ALT-500

TURBO +EVAP

Automotive Leak Tester

NOTE:

1) Carefully read the user manual before using, and keep it well for future reference.
2) Carefully check the device parts list before using. For any doubt, contact the distributor immediately.
3) Due to the product upgrade, tiny difference between the user manual and the device will not be further noticed. Take the device as standard.
4) Carefully read the user manual before using, and keep it well for future reference.
5) No smoking when repair the vehicles.
6) Be protected from rain, sunshine.
7) In the process of use, the hose and power line should be far away from the rotating parts and heating parts of the car, such as fan, radiator, etc.
8) When testing, it should be carried out with the engine off.
9) Smoke method can NOT be used on testing leak of oil-sensitive parts, e.g. lamp housing.
10) The equipment should be placed vertically, not upside down or side.

This Automotive Diagnostic Leak Detector is designed for test leaks in vehicle pipe systems. It could be used on all cars, motorcycles, snowmobiles, ATV, light trucks, boats, etc.

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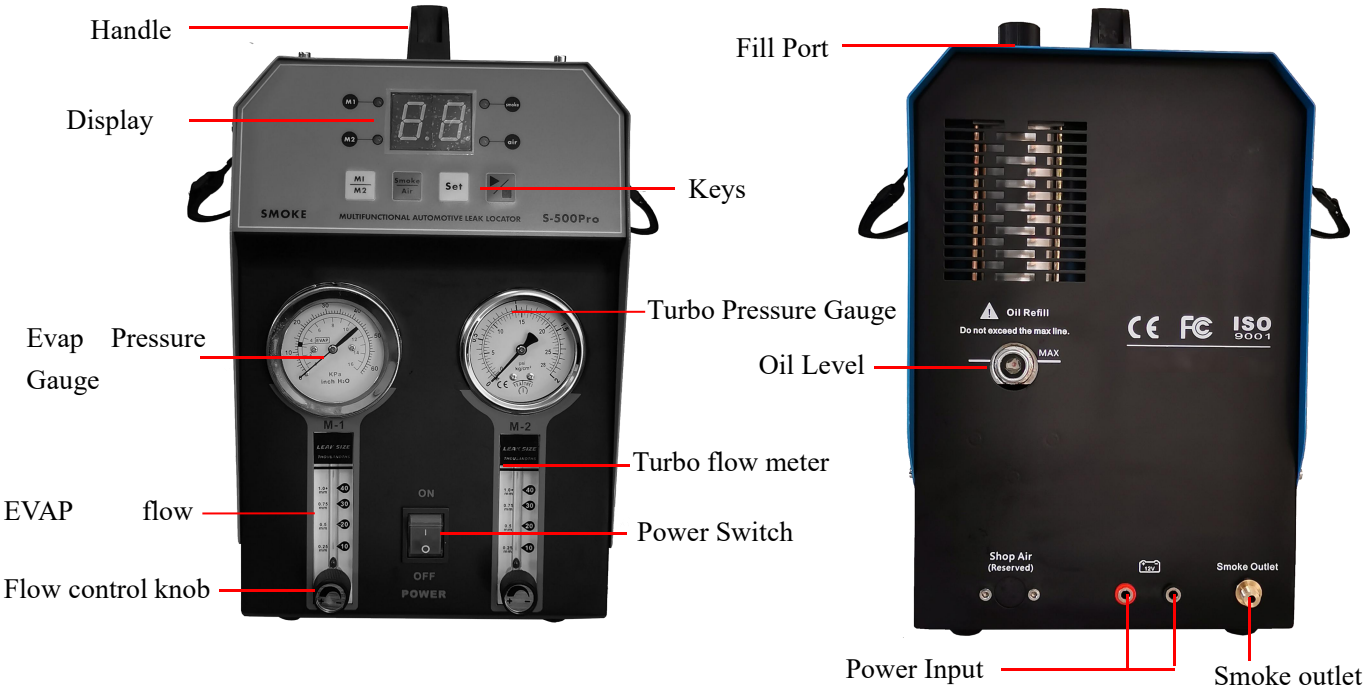
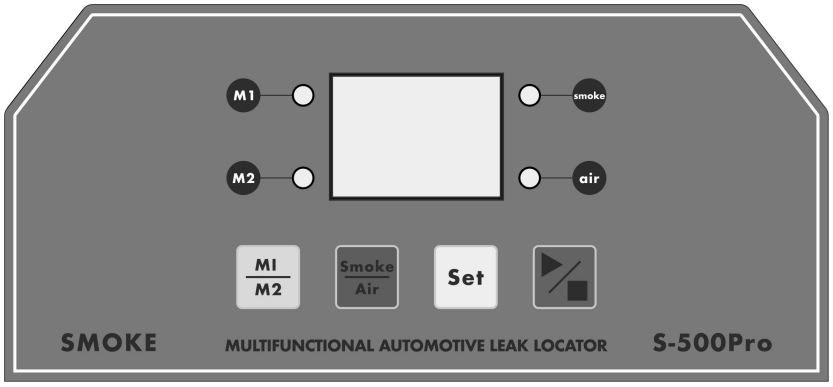
Introduction

ALT-500 Automotive Leak Tester， is a leakage diagnosis and detection equipment latest developed by our company. It has most advantages such as building smoke faster, amount of smoke being larger and double test mode. It can effectively help the workman to improve work efficiency and reduce work load. This machine uses MCU to control working.

Overview





M1-EVAP Mode: It is used for the test of micro-pressure pipeline system，such as EVAP system. When the indicator light is on, it indicates that the current running is EVAP test mode.

M2-TURBO Mode: It is used for the test of normal-pressure pipeline system, such as fuel system, radiator etc. When the indicator light is on, it indicates that the current running is TURBO test mode.

Smoke：When the indicator light is on, it indicates that the current running is Smoke test mode, to find leak detection by smoke.

Air：When the indicator light is on, it indicates that the current running is Air test mode, to quickly judge whether there is leakage in the system.

M1/M2 key：function mode select between the TURBO and EVA.

Smoke/Air key：test mode select between the Smoke and Air.

Set key：set the testing time from 5min to 15min.

▶/ ■ **key**：Start/Stop

Functions

1、 Double mode：TURBO，EVAP

2、 Quick leak detection

3、 Air test

4、 Smoke test

5、 Timing

6、 Smoke volume adjustment

7、 MCU control

8、 Equipment with double pumps, double gauges and double flow meters

Parameter

1、 Power input：DC12V/6A.　(Optional power adapter, AC100-240V input)

2、 Smoke volume：1-25L/min, adjustable

3、 Air source：built in compression pump

4、 Max. test pressure：

EVAP mode：5kpa （0.7psi）

TURBO mode：1.0bar（15psi）

5、 Display：LED

6、 Range of pressure gauge：

EVAP gauge：0-16kPa（2.3psi）

TURBO gauge：0-2bar（29psi）

7、 Filling amount：30~50ml

Smoke oil consumption：about 0.5ml/min（For reference only. Under laboratory conditions, the actual use will vary with the use of different conditions.）

Prepare

1. Mount the Power Cords to the Power Inlets.

   Note: Red plug to red socket and black plug to black socket.
2. Mount the Smoke Tube to the Smoke Outlet, and lock it with the quick clamp.

   Note: Use the Velcro Strap to collect the Power Cords and the Smoke Tube before storage.
3. Open the Oil Filler Port, fill smoke oil into the reservoir, note the Oil Level Indication Window, make sure the oil level do NOT exceed the Max line. If the smoke oil is overfilled, turn the unit upside down to drain some oil out.

   Note: Pay attention to the Oil Level Indication Window before use. If the oil level is close to the bottom, the unit will need a refill.
4. Now the unit is ready to use.

Test Run

1. Connect 12V vehicle battery with the clamps on the Power Cords.

   Note: red clamp to positive (+), and black clamp to negative (-).

   The battery voltage should be sufficient during the use of the equipment.
2. Power on.
3. Under default parameters, press START key to run.
4. Turn the Flow Dial to max, the flow meter will indicate the flow rate.
5. Block off the smoke nozzle on the Smoke Tube with fingertip, the Pressure Gauge will indicate the real time output pressure.
6. Select the smoke mode, the smoke mode indicator will be ON. The unit will start producing smoke.

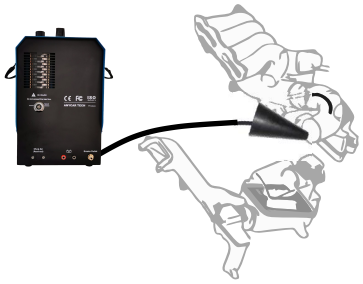
Operation

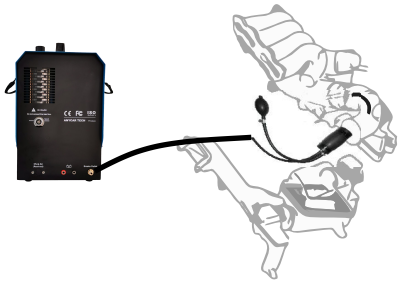
Mentions：

- The battery voltage should be stronger. Or use AC power adapter.
- Turn on the flow meter knob to the proper position.
- Pay attention to the test pressure being suitable to the pipeline system, and select the appropriate function mode.
- The air test mode can be selected for leak detection of smoke sensitive parts.

Connection：

1. Turn OFF the ignition of the vehicle. LEAK TEST OF VEHICLE SYSTEMS REQUIRE THE ENGINE TO BE OFF.
2. Open the hood and disconnect the pipeline being tested. If it is disconnected in the middle of the pipeline, plug one end with rubber plug and fasten it.
3. Block the other end of the pipe with a suitable conical adapter / air blowing adapter, and connect the smoke outlet pipe here. Here will take the air intake system test as an example.
4. Demount the Air Filter, and the Throttle connections.
5. Clean the opening and avoid sharp objects before put the adaptor in.
6. Put the Intake Adaptor Cone (or the Universal Intake Adaptor) into the opening. As bellows:





7. If testing the exhaust system, use only conical drums. The rubber is easy to be damaged by using the air blowing adapter.
8. Connect 12V vehicle battery with the clamps on the Power Cords.
9. Power on and the display be light.
10. According to the system being tested, select the corresponding test mode. Here select M2 mode (Turbo mode).

    M1：EVAP mode，this mode is suitable for micro- pressure system test, such as fuel evaporation system, vacuum pipeline, fuel tank, etc.

    M2：TURBO mode，this mode is suitable for normal-pressure system, such as turbocharging system, crankcase, radiator, etc.
11. By using the air mode, confirm whether there is leakage in the system.

    a) Select AIR mode.

    b) Set the test time, for example 5min.

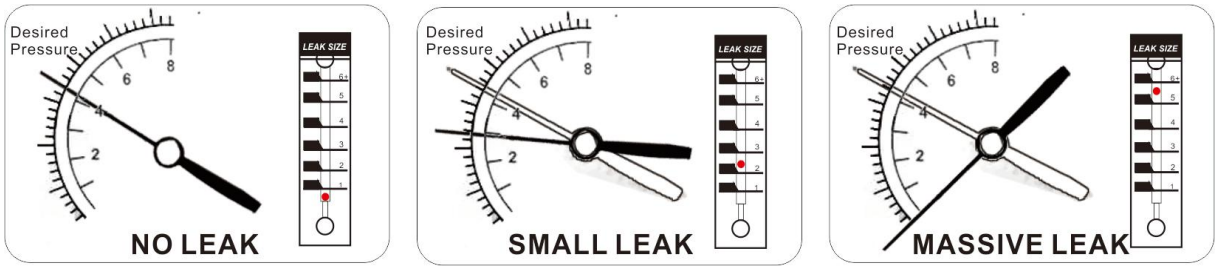
    c) Press START key.

    d) Turn the M2' Flow Dial to max, then introduce the smoke nozzle into the system via the

Intake Adaptor Cone (or the Universal Intake Adaptor).

e) Wait for about 2 minutes for the system to be pressurized.

f) Observe the Flow Meter and the Pressure Gauge for leak status. As bellows:



12. Judging the size of leakage according to the Flow Meter and the Pressure Gauge.
13. If there's leak in the system, switch on the smoke mode, the unit will start generating smoke.
14. Pull off the smoke nozzle, and plug it back again when there's obvious smoke coming out of the smoke nozzle.
15. The system will be ready for leak check. Use a bright light torch or working lamp to assist.
16. After leak test, collect the Power Cords and Smoke Tube with the Velcro Strap, clean the Intake Adaptor Cone (or the Universal Intake Adaptor) before storage.

Note:

1) Cap Stoppers could be used to block off various opening, if test on partial of the whole system is required.
2) Cap Stoppers also could be used to block off the intake, and smoke nozzle connect to the system via other opening available.
3) Smoke method can NOT be used on testing leak of oil-sensitive parts, e.g. lamp housing.
4) ONLY 12V vehicle battery are allowed to be used as power supply for the machine.

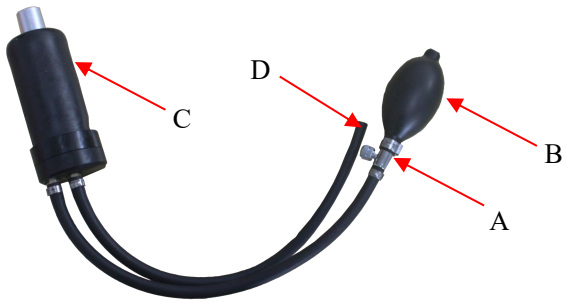
EVAP Leak Test

Generic OBD EVAP related codes: P0443~0457/P0465~0469.

1. Locate EVAP Access Port (Green cap in engine compartment).
2. Remove the Schrader valve using the Schrader valve tool.
   Note: The valve is left-hand thread.
3. Mount the EVAP Service Port Adaptor.
4. Connect the smoke nozzle to the EVAP Service Port Adaptor, Introduce pressurized air into the system, and turn the Flow Dial to max, check the status of Pressure Gauge and Flow Meter to confirm if there is a leak.

5. If there's leak in the system, press the Start/Stop Button, the unit will start generating smoke for an auto-stop 5 minutes working cycle.
6. Pull off the smoke nozzle, and plug it back again when there's obvious smoke coming out of the smoke nozzle.
7. In 2 minutes, the system will be ready for leak check. Use a bright light torch or working lamp to assist.
8. After leak test, collect the Power Cords and Smoke Tube with the Velcro Strap, clean the Intake Adaptor Cone (or the Universal Intake Adaptor) before storage.

Instruction on Universal Intake Adaptor



1. Clean the inner wall of the intake opening while the Air Filter, and the Throttle connections are removed, so as not to scratch the adapter.
2. Close the Pressure Relief Valve (A) next to the Hand Pump (B).
3. Put the Rubber Component(C) into the intake opening.
4. Inflate the Rubber Component(C) by pressing the Hand Pump (B) till the intake opening is tightly sealed.
5. Now the system is ready to test, introduce air/smoke into the system by plug the smoke nozzle into the Tube Opening (D).
6. After test, pull off the smoke nozzle, release the inflated air by open the Pressure Relief Valve (A) next to the Hand Pump(B).
7. Clean the adapter for storage, avoid contact with corrosive liquids.

Chemical

ADVISE use the special smoke oil.

Also this unit can use Baby Oil as smoke oil, available in supermarket or pharmacy.

Overfill: Turn the unit upside down to drain some oil out.

Maintenance

1. Before adding new oil, please pour out the residual liquid in the equipment.
2. Change the oil in the equipment regularly。
3. The rubber of Universal Intake Adaptor is easy to aging, avoid contact with corrosive substances, wipe oil in time and replace it regularly.
4. The equipment should be stored vertically in a cool and ventilated place.
5. When it is not used for a long time, the internal oil should be poured clean.

Warranty

1. The main unit entitled free warranty since the date of purchasing up to 12 months.
2. For warranty issue concerning the accessories, please make inquiry to the distributor.
3. Any damage to the machine caused by misuse, or improper operation, is not covered by warranty.

Maintenance Records			
Date	**Description**	**Solutions**	**Signature**

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