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› Loraffe Under Hood Rodent Repellent (Model ZN-508) Instruction Manual

Loraffe ZN-508

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1. INTRODUCTION

The Loraffe Under Hood Rodent Repellent (Model ZN-508) is designed to deter rodents such as rats, mice, and squirrels from inhabiting and damaging vehicle engine compartments. It utilizes a dual-action approach combining variable-frequency ultrasonic waves and bright LED strobe lights to create an uncomfortable environment for pests, encouraging them to leave the protected area.

This device helps prevent costly repairs caused by rodents chewing on vehicle wiring and hoses, ensuring the longevity and reliability of your vehicle's electrical and mechanical systems.

2. PRODUCT FEATURES

- **Dual-Action Deterrent:** Combines high-powered variable-frequency ultrasound with 3 bright flashing LEDs for comprehensive pest deterrence.
- **Vehicle Protection:** Effectively deters rodents from chewing on wires and hoses within the engine bay.
- **Smart Auto On/Off:** Built-in vibration detection automatically activates the device when the vehicle is parked and enters standby mode while driving, conserving battery power.
- **Wide Compatibility:** Compatible with most 12V/24V vehicles, including cars, trucks, RVs, SUVs, pickups, and farm vehicles.
- **Durable Design:** Constructed with heat-resistant materials suitable for engine bay environments, ensuring continuous operation.

3. PACKAGE CONTENTS

The Loraffe Under Hood Rodent Repellent package includes the following items:

- 1 x Loraffe Under Hood Rodent Repellent Unit (Model ZN-508)
- 1 x Power Connection Cable (Red/Black wires with terminal connectors)
- Several x Reusable Zip Ties for secure mounting
- 1 x User Manual

Before purchase, **confirm** that the 12V battery of your vehicle is located in the engine compartment.



Recommended ✓

The wire of the repeller should be connected to the 12V battery (or 24V battery for some vehicles) located **in the engine compartment**.



NOT Recommended ✗

Not recommended to be connected to the 12V battery located **in the trunk** or **under the seat** because it may be hard to reach to.

Image: The Loraffe Rodent Repellent unit, its power connection cable, and reusable zip ties.

4. SAFETY INFORMATION

- **Seizure Warning:** The flashing lights may potentially trigger seizures for people and pets with photosensitive epilepsy. Exercise caution when installing and operating.
- Do not install the unit in areas of the engine compartment that may become hot or warm enough to cause burns.
- Ensure the device is mounted securely to prevent interference with moving parts of the engine.
- Keep the ultrasonic speaker and strobe lights unobstructed for optimal performance.
- The ultrasonic frequencies are generally inaudible to human ears, but may be audible to some pets.

5. SETUP & INSTALLATION

Proper installation is crucial for the effective operation of the rodent repellent. Follow these steps:

1. **Pre-Installation Cleaning:** If rodents have already been present in your vehicle, it is recommended to thoroughly clean the engine compartment. Remove any nests, droppings, and eliminate scent marks to prevent rodents from returning.
2. **Location Selection:** Choose a mounting location under the car hood that is away from high-

temperature areas (e.g., exhaust manifold) and moving parts. Ensure the ultrasonic speaker and LED strobe lights will not be blocked. The device should be mounted in an area where the 12V or 24V battery is accessible.

3. **Connect Power:** Connect the red wire from the repellent to the positive (+) terminal of your vehicle's 12V/24V battery. Connect the black wire to the negative (-) terminal.
4. **Secure the Unit:** Use the provided reusable zip ties to firmly secure the repellent unit in place. Ensure it is stable and will not move due to vehicle vibration.
5. **Activate:** Once connected, switch the device to the 'ON' position. The LED indicator lights will confirm operation.

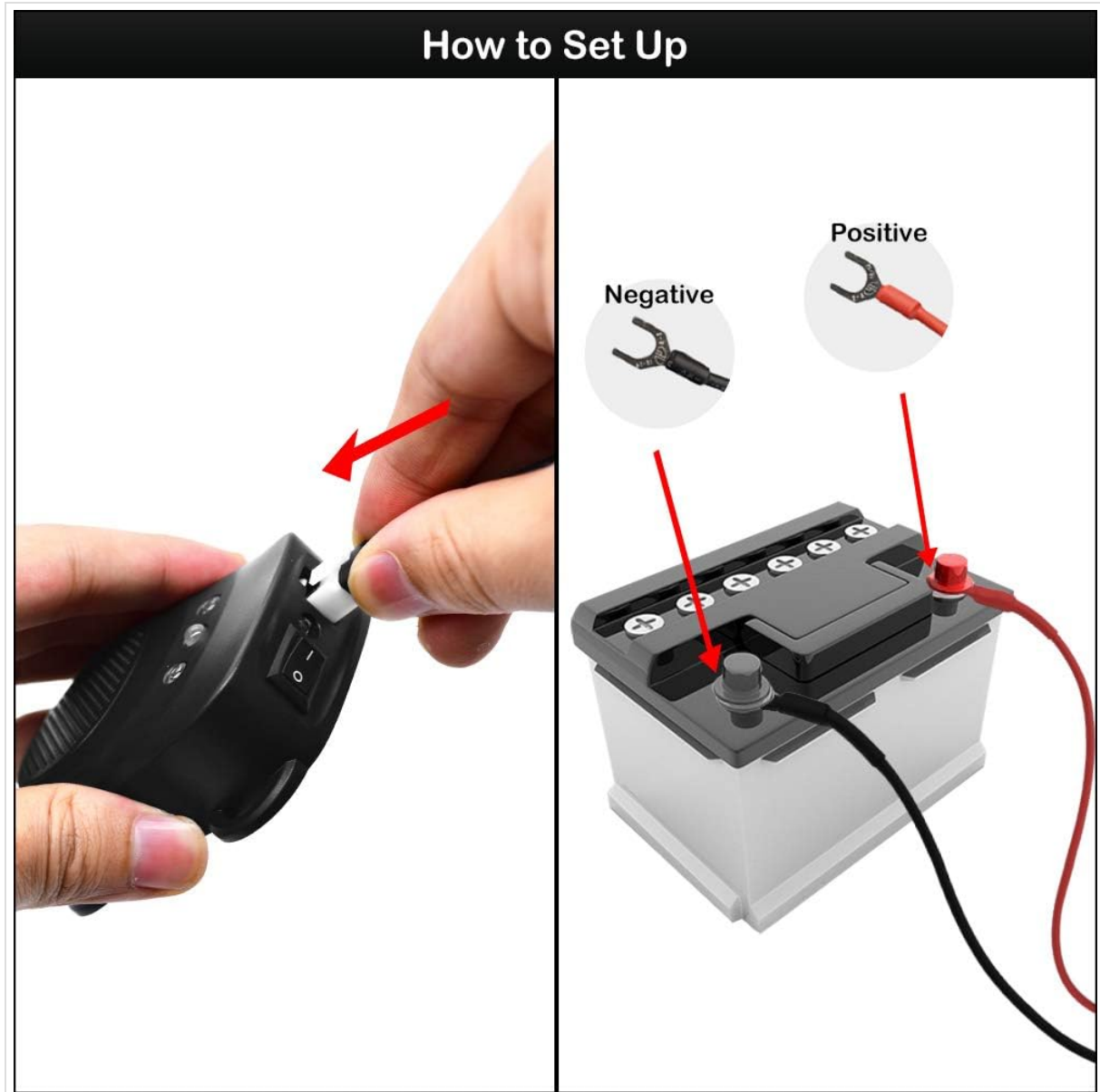


Image: Visual guide for connecting the repellent's wires to the positive and negative terminals of the car battery.



Image: Close-up view of the repellent connected to the 12-volt or 24-volt battery terminals under the hood.

6. OPERATING MODES

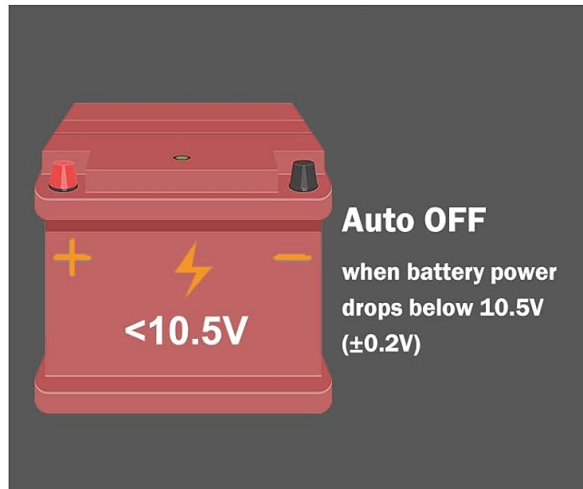
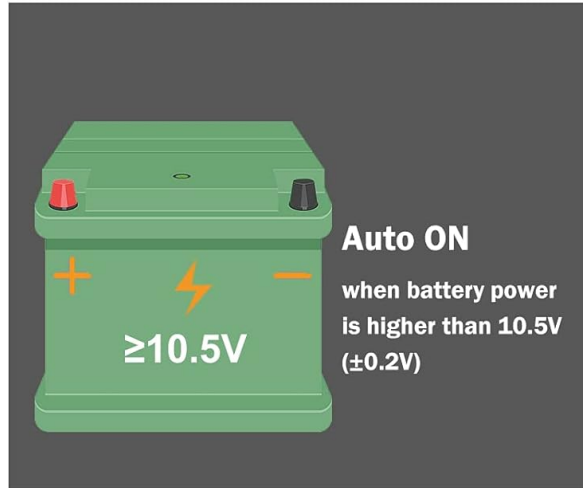
The Loraffe Rodent Repellent operates in a cycle of ultrasonic pulses and LED strobe lights. It features intelligent power management:

- **Auto On/Off (Vibration Detection):** The device automatically enters standby mode when it detects vehicle vibration (indicating the vehicle is driving). It resumes operation when the vehicle is parked, conserving battery power.
- **Low Voltage Protection:** The unit is designed to prevent excessive battery drain. It will automatically turn off if the battery power drops below 10.5V ($\pm 0.2V$) to ensure the vehicle can start.
- **Ultrasonic Frequencies:** The device emits variable ultrasonic frequencies (25 kHz - 55 kHz) that are irritating to rodents but generally inaudible to humans.
- **LED Strobe Lights:** Bright flashing LED lights provide an additional visual deterrent, particularly effective against nocturnal animals.

Energy Saving



Low Voltage Protection*



* The minimum voltage needed to start a car varies from car to car.

It is suggested that your car battery should be fully charged at least twice every month to maintain sufficient battery power.

Image: Explanation of the energy-saving auto ON/OFF feature based on vehicle parking status and low voltage protection thresholds.

7. MAINTENANCE

- **Battery Check:** Regularly inspect your vehicle's battery to ensure it is fully charged, especially if the vehicle is not driven frequently. The device's low voltage protection will prevent complete discharge, but maintaining a healthy battery is recommended.
- **Cleaning:** Keep the repellent unit clean and free from dust or debris to ensure optimal performance of the ultrasonic speaker and LED lights.
- **Engine Compartment:** Periodically check and clean your engine compartment to remove any new signs of rodent activity or nesting materials.

8. TROUBLESHOOTING

Problem	Likely Cause	Solution
Device not turning on/no lights	Incorrect wiring connection or dead vehicle battery.	Check positive and negative battery connections. Ensure vehicle battery is charged.
Lights flash but no audible sound (if applicable)	Ultrasonic sound is inaudible to humans.	This is normal. The device is functioning correctly.
Rodents still present after installation	Initial rodent population was high, or scent marks remain.	Ensure thorough cleaning of the engine bay before installation. Allow time for rodents to be deterred. Consider additional units for larger areas.
Device turns off while vehicle is parked	Low voltage protection activated.	Recharge or replace vehicle battery. Ensure battery voltage is above 10.5V.

9. SPECIFICATIONS

- **Model Number:** ZN-508
- **Brand:** Loraffe
- **Power Supply:** 12V/24V Vehicle Battery
- **Ultrasonic Frequency:** Variable between 25 kHz - 55 kHz
- **Output Ultrasound Pressure:** Max. 100 dB ($\pm 20\%$)
- **Operating Temperature Range:** -20°C to 80°C (-4°F to 176°F)
- **Dimensions:** 2.68"L x 0.95"W x 3.07"H
- **Item Weight:** 4.6 ounces
- **Material:** Plastic
- **UPC:** 720355994952

10. WARRANTY & SUPPORT

For warranty information, technical support, or any product-related inquiries, please contact Loraffe Customer Service.

Customer Service Email: support@loraffe.com