

[Manuals.plus](#) /

› [Orion Motor Tech](#) /

› Orion Motor Tech Coolant Pressure Tester Kit - Model RCP-0034-00 Instruction Manual

## Orion Motor Tech RCP-0034-00

# Orion Motor Tech Coolant Pressure Tester & Vacuum Refill Kit

MODEL: RCP-0034-00 INSTRUCTION MANUAL

## Introduction

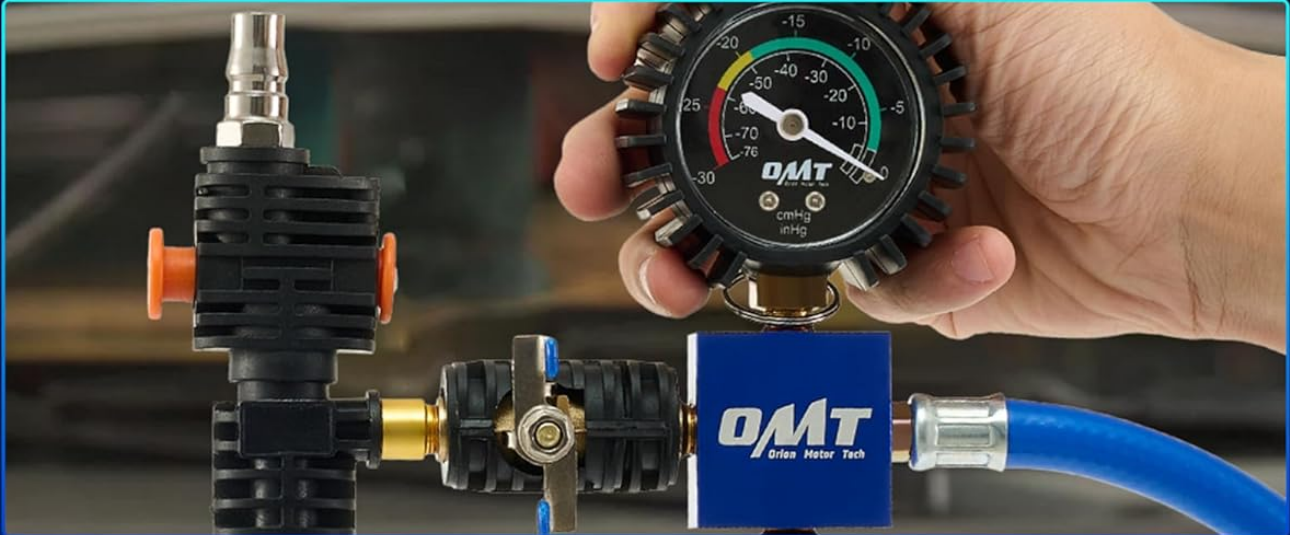
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Thank you for choosing the Orion Motor Tech 34-piece Coolant Pressure Tester and Vacuum Refill Kit. This comprehensive kit is designed to assist in diagnosing and maintaining your vehicle's cooling system by simplifying pressure leak testing and coolant refilling tasks. It helps identify leaks in various components such as header tanks, head gaskets, radiator cores, heater matrices, and water pumps, while also ensuring seamless, air-pocket-free coolant refilling.

The kit includes 22 radiator adapters, a universal adapter, a vacuum pump, a vacuum purge & refill tool, a wrench, a probe thermometer, hose clamp pliers, clamps, EU & US air intake joints, O-rings, and hoses, all organized in a custom molded carrying case for convenience.

# MASTER RADIATOR PRESSURE TESTER & REFILL KIT

Test Cooling System Leaks and Refill Coolant with Ease



## Pressure Leak Testing

Probe Thermometer for Measuring Coolant Temp.



## Radiator Coolant Refilling

EU & US Air Intake Joints for Wide Application

Image: The Orion Motor Tech Coolant Pressure Tester Kit in action, demonstrating both pressure leak testing with a gauge and radiator coolant refilling.

## Safety Information

- Always wear appropriate personal protective equipment, including safety glasses and gloves, when working with automotive fluids and tools.
- Ensure the engine is cool before opening the radiator cap or performing any cooling system work to prevent severe burns from hot coolant or steam.

- Coolant is toxic. Avoid skin contact and ingestion. Dispose of used coolant responsibly according to local regulations.
- Do not exceed the recommended pressure for the cooling system being tested. Refer to your vehicle's service manual for specific pressure limits.
- Keep children and pets away from the work area.
- Use the tools only for their intended purpose.

## Package Contents

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Your Orion Motor Tech Coolant Pressure Tester Kit includes the following components:

- 22x Radiator Adapters
- 1x Universal Adapter
- 1x Manual Vacuum Pump (0-35 psi / 0-2.5 bar range)
- 1x Vacuum Purge & Refill Tool (0 to -30 inHg / -10 to -76 cmHg range)
- 1x Probe Thermometer (32-400°F / 0-200°C range)
- 1x Filling Hose
- 1x Exhaust Hose
- 17x O-Rings
- 1x Angled Hose Clamp Pliers with Ratchet Locking Mechanism
- 2x Clamps
- 1x European Air Intake Joint
- 1x American Air Intake Joint
- 1x Wrench
- 1x Custom Molded Carrying Case

# COMPREHENSIVE SET



22 RADIATOR ADAPTERS & 1 UNIVERSAL ADAPTER



VACUUM PURGE & REFILL TOOL



VACUUM PUMP



CLAMPS



HOSE CLAMP PLIERS



PROBE THERMOMETER



COOLANT HOSE & WRENCH



O-RINGS & AIR INTAKE JOINTS

Image: A detailed view of all components included in the comprehensive Orion Motor Tech Coolant Pressure Tester Kit, neatly arranged.

## Setup

Before using the kit, ensure all components are present and in good condition. Familiarize yourself with the various adapters and tools.

- 1. Identify Adapters:** The kit includes 22 color-coded radiator adapters and 1 universal adapter. Match the appropriate adapter to your vehicle's radiator or expansion tank opening. The adapters feature clear size markings for easy identification.

2. **Inspect O-Rings:** Ensure all O-rings on the adapters and connections are properly seated and free from damage to ensure a tight seal.
3. **Connect Hoses:** For pressure testing, connect the manual vacuum pump to the selected adapter. For vacuum refilling, connect the vacuum purge & refill tool to the appropriate air intake joint (EU or US) and then to the adapter.
4. **Hose Clamp Pliers:** The angled hose clamp pliers feature a ratchet locking mechanism to hold hose clamps open, freeing your hands during hose removal or installation.

## EASY OPERATION

Self-Locking Quick-Disconnect Parts Provide Hassle-Free Use



**Instant-Connect Joints**

for Quick Connection



**Durable O-Rings**

for Tight Sealing



**Colored Coating  
& Number Marking**

for Easy Identification

Image: Close-up view of the color-coded adapters, durable O-rings, and instant-connect joints, highlighting the kit's easy operation

## Operating Instructions

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### A. Coolant System Pressure Testing

1. Ensure the engine is completely cool.
2. Carefully remove the vehicle's radiator cap.
3. Select the correct adapter for your vehicle's radiator or expansion tank. Attach it securely to create an airtight seal.
4. Connect the manual vacuum pump to the adapter.
5. Pump the handle to pressurize the cooling system to the vehicle manufacturer's specified pressure (typically 15-20 psi). **Do not over-pressurize.**
6. Observe the pressure gauge for any drop in pressure over a period of 5-10 minutes. A steady drop indicates a leak.
7. Visually inspect all cooling system components (radiator, hoses, connections, water pump, heater core, etc.) for signs of coolant leakage.
8. Once testing is complete, slowly release the pressure by pressing the relief valve on the pump.
9. Remove the adapter and replace the vehicle's radiator cap.



Image: The top section shows the pressure gauge connected for leak testing, while the bottom section illustrates the probe thermometer measuring coolant temperature during a refill process.

## B. Coolant System Vacuum Purge & Refill

1. Ensure the engine is cool and the cooling system is drained.
2. Select the correct adapter for your vehicle's radiator or expansion tank and attach it securely.
3. Connect the vacuum purge & refill tool to the adapter.
4. Connect an air compressor (not included) to the appropriate air intake joint (EU or US) on the vacuum purge & refill tool.
5. Open the air valve on the tool to create a vacuum in the cooling system. The vacuum gauge should read between -25 to -28 inHg. Maintain this vacuum for at least 2-3 minutes to ensure there are no leaks.
6. Once a stable vacuum is achieved, close the air valve and disconnect the air compressor.
7. Place the filling hose into a container of new coolant.
8. Slowly open the coolant valve on the vacuum purge & refill tool. The vacuum will draw the coolant into the system, preventing air pockets.
9. Once the system is full and the vacuum gauge reads zero, close the coolant valve.

10. Remove the adapter and replace the vehicle's radiator cap.
11. Start the engine, allow it to reach operating temperature, and check for proper coolant levels and any leaks. Top off if necessary.

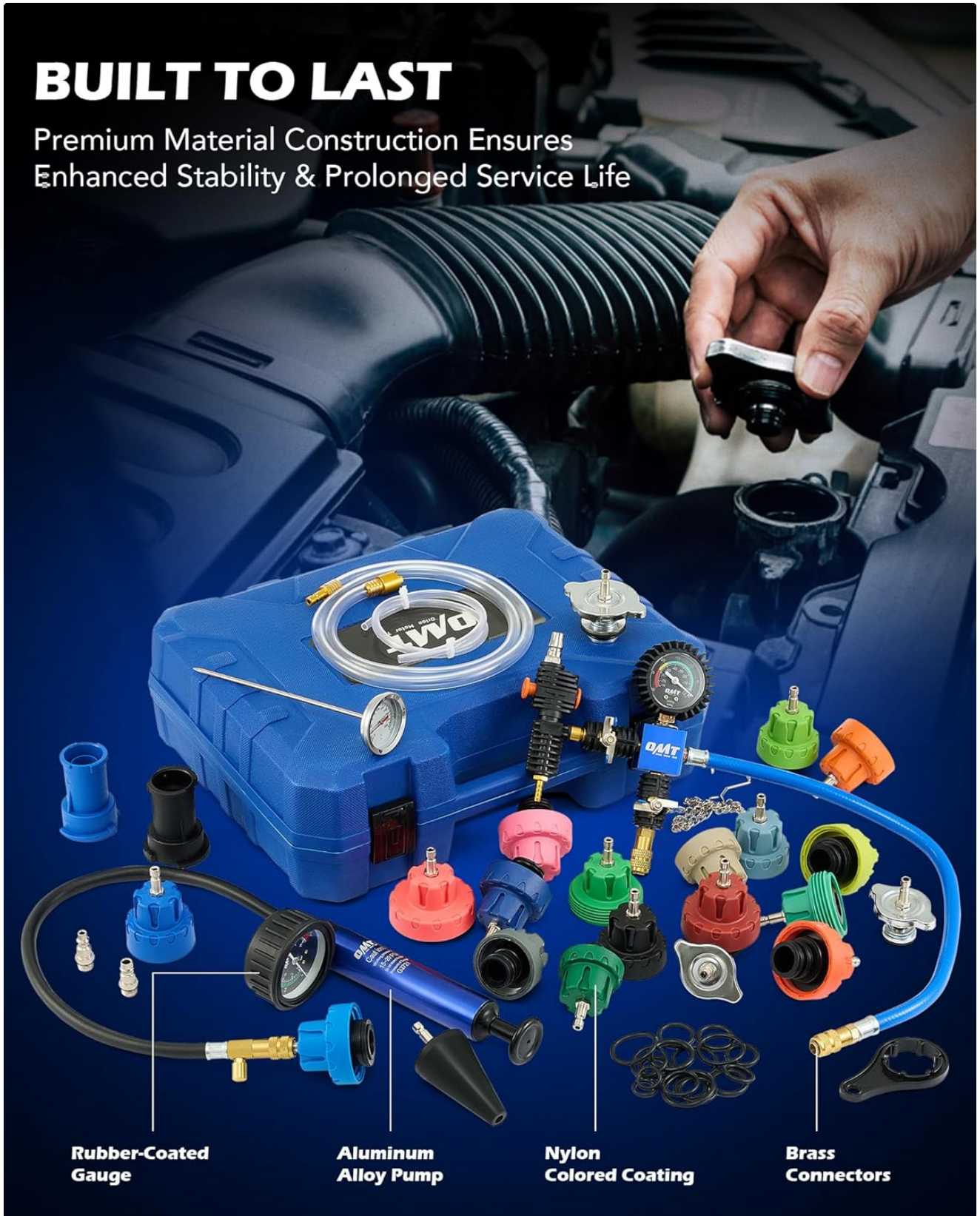
## Maintenance

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- **Cleaning:** After each use, clean all adapters, hoses, and tools with a damp cloth. Ensure no coolant residue remains on the components.
- **Inspection:** Regularly inspect O-rings for wear, cracks, or damage. Replace any damaged O-rings to maintain an airtight seal.
- **Storage:** Store the kit in its custom molded carrying case in a clean, dry place, away from direct sunlight and extreme temperatures. This protects the components and ensures their longevity.
- **Gauge Calibration:** While the gauges are factory calibrated, if you suspect inaccuracy, consult a professional for recalibration.

# BUILT TO LAST

Premium Material Construction Ensures Enhanced Stability & Prolonged Service Life



**Rubber-Coated Gauge**

**Aluminum Alloy Pump**

**Nylon Colored Coating**

**Brass Connectors**

Image: The Orion Motor Tech Coolant Pressure Tester Kit components, including the durable aluminum alloy pump and brass connectors, displayed around its robust carrying case, emphasizing its built-to-last construction.

## Troubleshooting

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Pressure/Vacuum not holding	<ul style="list-style-type: none"> <li>• Adapter not sealed properly</li> <li>• Damaged O-ring</li> <li>• Leak in the cooling system</li> <li>• Faulty pump/gauge</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure adapter is fully seated and tightened.</li> <li>• Inspect and replace O-rings if damaged.</li> <li>• Re-check all cooling system components for leaks.</li> <li>• Test pump/gauge independently if possible.</li> </ul>
Adapter does not fit or seal well	<ul style="list-style-type: none"> <li>• Incorrect adapter selected</li> <li>• Adapter not deep enough for reservoir neck</li> </ul>	<ul style="list-style-type: none"> <li>• Verify the correct adapter for your vehicle.</li> <li>• Try the universal adapter.</li> <li>• Ensure the adapter is tightened sufficiently without damaging threads.</li> </ul>
Vacuum purge & refill tool not creating sufficient vacuum	<ul style="list-style-type: none"> <li>• Insufficient air compressor pressure</li> <li>• Air leak in connections</li> <li>• Tool malfunction</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure air compressor provides adequate pressure.</li> <li>• Check all connections for leaks.</li> <li>• Verify air intake joint is securely attached.</li> </ul>

## Specifications

- **Model:** RCP-0034-00
- **Material:** Aluminum Alloy, Nylon, Brass, Rubber
- **Vacuum Pump Range:** 0-35 psi (0-2.5 bar)
- **Vacuum Filler Gauge Range:** 0 to -30 inHg (-10 to -76 cmHg)
- **Thermometer Range:** 32-400°F (0-200°C)
- **Dimensions (Case):** 17 x 13.4 x 5.5 in. (43 x 34 x 14 cm)
- **Net Weight:** 9.4 lb. (4.3 kg)

# ACCURATE READINGS

## Vacuum Filler Gauge

0 to -30 inHg  
(-10 to -76 cmHg)  
Filler Gauge Range



## Thermometer Gauge

32-400°F (0-200°C)  
Thermometer Range

## Vacuum Pump Pressure Gauge

0-35 psi (0-2.5 bar)  
Manual Pump Range



Image: A visual representation of the accurate readings provided by the kit's vacuum filler gauge, thermometer, and vacuum pump pressure gauge.

## Warranty and Support

Orion Motor Tech products are manufactured to high-quality standards. For specific warranty information, please refer to the documentation included with your purchase or visit the official Orion Motor Tech website. For technical support, troubleshooting assistance, or to inquire about replacement parts, please contact Orion Motor Tech customer service through their official channels.

