

FORWARD HORN SPECIFICATIONS, INSTALLATION AND OPERATING INSTRUCTIONS

SOUND LEVEL: 117 dB(A) SAE J1105 SEP89 Type J with 24 volt systems
112 dB(A) SAE J1105 SEP89 Type K with 12 volt systems

SYSTEM VOLTAGES: 12 or 24 Volt Systems

SAFETY MESSAGE TO INSTALLERS OF BACK-UP ALARMS

People's lives depend on the safe installation of this product in conformance with these instructions. It is necessary to read, understand and follow all instructions shipped with the product. 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 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 J with 24 volt systems and Type K with 12 volt systems.

2.0	PHYSICAL SPECIFICATIONS	4.0	OUTPUT SPECIFICATIONS
2.1	Electronics: Solid state	4.1	Sound level: One Level, 117 ± 4 dB(A) at 4 feet with 28 VDC applied.
2.2	Sealing: Encapsulated to protect from dust, moisture and vibration.		One Level, 112 ± 4 dB(A) at 4 feet with 14 VDC applied.
2.3	Housing: Molded 30% glass filled Nylon 6/6 housing, CR steel mounting supports.	4.2	Sound dispersion: Through 180° (graph available on request).
2.4	Dimensions: 3.20"H x 7.20"W x 4.08"D (81.3 mm x 182.9 mm x 103.6 mm).	4.3	Pulse rate: Continuous when activated.
2.5	Weight: 3 lb 6 oz (1.53 kg).	4.4	Frequency: Complex audio tone, 1000-1300 Hz predominate frequency.
2.6	Mounting: Two 0.438" (11.13 mm) dia holes on 6.000" (152.40 mm) centers.		
2.7	Operating Temperature: -40°F to +185°F (-40°C to +85°C).	5.0	ADDITIONAL INFORMATION
3.0	ELECTRICAL SPECIFICATIONS	5.1	Cleaning: Unit will not be damaged if exposed to steam or spray cleaning.
3.1	Minimum voltage: 9 volts DC.	5.2	Mounting: Unit may be mounted in any plane except with the sound opening upward.
3.2	Maximum voltage: 32 volts DC.		
3.3	System voltages: 12 or 24 volt systems.	6.0	CERTIFICATIONS
3.4	Input current: 0.8 amps average.	6.1	SAE: Conforms to SAE J1105 SEP89 Type J at 28 VDC, Type K at 14 VDC.
3.5	Fuse at: 2.0 amp.		
3.6	Spike protection: +100, -400 volts, polarity protected.		
3.7	Polarity: Positive or negative ground, polarity protected.		
3.8	Connection: Two #8-32 UNC terminal studs, polarity marked.		

B. INSTALLATION

Since this alarm is designed to concentrate its audible warning 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, debris and adverse weather conditions while allowing unobstructed sound projection to the target hazard area.
2. See figure 1. Scribe drill position marks, two holes on 6" centers, in the vehicle. Drill holes at the position marks.
3. Secure the unit on the vehicle with a minimum of two user-supplied 3/8" bolts, flat washers and locknuts, or bolts, flat washers, lockwashers, and nuts.
4. Use 18 gage (minimum) wire to electrically connect the horn as shown in the Simplified Wiring Diagram. Figure 1.
NOTE: The wiring on some electric powered vehicles is not grounded to the chassis.

WARNING

The ground connection **MUST** be a dependable ground path for 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.

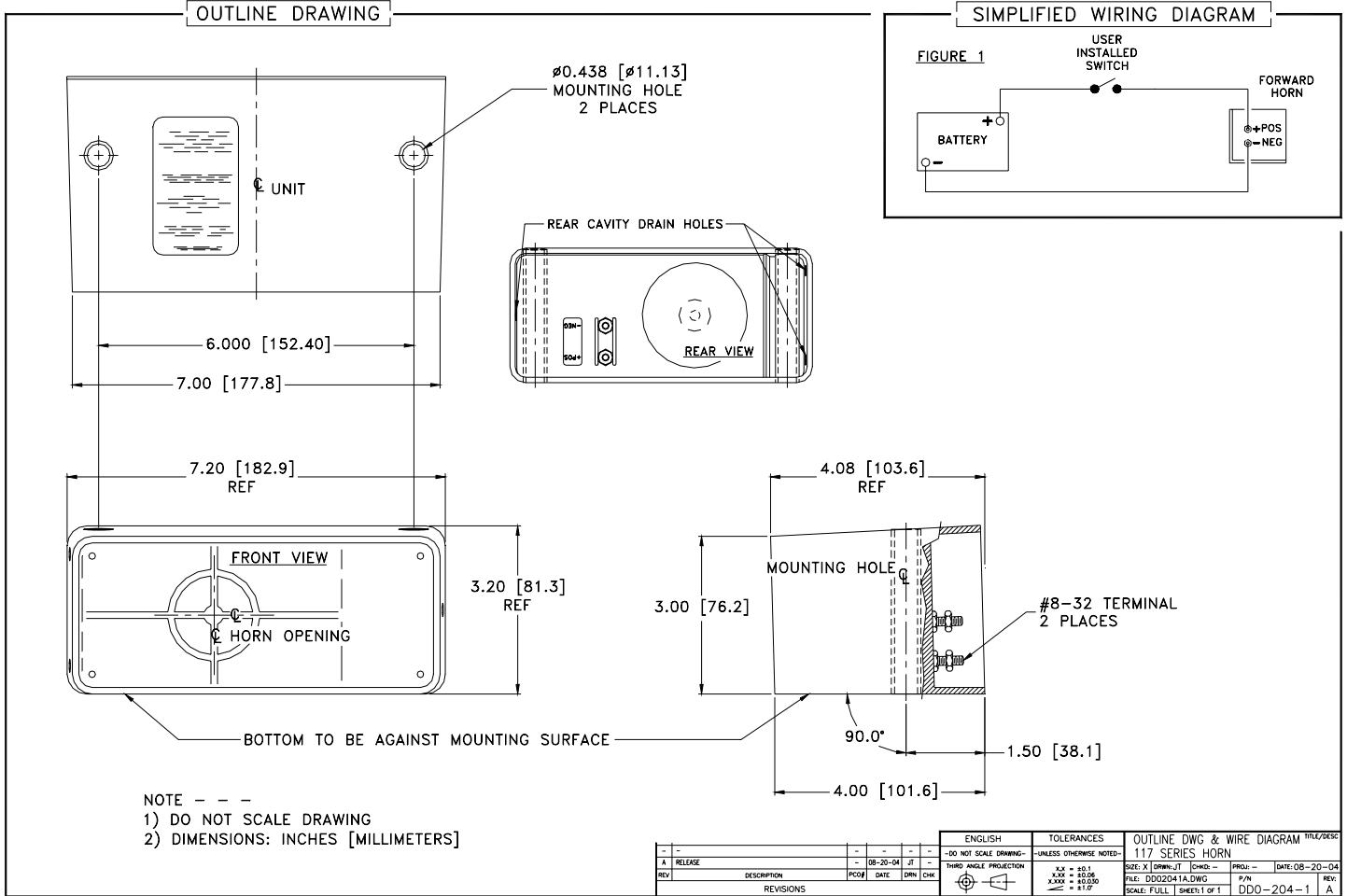
SAFETY MESSAGE TO OPERATORS OF FORWARD HORNS

- ◆ 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 vehicle's 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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