

2562073 Rev. C1 0720

## Safety Message to Installers and Service Personnel of Backup Alarms

### **⚠ WARNING**

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. Listed below are some other important safety instructions and precautions you should follow.

- To properly install the equipment described in this instruction sheet, you must have a good understanding of automotive electrical procedures and systems, along with proficiency in the installation and use of safety warning equipment.
- When drilling into a vehicle structure, ensure that both sides of the surface are clear of anything that could be damaged.
- Locate the 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 that may cause, in certain situations, permanent hearing loss. You should take appropriate precautions such as wearing hearing protection.
- Ensure that the vehicle's supply voltage is within the voltage rating specified on the Backup Alarm.
- Frequently inspect the Backup Alarm system to ensure that it is operating properly and that it is securely attached to the vehicle.
- File these instructions in a safe place and refer to them when maintaining and/or reinstalling the product.

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.

## Introduction

These Backup Alarms are lightweight, low current, piezo-electric, solid-state audible warning devices. They can generate a pulsed (beeping) warning tone. Reverse polarity protection is provided. The housing is environmentally sealed against moisture, dust, and corrosion. All units are supplied with a rubber mounting grommet.

**Table 1 Specifications**

Operating Voltage	9-28 Vdc
Operating Current	0.15 A at 12 Vdc
Pulse Frequency	80 Beeps per minute $\pm 20$
Frequency	2400 Hz $\pm 400$ Hz
Temperature Range	-40°F to 165°F (-40°C to +74°C)

## Unpacking the Kit

After unpacking the kit, inspect it for damage that may have occurred in transit. If it has been damaged, do not attempt to install or operate it. File a claim immediately with the carrier, stating the extent of the damage. Carefully check all envelopes, shipping labels, and tags before removing or destroying them. Ensure that the parts in Table 2 are included in the package. If you are missing any parts, contact Customer Support at 1-800-264-3578, 7 a.m. to 5 p.m., Monday through Friday (CT).

**Table 2 Kit Contents List**

Qty.	Description
1	Rubber Grommet
2	6-32 x 1/4-inch Pan Head Screw
2	#6 Internal Tooth Lockwasher
1	Warning Label
2	18-20 Gauge Ring Connector

## Installing the Alarm

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 feet 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.

Do not mount the alarm with the sound ports facing upwards, where it can become buried, submerged or clogged with mud, water and other debris. A clogged alarm will be rendered ineffective and produce little or no sound output. Make sure the alarm's sound ports are facing the area you are trying to warn, the ports are not clogged, and the alarm is functioning properly before using the vehicle.

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.

The mounting location should be outside the path of any possible road debris that may be kicked up while the vehicle is in operation. Provide a stone shield or mount in a location that will protect this alarm from debris if needed.

The supplied rubber grommet provides mounting flexibility and allows installation in a variety of locations. Ensure that the sound openings are positioned to allow unobstructed sound projection to the target hazard area.

### Mounting the Grommet

#### NOTICE

**DRILLING PRECAUTIONS:** When drilling holes, check the area into which you are drilling to ensure that you do not damage vehicle components. All drilled holes should be deburred, and all sharp edges should be smoothed. All wire routing going through drilled holes should be protected by a grommet or convolute/split-loom weaving.

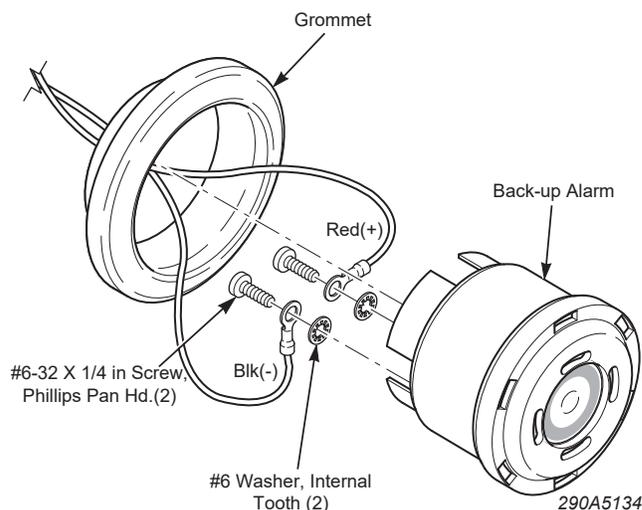
Cut a 3-inch diameter opening for the alarm at the desired location. Orient the grommet with the lettering upright and insert it into the opening for the alarm. Use liquid soap as a lubricant if needed.

### Making the Electrical Connections

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. Using a #6-32 by 1/4-inch screw and #6 lockwasher, connect the red (or white) wire to the "+" terminal on the alarm. Using a #6-32 by 1/4-inch screw and #6 lockwasher, connect the black wire to the "-" terminal on the alarm.
3. Route the other end of the red (or white) wire through the rubber grommet 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.

Figure 1 Exploded view



#### WARNING

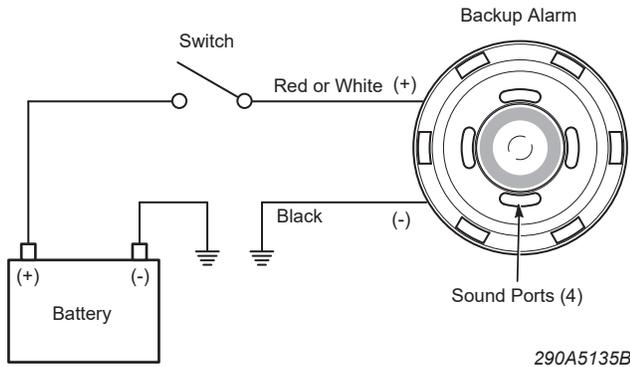
**GROUNDING:** Improper grounding could cause the alarm to function improperly, resulting in death or serious injury to those who rely on this device for safety. The ground connection (-) must be attached to a solid metal body or chassis part that will provide a dependable ground path for as long as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

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

## Final Installation and Testing

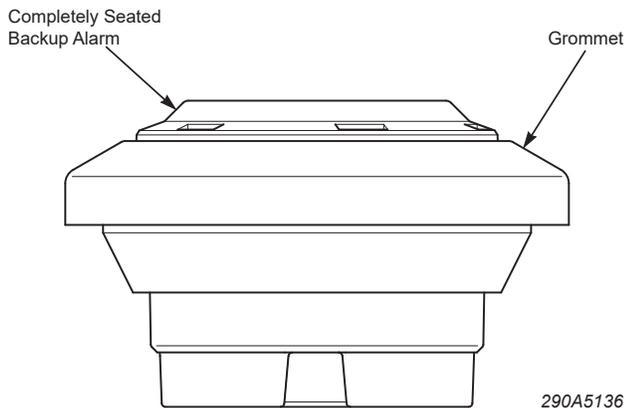
1. Connect the red (or white) wire to the vehicle's backup light circuit, or to an independent actuating switch. See Figure 2.

**Figure 2 Wiring**



2. Install the WARNING label in a location clearly visible to the operator at all times.
3. Orient the backup alarm with the lettering upright and push it into the grommet until it is completely seated. Use liquid soap as a lubricant if needed. See Figure 3.

**Figure 3 Grommet**



### **⚠ WARNING**

**SOUND HAZARD: All effective sirens and horns produce loud sounds (120 dB) that may cause permanent hearing loss. Always minimize your exposure to siren sounds and wear hearing protection. Do not sound the siren indoors or in enclosed areas where you and others will be exposed to the sound.**

4. Test the backup alarm for proper operation.

## Safety Message to Operators of Backup Alarms

### **⚠ WARNING**

- 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 that may cause, in certain situations, permanent hearing loss. You should take appropriate precautions such as wearing 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 the 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. Record results of this test 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.

## **Getting Technical Support**

For technical support, please contact:

Federal Signal Corporation  
Service Department  
Phone: 1-800-433-9132  
Email: [empserviceinfo@fedsig.com](mailto:empserviceinfo@fedsig.com)

## **Getting Repair Service**

The Federal Signal factory provides technical assistance with any problems that cannot be handled locally. Any product returned to Federal Signal for service, inspection, or repair must be accompanied by a Return Material Authorization (RMA). Obtain a RMA from a local Distributor or Manufacturer's Representative. Provide a brief explanation of the service requested, or the nature of the malfunction.

Address all communications and shipments to the following:

Federal Signal Corporation  
Service Department  
2645 Federal Signal Dr.  
University Park, IL 60484-3167

## **Limited Warranty**

This product is subject to and covered by a limited warranty, a copy of which can be found at [www.fedsig.com/SSG-Warranty](http://www.fedsig.com/SSG-Warranty). A copy of this limited warranty can also be obtained by written request to Federal Signal Corporation, 2645 Federal Signal Drive, University Park, IL 60484, email to [info@fedsig.com](mailto:info@fedsig.com) or call +1 708-534-3400.

This limited warranty is in lieu of all other warranties, express or implied, contractual or statutory, including, but not limited to the warranty of merchantability, warranty of fitness for a particular purpose and any warranty against failure of its essential purpose.



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[www.fedsig.com](http://www.fedsig.com)

Customer Support

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Technical Support: 800-433-9132 • +1 708 534-3400

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