel, choose the desired test function (e.g., Idling Test, Leakage Test, Sprayability Test).
6. **Start Test:** Press the 'Start' button to initiate the test. Observe the spray pattern, volume, and any leaks

in the graduated cylinders.

7. **Drain Fluid:** After testing, open the testing agent drain valve to empty the fluid.



Figure 7: Fuel injector testing showing fluid levels in graduated cylinders.

FUEL INJECTOR TEST

-- IDLE SPEED TEST
-- MEDIUM SPEED TEST
-- HIGH SPEED TEST
-- ACCELERATING TEST
-- VARIABLE SPEED TEST

-- LEAKAGE TEST
-- IDLE SPRAY VOLUME
-- MEDIUM SPRAY VOLUME
-- HIGH SPRAY VOLUME

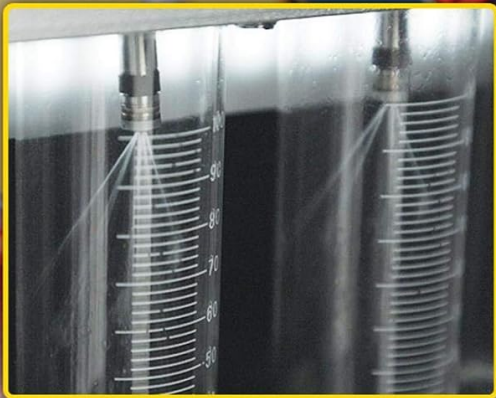


Figure 8: Control panel displaying available fuel injector test functions.

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Video 2: Detailed operation of the CT160 GDI Fuel Injector Cleaner Tester.

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Video 3: AUTOOL Fuel Injector Cleaner Tester Machine CT160 overview.

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Video 4: CT160 4-Cylinders Fuel Injector Cleaner Machine demonstration.

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Video 5: V308 Injector Cleaning Machine Operation Video (similar to CT160).

5. MAINTENANCE

Regular maintenance ensures the longevity and accurate performance of your AUTOOL CT 160.

- **Fluid Disposal:** Always dispose of used cleaning and testing fluids according to local environmental

regulations. Do not pour down drains or dispose of improperly.

- **Unit Cleaning:** After each use, wipe down the unit with a clean, damp cloth. Avoid using abrasive cleaners or solvents that may damage the control panel or housing.
- **Filter Inspection:** Periodically check and clean any filters in the fluid lines to prevent blockages.
- **Storage:** Store the unit in a dry, cool place away from direct sunlight and extreme temperatures.

6. TROUBLESHOOTING

This section addresses common issues you might encounter with the AUTOOL CT 160.

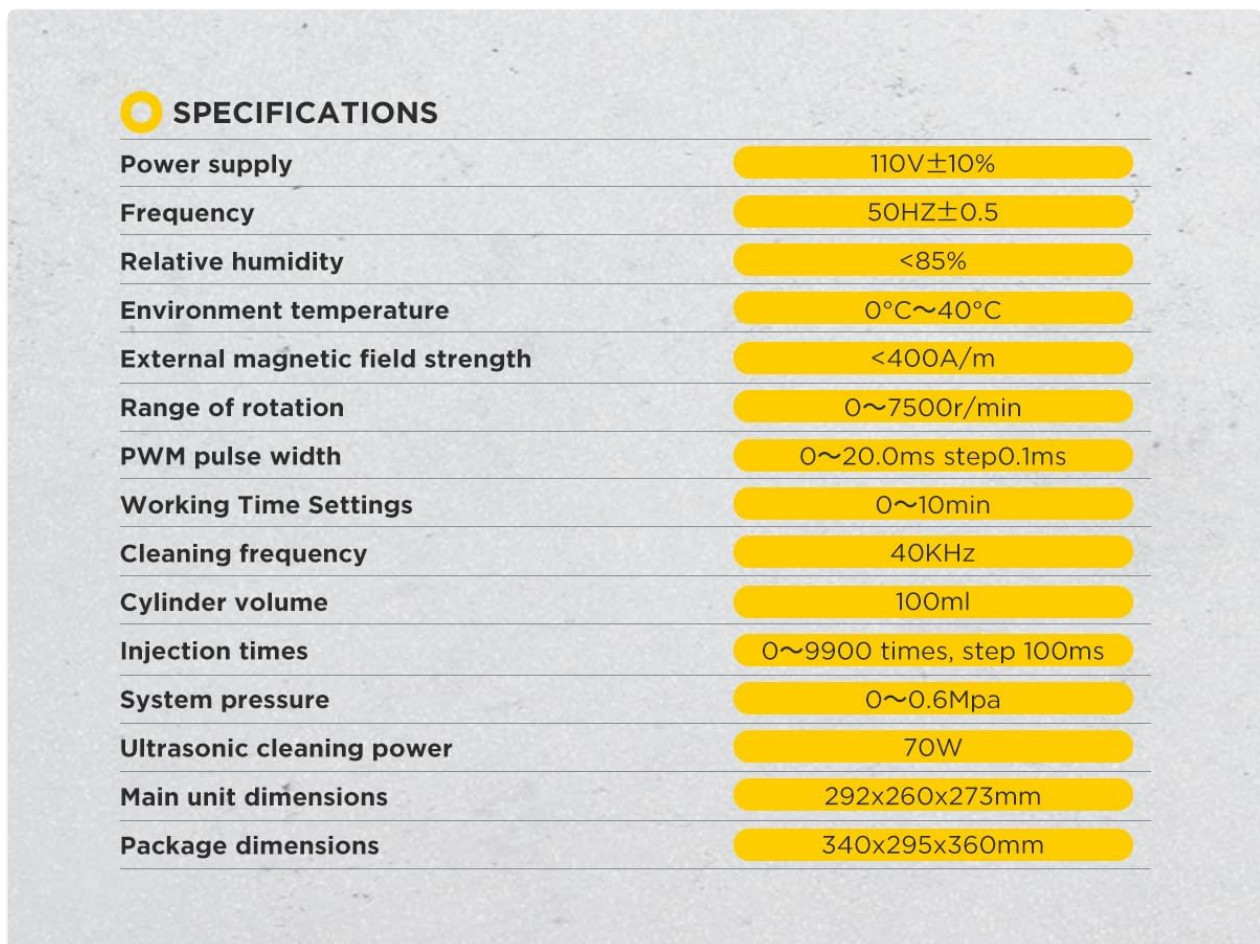
- **No Power:**
 - Check power cable connection.
 - Ensure power switch is ON.
 - Verify power outlet is functional.
- **Fluid Leaks:**
 - Inspect all connections (drain valves, oil separator, hoses) for tightness.
 - Check gaskets and O-rings for wear or damage and replace if necessary.
 - Ensure the unit is not overfilled with fluid.
- **Inconsistent Spray Pattern/Volume:**
 - Ensure injectors are properly cleaned before testing.
 - Verify correct test fluid level and pressure settings.
 - Inspect injector connections for secure fit.
- **Ultrasonic Cleaning Not Working:**
 - Ensure the 'Cleaning Switch' is ON.
 - Check fluid level in the ultrasonic bath.
 - Verify power supply to the unit.

7. SPECIFICATIONS

Feature	Specification
Power Supply	110V±10%
Frequency	50HZ±0.5
Relative Humidity	<85%
Environment Temperature	0°C~40°C
External Magnetic Field Strength	<400A/m
Range of Rotation	0~7500r/min
PWM Pulse Width	0~20.0ms step 0.1ms
Working Time Settings	0~10min

Feature	Specification
Cleaning Frequency	40KHz
Cylinder Volume	100ml
Injection Times	0~9900 times, step 100ms
System Pressure	0~0.6Mpa
Ultrasonic Cleaning Power	70W
Main Unit Dimensions	292x260x273mm
Package Dimensions	340x295x360mm
Item Weight	16.91 pounds

Table 1: Technical specifications of the AUTOOL CT 160.



SPECIFICATIONS	
Power supply	110V±10%
Frequency	50HZ±0.5
Relative humidity	<85%
Environment temperature	0°C~40°C
External magnetic field strength	<400A/m
Range of rotation	0~7500r/min
PWM pulse width	0~20.0ms step0.1ms
Working Time Settings	0~10min
Cleaning frequency	40KHz
Cylinder volume	100ml
Injection times	0~9900 times, step 100ms
System pressure	0~0.6Mpa
Ultrasonic cleaning power	70W
Main unit dimensions	292x260x273mm
Package dimensions	340x295x360mm

Figure 9: Visual representation of the AUTOOL CT 160 specifications.

8. WARRANTY AND SUPPORT

AUTOOL stands behind the quality of its products.

- **Warranty:** For damage caused by non-human factors, AUTOOL promises to resend parts for free within 3 years.
- **Lifelong Maintenance:** The product is supported with lifelong maintenance services.

- **Customer Support:** For any inquiries or support needs, please contact AUTOOL customer service. Responses are typically provided within 24 hours.