

## SPECIFICATIONS, INSTALLATION AND OPERATING INSTRUCTIONS

**MODEL:** Electronic Forward Warning Horn  
**SOUND LEVEL:** 107 dB(A) SAE J1105 SEP 89, Type L  
**SYSTEM VOLTAGES:** 12 to 48 Volt Systems

### SAFETY MESSAGE TO INSTALLERS OF FORWARD HORNS

People's lives depend on the safe installation of our products in conformance with our instructions. It is necessary to read, understand and follow all instructions shipped with the products. In addition, listed below are important safety instructions and precautions you should follow.

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death to those you are seeking to protect.

- ◆ Forward Horns are intended for commercial use. Proper installation of a Forward Horn requires a good understanding of truck and heavy equipment electrical systems and procedures, along with proficiency in the installation and use of safety warning equipment.
- ◆ When drilling into a vehicle structure, be sure that both sides of the surface are clear of anything that could be damaged.
- ◆ Locate Forward Horn so it will operate properly under all conditions. The location must provide protection from impact and adverse weather conditions while allowing unobstructed sound projection to the target hazard area.
- ◆ Inspect the Forward Horn system daily to ensure that it is audible and operating properly and that it is securely attached to the vehicle. More frequent inspections should be performed when:
  - ◆ The vehicle is operating in a particularly dirty environment.
  - ◆ The operator has reason to suspect the horn has been damaged.
  - ◆ Increased background noise on the job site may interfere with the audibility of the horn.
- ◆ Store these instructions in a safe place and refer to them when maintaining and/or reinstalling the product.

#### A. SPECIFICATIONS (TYPICAL)

The Electronic Forward Horn is a solid state audible warning device enclosed in a weather resistant housing. When activated, the Forward Horn produces a continuous tone. This horn conforms to SAE J1105 SEP89, sound level Type L.

<b>2.0</b>	<b>PHYSICAL SPECIFICATIONS</b>	<b>4.0</b>	<b>OUTPUT SPECIFICATIONS</b>
2.1	Electronics: Solid state	4.1	Sound level: One level, 107 + 4 dB(A) at 4 feet
2.2	Sealing: Encapsulated to protect from dust, moisture and vibration.	4.2	Sound dispersion: Through 180° (graph available on request)
2.3	Housing: Black, PVC	4.3	Pulse rate: Continuous tone
2.4	Dimensions: 4.76"H x 4.63"W x 2.25"D (120.9 mm x 117.5 mm x 57.2 mm)	4.4	Frequency: 1150 Hz predominate (complex sound)
2.5	Weight: 12 oz. (340 gm)	<b>5.0</b>	<b>ADDITIONAL INFORMATION</b>
2.6	Mounting: Four 0.340" (8.6 mm) diameter holes on 3.625" (92.1 mm) centers both mounting plates	5.1	Cleaning: Unit will not be damaged if exposed to steam or spray cleaning.
2.7	Operating Temperature: -40°F to +185°F (-40°C to +85°C)		Selection and installation of a horn should meet the requirements of SAE J1446 MAY 1989 "ON-MACHINE ALARM TEST AND EVALUATION PROCEDURE FOR CONSTRUCTION AND GENERAL PURPOSE INDUSTRIAL MACHINERY", and all applicable codes. Operation of the vehicle in noisy environments may require a horn that is louder than indicated in SAE J1446 MAY 89. Install a horn that will be audible on the noisiest job site the vehicle will be used on. Ground guidance should be provided to clear backing vehicles when the audibility of the alarm is in question.
<b>3.0</b>	<b>ELECTRICAL SPECIFICATIONS</b>		
3.1	Minimum voltage: 9.0 volts DC		
3.2	Maximum voltage: 56.0 volts DC		
3.3	System voltages: 12,24,36 or 48 volt systems		
3.4	Input current: 0.4 amps average at 28 VDC		
3.5	Fuse at: 5.0 amps maximum		
3.6	Spike protection: +100, -400 volts		
3.7	Polarity: Positive or negative ground		
3.8	Connection: Two 1/4" flat blade terminals		

#### B. INSTALLATION

Since this horn is designed to concentrate its audible alarm in the target hazard area it should be mounted approximately 4 ft. above ground level with the sound opening facing to the front of the vehicle.

1. Select a mounting location at the front of the vehicle that will provide protection from impact and adverse weather conditions while allowing unobstructed sound projection to the target hazard area. A suggested location is on the front of the vehicle, inside the last cross member separating the frame rails or other sturdy part of the body structure. The horn's "L-type" mounting configuration provides mounting flexibility and allows installation in a variety of locations.
2. See figure 1. Using the horn's housing as a template, scribe drill position marks through the mounting holes in the unit. Drill holes at the position marks.
3. Secure the unit on the vehicle with a minimum of two user-supplied 5/16" bolts and locknuts, or bolts, lockwashers and nuts.

#### WARNING

The ground connection **MUST** be attached to a solid metal body or chassis part that will provide a dependable ground path as long as the device is to be used. Route wire in a protected fashion in accordance with vehicle manufacturer recommendations.

NOTE: The Forward Horn is sensitive to polarity and will not operate when connected backwards.

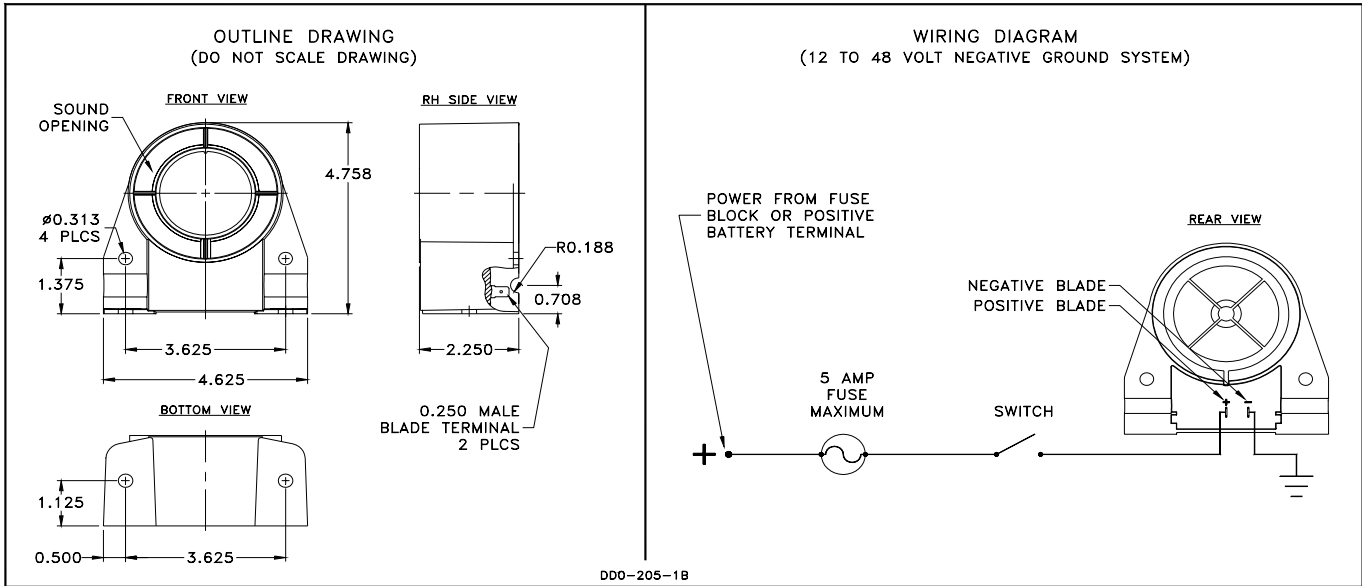
SAFETY MESSAGE TO OPERATORS  
OF  
FORWARD HORNS

- ◆ Should the horn become inoperative, it could jeopardize the safety or lives of those who depend on the horn signal for safety.
- ◆ Testing the Forward Horn should be listed on the daily maintenance report. The units on operating vehicles must be tested each day prior to the vehicles' operation. Results of this test must be recorded in the maintenance log.
- ◆ Notify your supervisor that people operating this equipment **MUST** check for proper operation at the beginning of every shift.

**C. MAINTENANCE**

Horn should be inspected and the sound opening kept clear of dust, mud, or other foreign material that may obstruct the sound opening.

**D. FIGURE 1 - OUTLINE DRAWING AND WIRING DIAGRAM**



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LIMITATION OF LIABILITY**

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