

## MR CARTOOL T80

# MR CARTOOL T80 Automotive Smoke Machine Leak Detector

## Instruction Manual

### 1. INTRODUCTION

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The MR CARTOOL T80 Automotive Smoke Machine Leak Detector is a professional tool designed for identifying leaks within various automotive pipe systems. This device is suitable for use with all 12V DC vehicles, including cars, motorcycles, snowmobiles, and speedboats.

It effectively detects leaks in systems such as:

- Intake Systems
- Car Sealing
- Exhaust Systems
- Fuel Tank Systems
- Various Pipe Fittings
- EVAP Systems
- Crankcase Ventilation
- Turbochargers
- Cooling Systems
- Intake Manifolds

**Note: This device is not suitable for air conditioning system pipelines.**



Image 1.1: MR CARTOOL T80 Smoke Machine Leak Detector and included accessories.

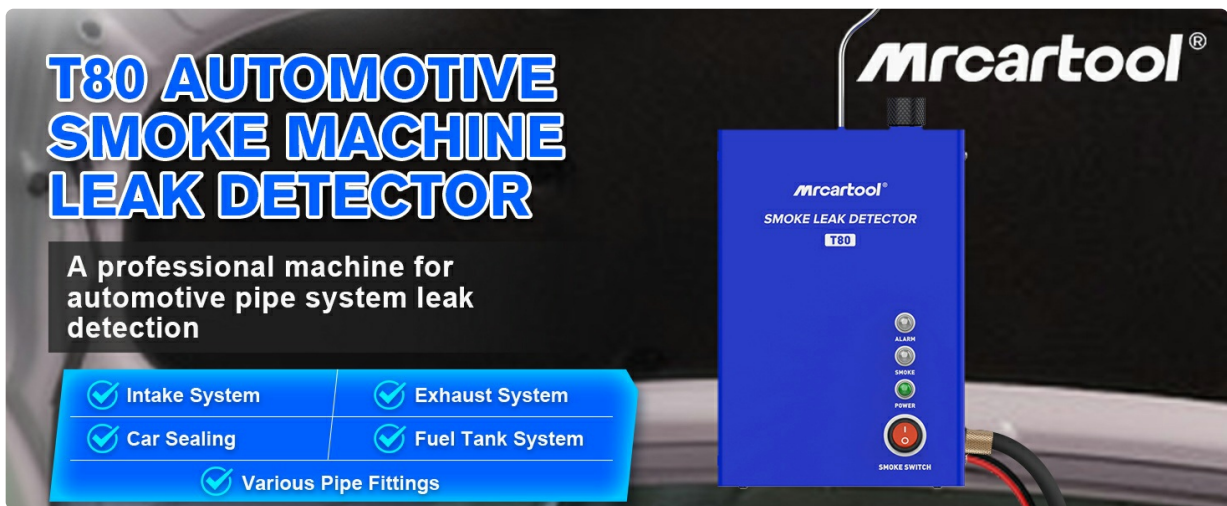


Image 1.2: The MR CARTOOL T80 Smoke Machine in operation, demonstrating its use for automotive leak detection.

## 2. SAFETY INFORMATION

Please read and understand all safety warnings and instructions before operating the device. Failure to do so may result in injury or damage to the equipment.

- **Ventilation:** Always operate the smoke machine in a well-ventilated area to prevent the accumulation

of smoke.

- **Eye Protection:** Wear appropriate eye protection during operation to shield against smoke or any expelled liquids.
- **Hot Components:** The device generates heat during operation. Avoid touching hot surfaces. Allow the unit to cool down before handling or storage.
- **Test Oil:** Use only recommended test oil (baby oil, liquid paraffin, or mineral oil). Using unsuitable oil may result in no smoke production or damage to the device. Add 5-10ml of test oil at a time; excessive amounts can also hinder smoke production.
- **Power Supply:** Connect the device only to a 12V DC power supply (e.g., a car battery). Exceeding this voltage may cause internal damage and require component replacement.
- **Overheat Protection:** The device is equipped with an overheat protection function. If the internal temperature reaches 75°C (167°F), the unit will automatically stop working to prevent damage.



Image 2.1: Important notes regarding test oil type and power supply requirements.

Image 2.2: Illustration of the device's anti-frost and overheat protection mechanisms.

### 3. PRODUCT OVERVIEW AND COMPONENTS

The MR CARTOOL T80 is designed for ease of use with a built-in air pump, eliminating the need for external air sources. It features a liquid level gauge for monitoring test oil levels and a hook for convenient placement during operation.

#### 3.1. Package Contents

Upon unpacking, ensure all the following items are present:

- T80 Smoke Machine Unit
- Test Oil Refill Bottle
- Hook
- Smoke Tube
- Cone Adapter
- Airbag Adapter
- Power Cord Clamp
- User Manual (this document)



Image 3.1: Visual representation of the MR CARTOOL T80 package contents.

### 3.2. Device Features

- **Built-in Air Pump:** Provides pressurized air without the need for external compressors.
- **Liquid Level Gauge:** Allows easy monitoring of the test oil volume.
- **Fast Smoke Output:** Produces smoke within 10 seconds of activation.
- **Overheat Protection:** Automatic shutdown at 75°C to ensure safety.

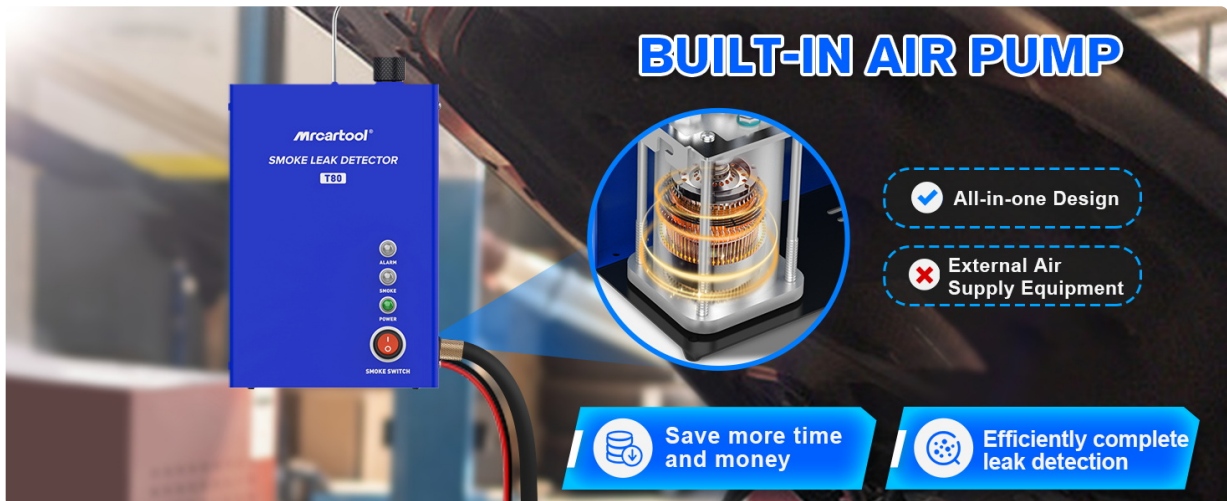


Image 3.2: Internal view highlighting the built-in air pump feature.

## 4. SPECIFICATIONS

Specification	Value
Power Supply	DC 12V
Rated Output Pressure	<10psi
Test Oil Filling Volume	10-20ml
Rated Power	50W
Main Unit Dimensions (L x W x H)	195 x 135 x 100 mm (7.67 x 5.31 x 3.93 inches)
Package Weight	1.75 kg (3.85 lbs)
Upper Temperature Rating	75°C (167°F)



Image 4.1: Detailed specifications and labeled parts of the T80 unit.

## 5. SETUP AND OPERATION

Follow these steps to set up and operate your MR CARTOOL T80 Smoke Machine Leak Detector:

- Add Test Oil:** Open the oil injection port on the top of the unit. Using the provided refill bottle, carefully pour 5-10ml of recommended test oil (baby oil, liquid paraffin, or mineral oil) into the port. Do not overfill.
- Connect Smoke Hose:** Securely connect one end of the smoke hose to the smoke outlet on the device.
- Connect Power:** Attach the power cord clamps to a 12V DC car battery. Ensure correct polarity (red to positive, black to negative). The built-in air pump will start working, generating pressurized air.
- Prepare for Test:** Connect the other end of the smoke hose to the system you wish to test using the appropriate adapter (cone adapter, airbag adapter, etc.). Ensure the connection is sealed.
- Start Smoke Generation:** Press the 'Smoke Mode' switch on the device. The smoke indicator light will illuminate, and the detector will begin producing smoke within approximately 10 seconds.
- Locate Leaks:** Observe the system for escaping smoke, which indicates a leak.
- Stop Operation:** Once testing is complete, press the 'Smoke Mode' switch again to stop smoke generation. Disconnect the power clamps from the battery.

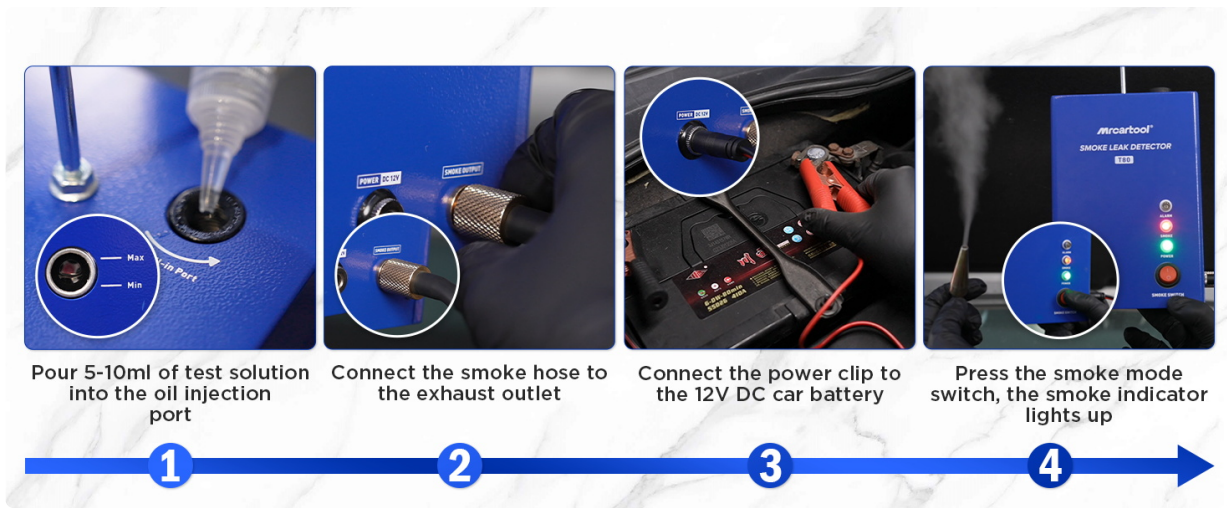


Image 5.1: Visual guide demonstrating the four main steps for operating the smoke machine.



Image 5.2: Illustration of the rapid smoke output capability (5L/min within 10 seconds).

## 5.1. Applications

The T80 is versatile for various vehicle systems:



Image 5.3: Detecting leaks in an exhaust system. Leaks can increase emissions and reduce engine performance.



Image 5.4: Detecting leaks in a vacuum system. Leaks can cause lower efficiency, reduced performance, and potential damage.



Image 5.5: Overview of various DC12V vehicle systems and pipelines compatible with the T80 for leak detection.

## 6. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your smoke machine:

- **Test Oil Management:** Regularly check the test oil level using the integrated gauge. Refill as needed, ensuring you use only recommended types (baby oil, liquid paraffin, or mineral oil) and adhere to the 5-10ml filling volume.
- **Post-Operation Procedure:** After each use, especially after generating smoke, it is recommended to run the device in 'air only' mode (if available, or simply allow the air pump to run without smoke generation) for a short period. This helps to cool down the heating element and reduce the accumulation of liquid in the smoke line, which can sometimes occur.
- **Cleaning:** Keep the exterior of the device clean and free from dust and debris. Use a soft, dry cloth for cleaning. Do not use harsh chemicals or immerse the unit in water.
- **Storage:** Store the smoke machine in a cool, dry place away from direct sunlight and extreme temperatures.

## 7. TROUBLESHOOTING

If you encounter issues with your T80 smoke machine, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
No smoke output	Insufficient test oil, incorrect test oil type, power not connected, smoke switch not activated.	Check test oil level and type (use baby oil, liquid paraffin, or mineral oil). Ensure power clamps are securely connected to a 12V DC battery. Press the smoke mode switch.
Smoke output is weak or inconsistent	Low test oil, incorrect test oil type, too much test oil, clogged smoke tube.	Verify test oil level and type. Ensure test oil volume is between 5-10ml; if overfilled, pour out excess. Check smoke tube for blockages.
Device stops working unexpectedly	Overheat protection activated, power supply issue.	Allow the device to cool down if it has reached 75°C. Check the 12V DC power connection for stability.
Air pump runs but no smoke	Smoke mode not activated, heating element issue, no test oil.	Ensure the smoke mode switch is pressed. Verify test oil is present. If the issue persists, contact customer support.

## 8. WARRANTY AND SUPPORT

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MR CARTOOL is committed to providing reliable products and excellent customer service.

- **Warranty:** The MR CARTOOL T80 comes with a 3-year warranty. Free replacement parts will be provided within this period for manufacturing defects.
- **Lifetime Support:** We offer lifetime consultation and technical support for your product.
- **Customer Service:** Our customer service team aims to provide a quick reply within 24 hours for any inquiries or assistance you may need.

For support, please refer to the contact information provided with your purchase or visit the official MR CARTOOL website.