
LeakTamer[™]

with UltraTraceUV[®] Dye Technology

Operator's Manual



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Safety Precautions

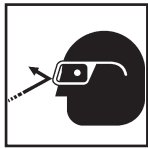
If the operator cannot read these instructions, operating instructions and safety precautions must be read and discussed in the operator's native language.



WARNING: To prevent personal injury and / or damage to equipment:



- Read, understand, and follow all safety precautions and operating procedures.
- Do not use this equipment in a manner not specified by the manufacturer.



- Wear eye protection that meets OSHA standards. If using an ultraviolet light to search for leaks, wear yellow UV goggles that meet OSHA standards. Never stare directly into a UV light or shine UV light on skin.



- Because of an evaporative system's volatile fumes, use an inert gas, such as nitrogen, when testing an EVAP system.



- Do not perform tests near a source of spark or ignition.
- Correctly connect the power supply to the battery and chassis ground.

Specifications

Technical Specifications

Height	14 in. (35.5 cm)	Supply Pressure	13.0 in. H ₂ O
Width	9 in. (22.9 cm)	Supply Volume	12 liters per minute
Depth	7 in. (17.8 cm)	Operating Temperature Range	45°F to 140°F (7.2°C to 60°C)
Weight	9.5 lb. (4.3 kg)	Supply Line	10 ft (3.0 m)
Ship Weight	15 lb. (6.8 kg)	Power Supply Line	10 ft (3.0 m)
Power Supply	12V DC	Remote Starter Cable	10 ft (3.0 m)
Amperage Usage	15 amps		

Tester Overview

Component Descriptions

1. **<ON> <OFF> Switch** turns ON vapor production, for five (5) minutes.
2. **Dipstick** used to maintain smoke solution level. Top off regularly to FULL mark by adding solution from dipstick tube.
3. **Power Indicator Lamp** turns ON when connecting the power leads to a battery.
4. **Smoke Indicator Lamp** turns ON after pressing the <ON> button, indicating the tester is producing vapor.
5. **Hook Insert** for hanging LeakTamer. Use hood rod support when hanging on hood.
6. **Supply Hose** to introduce vapor into system for leak test.
7. **Flow Control Valve** controls vapor flow volume.
8. **Flow Meter** establishes a quick PASS / FAIL when determining if the vehicle being tested has a leak.
9. **Cap Plug Kit** is used to seal the intake ducting of the engine being tested.
10. **EVAP Service Port Adapter** (standard size) connects directly to vehicles with factory service access port for fuel vapor recovery system.
11. **Schrader Valve Removal / Installation Tool** removes Schrader valve inside EVAP Service Port.
NOTE: Left-handed thread.
12. **Diffuser** helps locate wind and water leaks.
13. **Combination White/UV Light** locates vapor with white light and fluorescent dye with UV light.
14. **Adaptor Cone** is used to introduce vapor into any system that accommodates the cone's size, such as intake/induction and exhaust systems.

Features Included But Not Shown

Vapor-Producing Solution: LeakTamer is shipped with two UltraTraceUV® bottles—enough to perform approximately 600 tests.

Water Separator / Filter (inside tester with drain port at bottom of tester) ensures a clean supply of air. It is normal to occasionally see drainage of fluid from this port. Excessive drainage indicates compressor in use requires draining and/or filter system.



Initial Setup

1. Pour entire contents of one (1) 8-oz. UltraTraceUV® solution bottle into the vapor chamber.

⚠ CAUTION: Use only UltraTraceUV solution in the LeakTamer. Using solutions not recommended by the manufacturer may (1) damage the vehicle being tested, (2) damage the unit, and (3) cause operator injury.



NOTE: Use second bottle of UltraTraceUV solution to regularly maintain at or near the FULL mark on the dipstick.

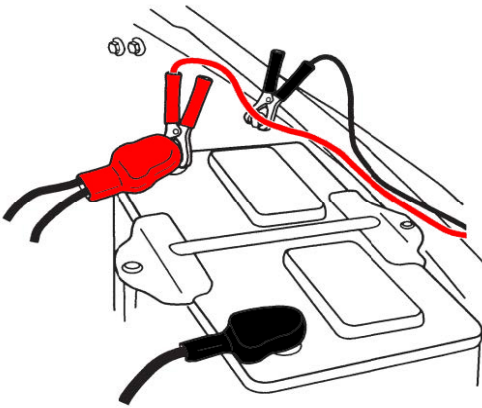


2. Install correct air fitting onto the LeakTamer, if not supplied.



Test Setup

1. Connect the LeakTamer red power cable to a 12V DC power supply. If a battery is used, verify it is in good condition and fully charged.
2. Connect the LeakTamer black ground cable to the vehicle's chassis ground.



Battery Connections



WARNING: To prevent personal injury, do NOT connect the black cable to a battery ground. A spark in the vicinity of the battery can cause an explosion.

3. Depending on the tests you are performing, connect an inert gas such as nitrogen or CO₂ or shop air supply line to the fitting located on the back of the unit.

When testing EVAP systems: Connect nitrogen or CO₂ to the fitting on the back of the unit.

WARNING: To prevent personal injury, do NOT introduce air, which contains oxygen, into the fuel tank. Gasoline fumes inside the fuel tank can cause an explosion. Always connect the LeakTamer to nitrogen or CO₂ when testing the vehicle's EVAP system.



Air Fitting

When testing systems other than EVAP: Connect air to the fitting on the back of the unit.

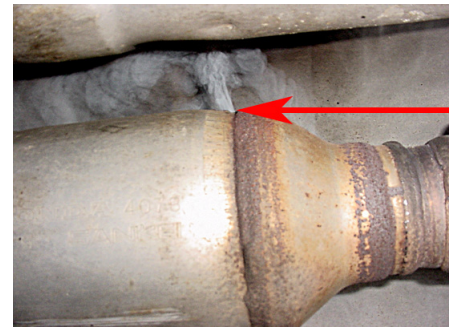
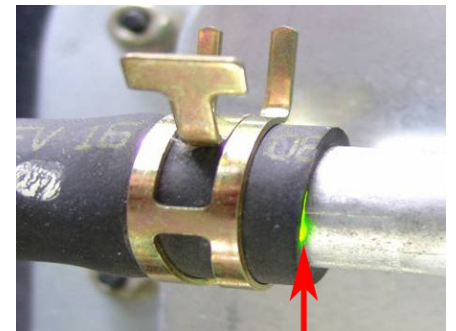
4. Verify shop air or gas pressure is 50 psi to 175 psi/ 3.4 to 12 bar. (100 psi/7 bar is recommended.)

WARNING: Perform all LeakTamer tests with the vehicle engine OFF.

Basic Leak Testing

LeakTamer can be used in virtually any low-pressure vehicle system suspected of having a leak, including EVAP, intake/induction, intercooler and turbocharger, vacuum, exhaust, and wind/water leaks. LeakTamer can also be used to verify air solenoid functions and test components before assembly. These basic steps can apply for testing most systems.

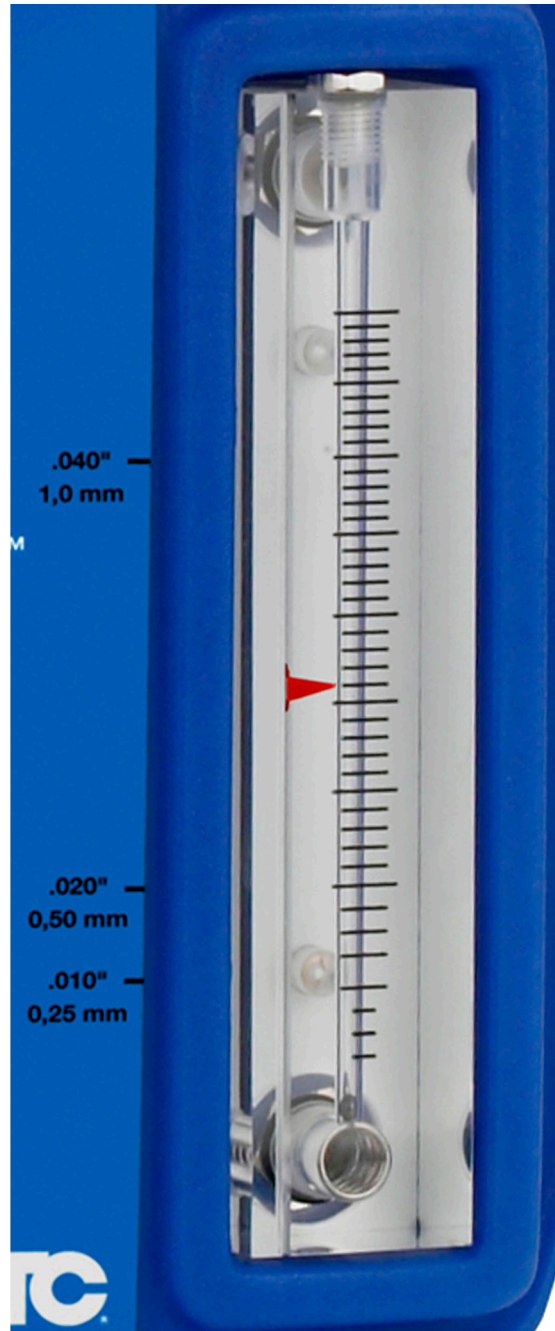
1. Locate the system port.
2. Install appropriate port adapter.
3. Insert vapor supply hose into adapter.
4. Turn the unit on by pressing the <ON> button.
5. Close system vent(s).
6. Continue to fill the system until the flow meter indicates the system is full (ball drops in indicator).
7. Use the LED lamp to check for leaking vapor or the UV lamp to check for dye deposited at the exact location of the leak.



Flow Meter Measurements

The flow meter measures flow through the system being leak-tested. This is normal while the system is being filled. If flow meter indicates flow after the system is filled, this indicates a leak. The higher the ball is in the flow meter, the larger the leak size. No flow indicates no flow through the system, or no leak. The position of the ball indicates the size of the leak.

Note: For accurate .010"/.020"/.040" measurements, the flow control valve must be in the fully open position.



Flow Meter

Wind and Water Leaks

1. Set vehicle's climate control to "fresh air" (not recirculate). Set blower on full speed. This creates positive cabin pressure.
2. Connect supply hose nozzle to diffuser.
3. Direct vapor path along seals.
4. Look for vapor disturbance indicating a leak.



No vapor disturbance indicates no leak.



Vapor disturbance pinpoints leak.

Parts List



Item No.	Part No.	Qty.	Description
1	6522	1	LeakTamer™
2	6522-1	2	UltraTraceUV® Solution
3	6522-3	1	Combination White/Laser/UV Light, Batteries, and Glasses
4	6522-4	1	Standard Service Port Adapter
5	6522-5	1	Schrader Valve Removal/Installation Tool
6	6522-6	1	Cap Plug Kit
7	6522-9	1	Smoke Diffuser
8	6522-10	1	Exhaust Adapter Cone

Parts Included but Not Shown

1	Operator's Manual
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Optional Parts — Not Included

6522-2	1	Inert Gas Pack Kit
6522-7	1	Universal Fuel Neck Adapter
6522-8	1	BMW & MINI Fuel Neck Adapter
6522-11	1	Large Cone Adapter
6522-12	1	Replacement Dipstick
6522-13	1	Replacement Delrin® Nozzle with 8-ft. Hose
6522-14	1	Replacement Delrin® Nozzle
6522-15	1	Replacement Flow Meter Red Pointer Flag

Troubleshooting

Diagnostic Lights

The LeakTamer has two diagnostic lights on the control panel that indicate whether the tester is working correctly. The following table describes the tester's trouble codes.

Diagnostic Lights		Interval	Probable Cause
Green	Red		
√		Constant ON	Sufficient battery power
√		Blinks every one (1) second	Insufficient battery power
√	√	Blink simultaneously every one (1) second	Bad ground or bad power connection at vapor canister
√	√	Blink simultaneously @ four (4) blinks per second	Bad ground at vapor canister or open heating circuit
√	√	Blink alternately @ one (1) blink per second	Bad ground or circuit board failure ^j

^j If circuit board failure occurs, first try disconnecting power to the unit for 10 seconds, then reconnect power. If this failure code occurs a second time during operation, disconnect the tester and contact Tech Support.

Troubleshooting

Problem	Cause	Solution
Green power indicator lamp on the tester does not come ON.	<ol style="list-style-type: none"> Poor power supply cable connection. Battery providing power is too weak. 	<ol style="list-style-type: none"> Secure the connection at positive terminal and chassis ground. Verify battery is in good condition and fully charged.
Tester is ON, but there is no vapor or air coming out of the hose.	<ol style="list-style-type: none"> Poor power supply cable connection. Battery providing power is too weak. Insufficient supply of shop air, nitrogen, or CO₂. Too much oil has condensed inside vapor supply hose. 	<ol style="list-style-type: none"> Secure the connection at positive terminal and chassis ground. Verify battery is in good condition and fully charged. Verify shop air, nitrogen, or CO₂, input pressure is between 50 psi and 175 psi / 3.4 and 12 bar. (100 psi / 7 bar is recommended.) Drain oil from supply hose.

Warranty

LIMITED ONE (1) YEAR WARRANTY

Champion Engineering, Inc. warrants only to the original Purchaser that under normal use, care and service, the Equipment (except as otherwise provided herein) shall be free from defects in material and workmanship for ONE YEAR from the date of original invoice.

This Warranty does not cover (and separate charges for parts, labor and related expenses shall apply to) any damage to, malfunctioning, inoperability or improper operation of the Equipment caused by, resulting from or attributable to (A) abuse, misuse or tampering; (B) alteration, modification or adjustment of the Equipment by other than Seller's authorized representatives; (C) installation, repair or maintenance (other than specified operator maintenance) of the Equipment or related equipment, attachments, peripherals or optional features by other than Seller's authorized representatives; (D) improper or negligent use, application, operation, care, cleaning, storage or handling; (E) fire, water, wind, lightening or other natural causes; (F) adverse environmental conditions, including, without limitation, excessive heat, moisture, corrosive elements, or dust or other air contaminants; radio frequency interference; electric power failure; power line voltages beyond those specified for the Equipment; unusual physical, electrical or electro-magnetic stress; and/or any other condition outside of Seller's environmental specifications; (G) use of the Equipment in combination or connection with other equipment, attachments, supplies or consumables not manufactured or supplied by Seller.

NO OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, SHALL APPLY, AND ALL SUCH WARRANTIES ARE HEREBY EXPRESSLY EXCLUDED.

Seller's obligations under this warranty are limited solely to the repair or, at Seller's option, replacement of or refund of the original purchase price for, Equipment or parts which to Seller's satisfaction are determined to be defective and which are necessary, in Seller's judgement, to return the equipment to good operating condition.

Repairs or replacements qualifying under this Warranty will be performed or made on regular business days during Seller's normal working hours within a reasonable time following Buyer's request. All requests for warranty service must be made during the stated warranty period.

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International Patents Pending

Form No. 564766
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(Rev. C, April 12, 2012)

