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ANCEL S3000-US

ANCEL S3000-US Automotive Smoke Machine User Manual

Model: S3000-US | Brand: ANCEL

Automotive Leak Detector for EVAP, Fuel, Vacuum System & More

1. PRODUCT OVERVIEW

The ANCEL S3000-US is an all-in-one professional-level automotive smoke machine designed for precise leak detection in various vehicle systems. It features a built-in air compressor, visual pressure gauge, and adjustable flow meter, making it a convenient and efficient tool for identifying micro-leaks as small as 0.5mm.

This device supports dual operating modes (Air and Smoke) and is suitable for all 12V DC battery vehicles, including cars, ATVs, light trucks, motorcycles, and speedboats. It is engineered for safe, clean, and residue-free operation, ensuring user and machine safety with intelligent protection mechanisms.



Figure 1: ANCEL S3000-US Smoke Machine with included accessories.

2. WHAT'S IN THE BOX

- 1 x Smoke Machine Automotive
- 1 x Smoke Delivery Hose (8.2FT)
- 1 x Adapter Cone
- 1 x Intake Bladder (with 1 x replacement rubber)
- 1 x Power Cable (8FT)
- 1 x Hook Up
- 1 x Funnel (For pouring oil)
- 1 x User Manual (PDF version available online)

COMPLETE ACCESSORIES

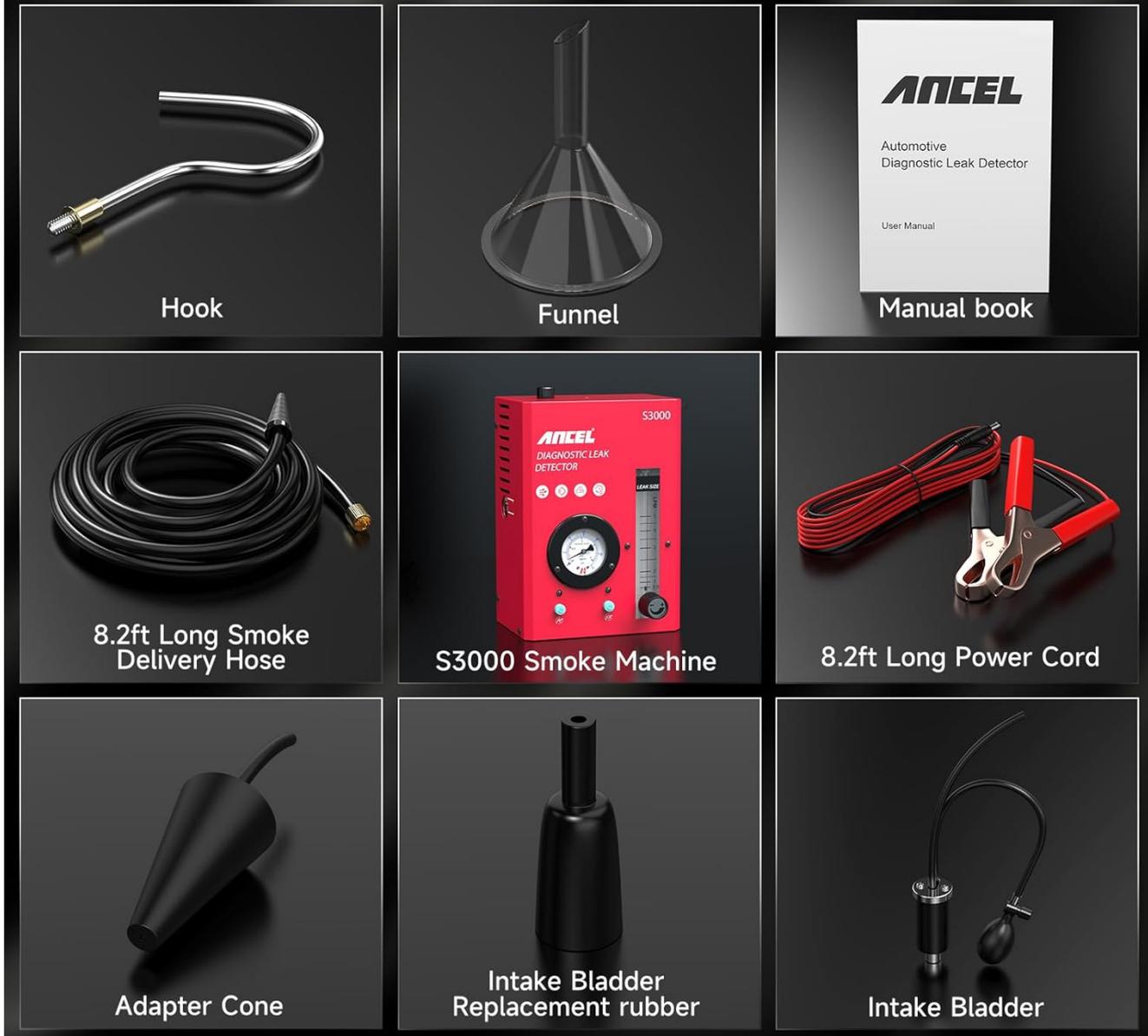


Figure 2: Complete accessories included with the ANCEL S3000-US.

3. SETUP GUIDE

1. Add Smoke Oil

Unscrew the oil refill port cap on the top of the unit. Use the provided funnel to add approximately 4ml of clean baby oil or mineral oil (not included) into the smoke machine. Ensure the oil level is between the MIN and MAX lines visible through the sight glass on the side of the unit. This is crucial to prevent dry heating and ensure smooth operation.



Figure 3: Pouring test oil into the smoke machine and checking the oil level sight glass.

2. Connect Power Source

Connect the power cable to the power socket on the smoke machine. Attach the red clamp of the power cable to the positive (+) terminal of your vehicle's 12V DC battery and the black clamp to the negative (-) terminal. The device is designed with reverse polarity protection.

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Video 1: Unboxing and initial setup, including connecting the power supply.

3. Connect Smoke Delivery Hose

Attach the smoke delivery hose to the smoke outlet port on the unit. Depending on the system you are testing, you may need to use the adapter cone or intake bladder to create a sealed connection to the vehicle's system (e.g., EVAP, intake, exhaust).

HIGH PERFORMANCE PREMIUM BUILD

 **Built-in
air compressor**

-  Pressure gauge
-  Air flow meter
-  Solid metal construction



Figure 4: Connecting the smoke delivery hose and preparing the unit for operation.

4. OPERATING INSTRUCTIONS

The ANCEL S3000-US offers dual operating modes for versatile leak detection:

- **Air Mode:** Allows for oil-free testing to quickly confirm the presence of leaks. The built-in air compressor operates within a pressure range of 0.8-14.5 psi.
- **Smoke Mode:** Delivers a thick, visible smoke plume to pinpoint even the trickiest leaks. Produces large amounts of smoke in approximately 30 seconds.

Leak Detection Process (3 Easy Steps):

1. **Prepare the Unit:** Ensure smoke oil is added and power is connected as per the Setup Guide.
2. **Select Mode:** Press the appropriate button on the unit to switch between Air Mode (for quick leak confirmation) or Smoke Mode (for visual leak detection).

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Video 2: Demonstration of the S3000's thoughtful design and dual mode operation.

3. **Start Testing:** Introduce smoke or air into the vehicle system. Observe the visual pressure gauge and the flow meter to detect leaks.
 - **No Leak:** Pressure gauge remains unchanged, flow meter reads zero.
 - **Small Leak:** Pressure gauge drops slowly, flow meter ball slowly falls to the bottom.
 - **Massive Leak:** Pressure gauge reaches zero, flow meter ball never falls to the bottom.



Figure 5: Interpreting leak status from the pressure gauge and flow meter.

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Video 3: Official ANCEL video demonstrating the smoke output and leak detection process.

5. MAINTENANCE

- **Smoke Oil Level:** Always ensure there is at least 4ml of smoke oil in the unit. Regularly check the oil level via

the sight glass. Refill if the level drops below the minimum line to prevent dry heating and potential damage to the heating core.

- **Temperature Protection:** The device features smart temperature protection. If the internal core reaches 105°C (outer shell 55–65°C), operation will automatically pause after 5–10 minutes. The unit will resume operation once it cools down to 85°C (outer shell 45°C), which typically takes about 10–15 minutes.
- **Cleaning:** Use clean baby oil for low-odor, mess-free smoke. This helps prevent unexpected residue on your clothes or car.

6. TROUBLESHOOTING

- **No Smoke Output:**
 - Check smoke oil level and refill if necessary.
 - Ensure power connections are secure and the 12V DC battery is adequately charged.
 - Allow the unit to cool down if it has recently paused due to temperature protection.
- **Inaccurate Pressure Readings:**
 - Ensure all connections (hose, adapters) are tightly sealed to prevent air leakage.
 - Verify the system being tested is properly sealed.
- **Unit Shuts Off Unexpectedly:**
 - This is likely due to the smart temperature protection. Allow the unit to cool down before resuming operation.
 - Check for any blockages in the smoke delivery hose or system being tested that might cause excessive pressure buildup.

7. SPECIFICATIONS

Feature	Description
Model	S3000-US
Item Weight	4.82 pounds
Product Dimensions	7.28 x 5.12 x 3.35 inches
Power Supply	12V DC Car Battery
Operating Pressure Range	0.8-14.5 psi
Smoke Output	Large amounts in 30 seconds

Oil Capacity	Min. 4ml (Baby oil/Mineral oil recommended)
Special Features	Powerful Smoke + Heat-Resistant Material, Built-in Air Pump + Air Flow Meter + Complete Accessories, Air & Smoke Dual Control + Pressure Gauge, No Drain to Battery, No Harm to EVAP System

8. WARRANTY AND SUPPORT

The ANCEL S3000-US comes with a 1-year warranty. Additionally, ANCEL offers a 30-day no-reason return and refund service. For any product-related issues or technical assistance, the ANCEL technical support team is available to provide prompt and effective resolution within 24 hours.

For further support, please refer to the official ANCEL website or contact their customer service directly.