

FORWARD HORN SPECIFICATIONS, INSTALLATION AND OPERATING INSTRUCTIONS

SOUND LEVEL: CONTINUOUS 112dB(A) SAE J1105 SEP89, TYPE K
SYSTEM VOLTAGES: 12 to 60 Volt Systems

SAFETY MESSAGE TO INSTALLERS OF FORWARD HORNS

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 the 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 K. This horn is UL Recognized for use on Battery Powered Industrial Trucks per UL 583.

1.0 PHYSICAL SPECIFICATIONS

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| 1.1 | Electronics: | Solid state. |
| 1.2 | Sealing: | Encapsulated to protect from dust, moisture and vibration. |
| 1.3 | Housing: | Black, 30% glass filled Nylon. |
| 1.4 | Dimensions: | 3.06"H x 5.00"W x 3.75"D
(77.7mm x 127.0mm x 95.3mm). |
| 1.5 | Weight: | 1.5 lbs (680 gm). |
| 1.6 | Mounting: | 2 mounting plates each with four 0.328" (8.33mm) oval mounting slots on 4.00" (101.6mm) x 2.00" (50.8mm) centers. |
| 1.7 | Operating Temperature: | -40°F to +167°F (-40°C to +75°C). |

2.0 ELECTRICAL SPECIFICATIONS

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| 2.1 | Minimum voltage: | 9 volts DC. |
| 2.2 | Maximum voltage: | 72 volts DC. |
| 2.3 | System voltages: | 12 to 60 volt systems. |
| 2.4 | Input current: | 0.5 amps average. |
| 2.5 | Fuse at: | 1.0 amps. |
| 2.6 | Spike protection: | +100, -400 volts, polarity protected. |
| 2.7 | Polarity: | Positive or negative ground, polarity protected. |
| 2.8 | Connection: | Two ¼" flat tab terminals, polarity marked. |

3.0 OUTPUT SPECIFICATIONS

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| 3.1 | Sound level: | One level, 112 +/- 4dB(A) at 4 feet. |
| 3.2 | Sound dispersion: | Through 180° (graph available on request). |
| 3.3 | Pulse rate: | Continuous when activated. |
| 3.4 | Frequency: | Complex audio tone, 1000-1300 Hz predominate frequency. |

4.0 ADDITIONAL INFORMATION

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| 4.1 | Cleaning: | Unit will not be damaged if exposed to steam or spray cleaning. |
| 4.2 | Mounting: | Unit may be mounted in any plane except with sound opening upward. |

5.0 CERTIFICATIONS

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| 5.1 | SAE: | Conforms to SAE J1105 SEP89 sound level Type K. |
| 5.2 | UL Recognized: | File No. AU2363. |

B. INSTALLATION

Since this forward horn 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. Electrical diagram and physical dimensions.
3. Use 18 gage (minimum) wire and a 1A fuse to electrically connect the forward horn as shown in the Simplified Wiring Diagram, Figure 1.
NOTE: The wiring on some electric powered vehicles is not grounded to the chassis.

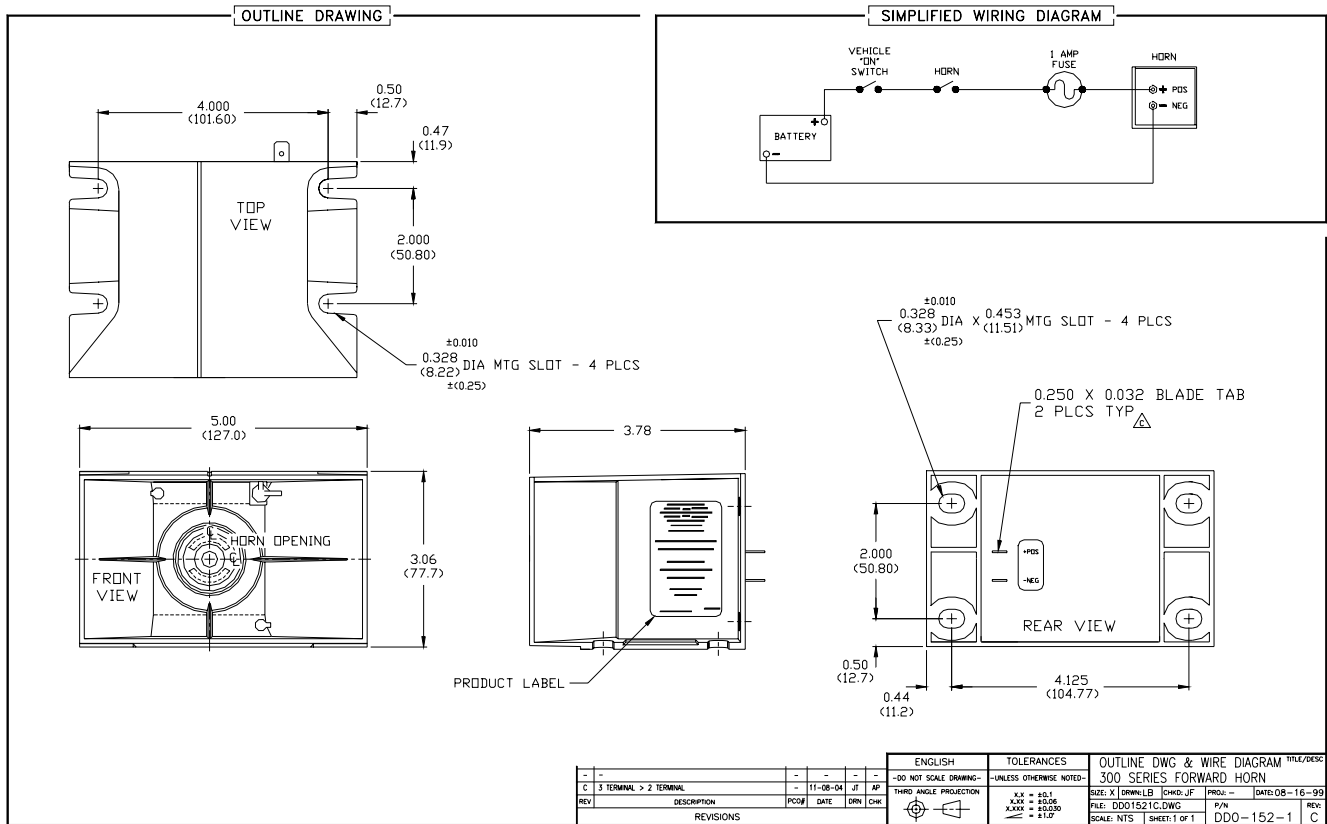
WARNING

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. **CAUTION:** Do not connect power between **tab 1 and tab 2**, as this may damage the horn.

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**
The 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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Manufacturer warrants that on the Date of Purchase this Product will conform to Manufacturer's published specifications for the product, which are available from Manufacturer on request, and Manufacturer warrants that the product is free from defects in materials and workmanship. This Limited Warranty extends for twelve (12) months from the date of manufacture. Manufacturer will, at its option, repair or replace any product found by Manufacturer to be defective and subject to this Limited Warranty.

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To obtain warranty service, you must ship the product(s) to the specified Manufacturer location within thirty (30) days from expiration of the warranty period. You must fill out the warranty claim form and include the form with the product. You must prepay shipping charges and use the original shipping container or equivalent. Return shipping charges within the United States, Canada, and Puerto Rico will be paid by Manufacturer. This Limited Warranty will apply only to a product purchased and located in the United States, Canada, or Puerto Rico.

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