



ECCO®

Installation and Operation Instructions

117 dB(A) 12-24 Volt Forward Horn



WARNING!

Failure to install or use this product according to manufacturer recommendations may result in property damage, serious bodily/personal injury, and/or death to you and those you are seeking to protect!



Do not install and/or operate this safety product unless you have read and understand the safety information contained in this manual.

1. Proper installation combined with operator training in the use, care, and maintenance of emergency warning devices are essential to ensure the safety of you and those you are trying to protect.
2. Exercise caution when working with live electrical connections.
3. This product must be properly grounded. Inadequate grounding and/or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or severe vehicle damage, including fire.
4. It is the responsibility of the vehicle operator to ensure during use that all features of this product work correctly. In use, the vehicle operator should ensure the projection of the warning signal is not blocked by vehicle components (i.e., open trunks or compartment doors), people, vehicles, or other obstructions.
5. This equipment is intended for use by authorized personnel only. The user is responsible for understanding and obeying all laws regarding warning signal devices. Therefore, the user should check all applicable city, state, and federal laws and regulations. The manufacturer assumes no liability for any loss resulting from the use of this warning device.

Selection and installation of a horn should meet the requirements of local and regional governing bodies such as ISO, SAE, etc. Install a horn that will be audible on the noisiest job site the vehicle will be used on. When installing a horn product, be sure to verify that both sides of the mounting surface are clear of anything that could be damaged. Place the horn so it will operate properly under adverse conditions. The location must provide protection from impact and poor weather conditions while allowing unobstructed sound projection to the target hazard area.

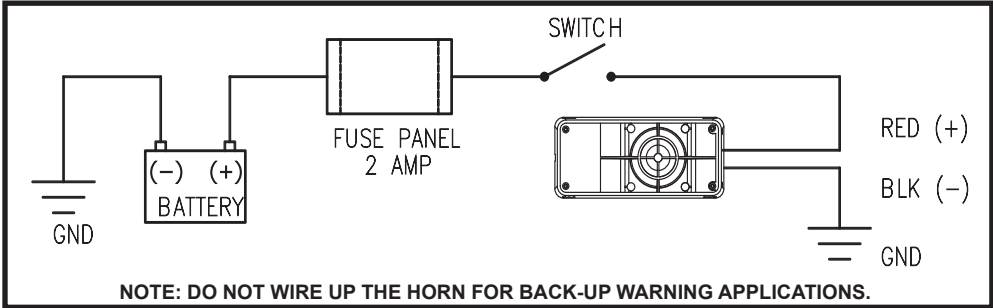
The horn system must be inspected each workday at the beginning of each shift to ensure that it is audible, operating properly, and securely attached to the vehicle. Inspect more often when: 1) The vehicle is operating in an adverse environment; 2) The vehicle is operating in foul weather conditions; 3) The operator has reason to believe the horn has been damaged or is not working properly; and/or 4) Increased background noise interferes with the ability of workers to recognize when the horn is sounding.

Installation Instructions & Sound Level:

This product is designed to concentrate its audible horn in the target hazard area. **NOTE:** This product is a safety device. It **must** be connected to its own separate fused power point to assure its continued operation. For proper sound dispersion, it must be mounted approximately 4 feet above ground level with the sound opening facing the target hazard area. The label on each horn describes the sound output level in decibels dB(A).

1. Select a mounting location that will provide protection from flying objects, debris, and foul weather conditions while allowing unobstructed sound projection from the vehicle. Do **NOT** mount the horn opening facing up.
2. Using the horn's housing as a template, mark location for the mounting holes. Drill holes at the position marks. Recommended drill bit size - W size bit.
3. Secure the unit on the vehicle with a minimum of two user-supplied 3/8" [10 mm] bolts, flat washers and locknuts, or bolts, flat washers, lockwashers, and nuts. **Secure horn but do not over tighten.** Whenever possible, try to use an existing fastener to mount the horn.
4. This unit requires a reliable power and ground connection for operation. Complete the wiring according to the wiring diagram in Figure 1. Use 18 gauge wire (minimum) and observe correct polarity. **WARNING!!** Anytime the horn is in operation, continuity must be maintained between the positive voltage of the power source and the positive terminal of the horn as well as between the negative terminal of the horn and the common ground (the vehicle member to which all wire grounds are connected). During operation the voltage differential between the positive voltage of the power source and the positive terminal (+) of the horn shall not exceed 500mV. During operation the voltage differential between the common ground and the negative terminal (-) of the horn shall not exceed 500mV. Route wire in a protected manner in accordance with vehicle manufacturer recommendations. **NOTE:** The horn will not operate when its power connections are reversed and is protected against reversed polarity up to 400V.

Important!! DO NOT spray any coating material, e.g. paint, undercoating, etc., over the sound opening. DO NOT install the horn or its wiring in proximity to ignition wires. Failure to observe these conditions may have an adverse effect on the horn's performance.



- 5. Test the horn for proper operation. If horn does not sound, review Step 4. Do not operate this vehicle if the horn is not functioning properly.
- 6. Add requirement to “test horn system before operating vehicle” to the daily maintenance log and notify your supervisor or team leader that people operating this vehicle **MUST** confirm proper horn operation at the beginning of each work shift. Do not operate this vehicle if the horn is not functioning properly.

Specifications:

A listing of product specifications is available upon request.

Vehicle Operations:

As the operator of a vehicle, you should always know when the horn is sounding and when it is not sounding. Should the horn become inoperative, discontinue vehicle operation and notify your supervisor or team leader. Operating a vehicle with a horn that is not functioning properly could endanger the lives and/or property of those who depend on the horn signal for safety.

- Horn testing must be itemized on the daily maintenance log. A horn on an operating vehicle must be tested prior to the vehicle's use at the beginning of each work shift. Check the daily maintenance log to confirm acceptable results of this testing before operating the vehicle/mobile equipment.
- More frequent testing may be necessary if the vehicle is operating in adverse conditions.
 - Ground guidance should be provided to the driver when backing a vehicle in a job environment where the audibility of the horn is in question.

Maintenance:

Preventive maintenance procedures must specify an horn safety system inspection. This check should include a thorough examination of the electrical connections and the sound opening. The sound opening must be kept clear of dust, mud, or any other foreign material that may prevent the horn from sounding properly. Should this inspection reveal an horn that is not functioning properly, place a “Do Not Use” sign on the equipment and notify your supervisor or team leader.

Manufacturer Limited Warranty and Limitation of Liability:

Manufacturer warrants that on the date of purchase, this product will conform to Manufacturer's specifications for this product (which are available from the Manufacturer upon request). This Limited Warranty extends for Twenty-four (24) months from the date of purchase.

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