

**INSTRUCTION SHEET
FOR
REVERSIBLE POLARITY
BACKUP ALARMS AND SPECIALTY ALARMS**

**SAFETY MESSAGE TO INSTALLERS
OF
BACKUP ALARMS**



People's lives depend on your 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 some other important safety instructions and precautions you should follow.

- To properly install a backup alarm: you must have a good understanding of truck and heavy equipment electrical procedures and systems, 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 Backup Alarm so it will operate safely under all conditions. The location must provide protection from impact and adverse weather conditions while allowing unobstructed sound projection to the target hazard area.
- All effective Backup Alarms produce loud sounds which may cause, in certain situations, permanent hearing loss. You should take appropriate precautions and follow your employer's hearing conservation program and safety guidelines for instructions as to whether you should wear hearing protection.
- Ensure that the vehicle's supply voltage is within the voltage rating specified on the Backup Alarm.
- You should frequently inspect the Backup Alarm system to ensure that it is operating properly and that it is securely attached to the vehicle.
- File a copy of these instructions in a safe place and refer to them when maintaining and/or re-installing the product. Pass these instructions on to the operator of the backup alarm system.

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

I. GENERAL.

These Reversible Polarity Backup Alarms are lightweight, low current, piezo-electric, solid-state audible warning devices. They can generate two distinct warning tones—a pulsed (beeping) tone and a constant tone. The tone is changed by reversing the polarity of the connections to the power source. The housing is environmentally sealed against moisture, dust, and corrosion.

The compact design only requires 6.7 square inches of surface area for mounting. All units are supplied with a heavy-gauge plated steel universal mounting bracket.

II. SPECIFICATIONS.

Operating Voltage	9-48VDC
Operating Current	0.15 A @ 12VDC
Pulse Frequency	80 Beeps per minute ± 20
Frequency	2400 Hz ± 400 Hz
Temperature Range	-40° F to 165° F (-40° C to +74° C)

NOTE

The units are protected against voltage spikes. Reverse polarity activates the constant tone.

III. KIT CONTENTS LIST.

Qty.	Description	Part No.
1	Bracket, Mounting	8435717
2	Screw, Pan Hd., 6-32 x 1/4"	200316
1	Screw, Hex Hd, SS, 1/4-20	7000A311-10
2	Lockwasher, Int. Tooth, #6	208006
1	Label, Warning	200399
2	Connector, Ring, 18-20 Gauge	439570

IV. INSTALLATION.



This alarm is designed to concentrate its audible alarm in the target hazard area. For proper warning signal coverage, the alarm should be mounted approximately 4 ft. above ground level with the unit's sound ports facing the target hazard area. There should be no obstructions around or blocking the sound ports of the unit.

Select a mounting location at the rear 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 rear of the vehicle, just inside the last cross member or other sturdy part of the body structure. The supplied "L-type" mounting bracket provides mounting flexibility and allows installation in a variety of locations.

A. Electrical.

1. Terminate one end of a user-supplied red (or white) 18 gauge wire with a supplied #6 ring terminal. Terminate one end of a user-supplied black 18 gauge wire with the other #6 ring terminal.
2. To generate the pulsed (beeping tone) using a #6-32 x 1/4" screw and #6 lockwasher, connect the red (or white) wire to the "+" terminal on the alarm. Using a #6-32 x 1/4" screw and #6 lockwasher, connect the black wire to the "-" terminal on the alarm.

To generate a constant tone, connect the red (or white) wire to the “-” terminal and the black wire to the “+” terminal.

3. Route the other end of the red (or white) wire to the vehicle’s backup light circuit, or to an independent actuating switch. DO NOT connect the red (or white) wire to the backup-light circuit, or to the independent actuating switch, at this time.

WARNING

Improper grounding could cause the alarm to function improperly and result in death or serious injury to those who rely on this device for safety. The ground connection (-) must be attached to a solid metal body or chassis part that will provide a dependable ground path for as long as the device is used.

4. Connect the other end of the black wire to a known good chassis ground.

B. Mechanical.

1. Mounting Bracket (see figure 1).

a. Using the bracket as a template, scribe four drill position marks on the mounting surface.

CAUTION

Before drilling holes in ANY part of a vehicle, be sure that both sides of the mounting surface are clear of parts that could be damaged; such as brake lines, fuel lines, electrical wiring or other vital parts.

b. Drill four mounting holes (size determined by the user-supplied mounting bolts) at the drill position marks.

c. Attach the alarm to the mounting bracket using the 1/4-20 x 3/4" hex head bolt and tighten the bolt completely into the alarm. Ensure that the wires are not pinched between the bracket and the alarm.

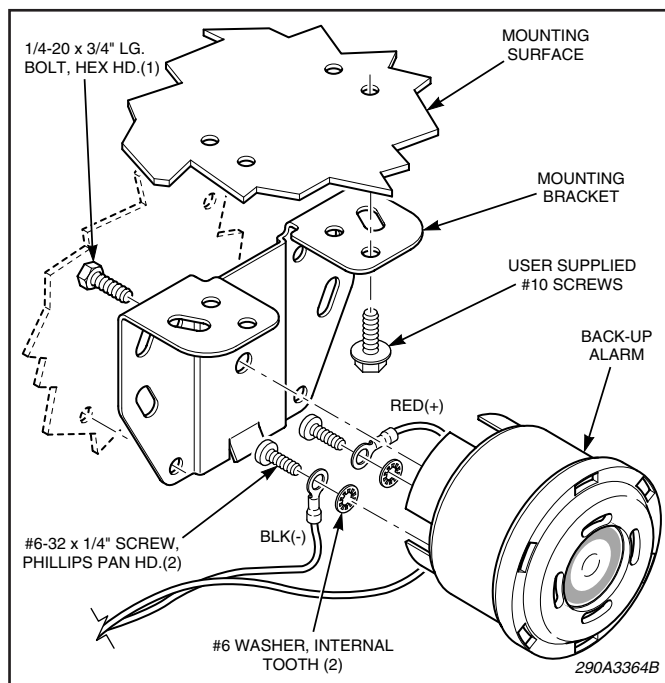


Figure 1.

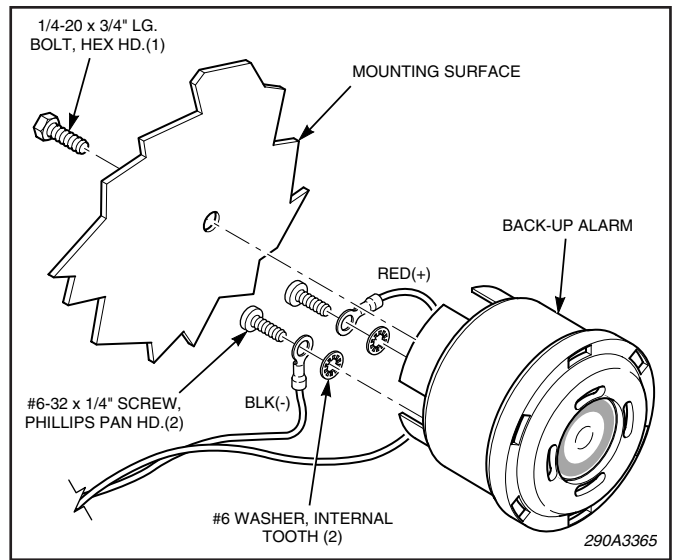


Figure 2.

d. Secure the bracket/alarm assembly to the mounting surface with user-supplied #10 screws.

2. Surface Mounting (see figure 2).

a. Scribe a drill position mark at the desired location.

CAUTION

Before drilling holes in ANY part of a vehicle, be sure that both sides of the mounting surface are clear of parts that could be damaged; such as brake lines, fuel lines, electrical wiring or other vital parts.

b. Drill a 0.281" hole in the mounting surface.

c. Attach the alarm to the mounting surface using the 1/4-20 x 3/4" hex head bolt and tighten the bolt completely into the alarm. Ensure that the wires are not pinched between the mounting surface and the alarm.

C. Final Installation and Testing.

1. See figure 3. Connect the red (or white) wire to the vehicle’s backup light circuit, or to an independent actuating switch.

2. Install the WARNING label in a location clearly visible to the operator at all times.

3. Test the backup alarm for proper operation.

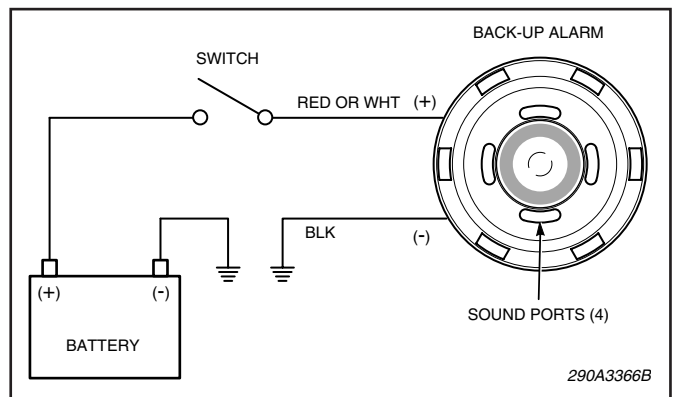


Figure 3.

**SAFETY MESSAGE TO OPERATORS
OF
BACKUP ALARMS**



- **Do not operate the vehicle if the alarm is inoperative; it could jeopardize the safety or lives of those who depend on the alarm signal for safety.**
- **All effective Backup Alarms produce loud sounds which may cause, in certain situations, permanent hearing loss. You should follow your employer's hearing conservation program and safety guidelines for instructions as to whether you should wear hearing protection.**
- **Your hearing and the hearing of others, in or close to your vehicle, could be damaged by loud sounds. This can occur from short exposures to very loud sounds, or from longer exposures to moderately loud sounds. For hearing conservation guidance, refer to federal, state, or local recommendations. OSHA Standard 1910.95 offers guidance on "Permissible Noise Exposure."**
- **Optimum sound propagation will be reduced if Backup Alarm becomes clogged with a foreign substance such as mud or snow. While cleaning, ensure that foreign material is not packed into the sound ports.**
- **Although your warning system is operating properly, it may not alert everyone. People may not hear, see, or heed your warning signal. You must recognize this fact and continue to operate your vehicle cautiously.**
- **Testing the Backup Alarm 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 file.**
- **Notify your supervisor that people operating this equipment MUST check for proper operation at the beginning of every shift.**
- **It is important that you fully understand how to safely operate this warning system before use.**

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