



**Model 98478**

# LED VACUUM GAUGE WITH BOOST

## INSTRUCTIONS AND PRECAUTIONS

Distributed exclusively by Harbor Freight Tools®.

3491 Mission Oaks Blvd., Camarillo, CA 93011

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## SAVE THESE INSTRUCTIONS. READ ALL PRECAUTIONS AND INSTRUCTIONS.

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**For technical questions or replacement parts, please call 1-800-444-3353.**

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### UNPACKING

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When unpacking, check to make sure that the item is intact and undamaged. If any parts are missing or broken, please call Harbor Freight Tools at the number shown on the cover of this document as soon as possible.

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### IMPORTANT SAFETY INFORMATION

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#### Assembly Precautions

1. Assemble only according to these instructions. Improper assembly can create hazards.
2. Wear ANSI-approved safety goggles and heavy-duty work gloves during assembly.
3. Keep assembly area clean and well lit.
4. Keep bystanders out of the area during assembly.
5. Do not assemble when tired or when under the influence of drugs or medication.

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### Use Precautions

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1. This product is not a toy. Do not allow children to play with it.
2. Use for intended purpose(s) only.
3. Inspect before use; do not use if loose or damaged.
4. Only use in accordance with State, local, Federal and D.O.T. laws and regulations.
5. Disconnect vehicle battery negative post before installation.
6. Positive and negative connections can not touch. If you are unsure of how to install this product safely then have a qualified mechanic install the gauge for you.
7. Insulate connections to prevent fire.
8. Maintain product labels and nameplates. These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.

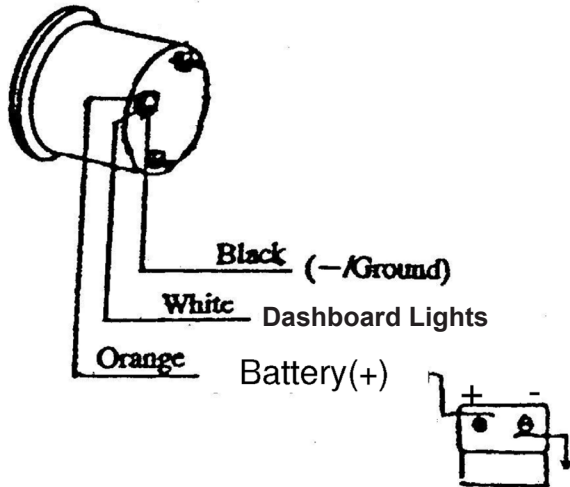
## ASSEMBLY INSTRUCTIONS



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this document including all text under subheadings therein before set up or use of this product.

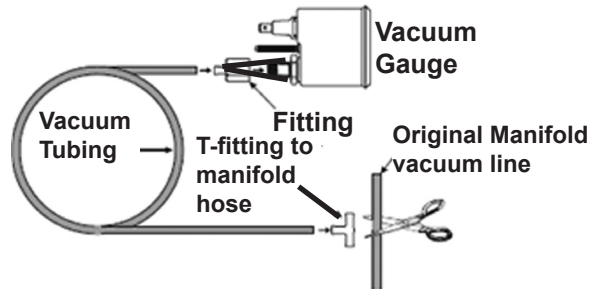
### Assembly

1. A round 2-1/16" wide hole with at least 2-1/2" clearance behind is needed to install this gauge.
2. At least 18 AWG stranded copper wire must be purchased for the installation of this gauge.
3. Disconnect vehicle battery according to manufacturer's instructions. Some vehicles with air bags or other systems may require precautions before disconnecting the battery. Consult your vehicle's service manual.
4. Route and secure wires and vacuum tube as needed to attach the Gauge to the desired area; avoid sharp edges and hot spots.



5. Wiring:
  - BLACK wire connects to Ground.
  - WHITE and ORANGE wire connects to vehicle's dashboard lights or other switch.
6. Connect the vacuum line to the fitting using the compression sleeve, as shown in the following diagram.
7. Connect the other end of the vacuum line to the intake manifold side of any vacuum booster equipment.

8. On some vehicles there is a factory provided tapped hole in the intake manifold that is suitable for connecting the vacuum hose using the included 1/8" NPT barb fitting. Connect the vacuum hose to the fitting just installed (if used) in the manifold. NOTE: The tapped hole may require the use of a 1/4" NPT adapter (not included) to connect the 1/8" barb fitting to the manifold.



9. Install the meter into the hole. Attach the bracket onto the back of the meter and tighten.
10. Reconnect the battery according to the manufacturer's instructions. Verify that there are no short circuits before reconnecting. Ensure that the line has no leaks and is not near any parts that will get hot during operation. Check for loose strands of wire and direct contact with grounded components. Use a multimeter with a continuity function to help verify that there are no shorts to ground.
11. Start the vehicle and turn the dashboard lights on. LED should light up. Be ready to disconnect battery if arcing or sparking occurs at the meter.
12. To change the color of the LED light, push the button on the face of the gauge.

Record Serial Number Here: \_\_\_\_\_

**Note:** If product has no serial number, record month and year of purchase instead.

**Note:** No replacement parts.