



Manuals.plus /

› Solary /

› Solary SD305 12V DC Evap Smoke Machine Leak Tester User Manual

Solary SD305

Solary SD305 12V DC Evap Smoke Machine Leak Tester

Model: SD305

1. INTRODUCTION

The Solary SD305 is a 12V DC automotive smoke machine leak tester designed for diagnosing leaks in various vehicle systems. It features a dual-mode design with a pressure gauge and a pressure adjustment gauge for precise control and monitoring. Equipped with a built-in air pump, it operates without the need for an external air source, enhancing convenience. This device is suitable for testing EVAP systems, car sealing, fuel tank systems, exhaust systems, intake systems, and other pipe fittings across a wide range of vehicles including cars, motorcycles, snowmobiles, ATVs, light trucks, and boats.



Image 1.1: The Solary SD305 Evap Smoke Machine Leak Tester and included accessories.

2. SAFETY INFORMATION

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

- Ensure adequate ventilation when operating the smoke machine, as the smoke produced can be irritating.
- Wear appropriate personal protective equipment, including eye protection and gloves.
- Do not operate the device near open flames or flammable materials.
- The device is equipped with overheating protection (activates at +75°C) and cold protection (activates at -20°C) to ensure safe operation. If the yellow indicator light illuminates, the device is in overheating protection mode and requires approximately 10 minutes to cool down before resuming operation.
- Use only recommended test oil (e.g., baby oil) in the machine.
- Ensure all connections are secure before applying power.



Image 2.1: The Solary SD305 features low temperature (-20°C) and high temperature (75°C) protection for safe operation.

3. PACKAGE CONTENTS

Verify that all items listed below are included in your package:



Image 3.1: Diagram illustrating the components included in the Solary SD305 package.

1. Main Unit
2. Pipe Adapter
3. Inflatable Adapter
4. Cap Stoppers (8 pcs)
5. Hook
6. Power Cords
7. Intake Adapter Cone
8. Smoke Tube
9. Refueling Bottle
10. Air Core Wrench
11. Snorkel

4. SPECIFICATIONS

Feature	Specification
Brand	Solary
Model	SD305
Item Weight	6.6 pounds (approx. 2.99 kg)
Product Dimensions	10.6 x 7.08 x 11.4 inches
Voltage	12 Volts (DC)
Material	Iron (Metal)
Power Source	Corded Electric
Overheating Protection	+75°C
Cold Protection	-20°C

5. SETUP

Follow these steps to prepare your Solary SD305 for operation:

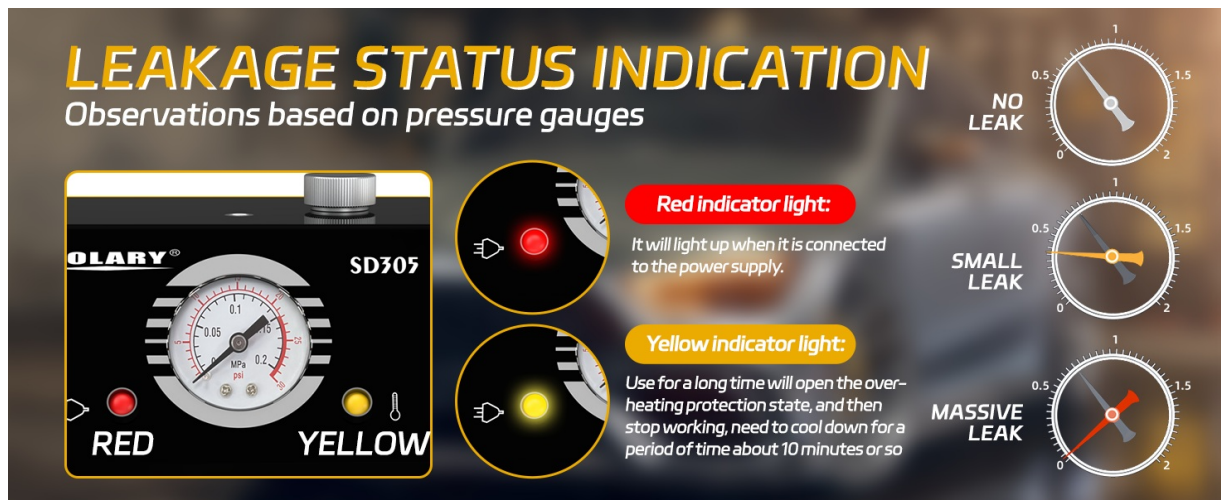


Image 5.1: Visual guide for the initial setup and operation of the smoke machine.

- 1. Fill Test Oil:** Open the oil filler cap on the top of the main unit. Using the provided refueling bottle, add 10-20ml of baby oil (or other recommended test oil) into the reservoir. Do not overfill.
- 2. Connect to System:** Disconnect the vehicle pipe or system component that needs to be tested for leaks. Use the appropriate adapter (e.g., intake adapter cone, pipe adapter) to securely connect the smoke output hose from the detector to the vehicle system.
- 3. Connect Power:** Connect the power cords to a 12V DC vehicle battery. Ensure correct polarity (red to positive, black to negative). Turn on the main power switch on the device. The red indicator light will illuminate, indicating power is supplied.
- 4. Select Operating Mode:** Once powered, you can choose between 'AIR MODE' or 'SMOKE MODE' using the respective buttons on the front panel.

6. OPERATION

6.1. Selecting Operating Mode

The Solary SD305 offers two primary operating modes:

- **AIR MODE (Green Button):** In this mode, the machine generates air pressure without smoke. This is useful for initial pressure checks and observing the flowmeter for potential leaks before introducing smoke. The pressure gauge provides real-time monitoring of internal air pressure.
- **SMOKE MODE (Red Button):** After activating AIR MODE, press the 'SMOKE MODE' button to generate smoke. This mode allows for visual identification of leak points by observing the smoke escaping from the system.



Image 6.1: The two leak detection modes: Air Mode for pressure observation and Smoke Mode for visual leak detection.

6.2. Adjusting Smoke Output

The device features an airflow regulator to control the smoke output. Turn the knob to adjust the amount of smoke generated, allowing for precise leak location.



Image 6.2: Adjusting the smoke output for optimal leak detection.

6.3. Performing Leak Tests

Once the machine is set up and operating in Smoke Mode, smoke will fill the connected vehicle system. Observe the system for any escaping smoke, which indicates a leak point. The Solary SD305 can be used for a variety of tests, including:

- EVAP system test
- Car sealing test
- Fuel tank system test
- Exhaust system test
- Intake system test
- Various pipe fittings test



Image 6.3: A technician using the Solary SD305 to identify a leak in an automotive system.

7. MAINTENANCE

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

- **Cleaning After Use:** After each use, it is recommended to invert the product to clean out any remaining test oil. This prevents residue buildup and ensures consistent smoke generation for future uses.
- **Storage:** Store the device in a cool, dry place away from direct sunlight and extreme temperatures.
- **Regular Inspection:** Periodically inspect hoses, adapters, and power cords for any signs of wear or damage. Replace damaged components immediately.



Image 7.1: Illustration of inverting the unit to clean out residual oil after use.

8. TROUBLESHOOTING

Refer to the following table for common issues and their potential solutions:

Problem	Possible Cause	Solution
No smoke output	Insufficient test oil; Power not connected; Smoke mode not activated; Clogged smoke tube.	Add test oil; Check power connections; Activate Smoke Mode; Clean smoke tube.
Weak smoke output	Low oil level; Airflow regulator set too low; Loose connections.	Refill oil; Adjust airflow regulator; Secure all connections.
Device overheats (Yellow light on)	Continuous operation for too long.	Allow the device to cool down for approximately 10 minutes.
No power	Incorrect 12V DC connection; Blown fuse in vehicle; Main power switch off.	Verify 12V DC connection and polarity; Check vehicle fuse; Turn on main power switch.

8.1. Leakage Status Indication

The pressure gauge provides an indication of the leakage status:

- **No Leak:** Pressure gauge remains stable at the desired pressure.
- **Small Leak:** Pressure gauge shows a slow drop in pressure.
- **Massive Leak:** Pressure gauge shows a rapid drop in pressure or fails to build pressure.



Image 8.1: Interpretation of pressure gauge readings for different leakage statuses.

9. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please contact Solary customer service through the retailer where the product was purchased or visit the official Solary website. Please have your model number (SD305) and purchase date available when contacting support.