

2562648A REV. A 1011

Safety Message to Installers of Siren Speakers

⚠ WARNING

People's lives depend on your proper installation and servicing of Federal Signal products. It is important to read and follow all instructions shipped with this product and the original product. Listed below are some other important safety instructions and precautions you should follow:

Before Installation

Qualifications

- To properly install an electronic siren, you must have a good understanding of automotive electrical procedures and systems, along with proficiency in the installation and service of safety warning equipment. Always refer to the vehicle's service manuals when installing equipment on a vehicle.

Sound Hazards

- Your hearing and the hearing of others, in or near your emergency 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."
- All effective sirens and horns produce loud sounds (120 dB) that may cause permanent hearing loss. Always minimize your exposure to the sound of the siren or horn and wear hearing protection. Do not sound the siren or horn indoors or in enclosed areas where you and others will be exposed to the sound.
- Federal Signal siren amplifiers and speakers are designed to work together as a system. Combining a siren and speaker from different manufacturers may reduce the warning effectiveness of the siren system and may damage the components. You should verify or test your combination to make sure the system works together properly and meets federal, state and local standards or guidelines.

During Installation

- DO NOT get metal shavings inside the product. Metal shavings can cause the system to fail. If drilling must be done near the unit, place an ESD-approved cover over the unit to prevent metal shavings from entering the unit. Inspect the unit after mounting to be sure there are no shavings present in or near the unit.
- To avoid a battery explosion, always disconnect the negative battery cable first and reconnect it last. Avoid causing a spark when connecting near or to the battery. The gases produced by a battery can cause a battery explosion that could result in vehicle damage and serious injury.
- DO NOT connect this system to the vehicle battery until ALL other electrical connections are made, mounting of all components is complete, and you have verified that no shorts exist. If wiring is shorted to the vehicle frame, high current conductors can cause hazardous sparks resulting in electrical fires or flying molten metal.
- Be sure the siren amplifier and speaker(s) in your installation have compatible wattage ratings.
- In order for the electronic siren to function properly, the ground connection must be made to the NEGATIVE battery terminal.

- Sound output will be severely reduced if any objects are in front of the speaker. If maximum sound output is required for your application, you should ensure that the front of the speaker is clear of any obstructions.
- Install the speaker(s) as far forward on the vehicle as possible, in a location that provides maximum signaling effectiveness while minimizing the sound reaching the vehicle's occupants. Refer to the National Institute of Justice guide 500-00 for further information.
- Mounting the speakers behind the grille will reduce the sound output and warning effectiveness of the siren system. Before mounting speakers behind the grille, make sure the vehicle operators are trained and understand that this type of installation is less effective for warning others.
- Sound propagation and warning effectiveness will be severely reduced if the speaker is not facing forward. Carefully follow the installation instructions and always install the speaker with the projector facing forward.
- DO NOT install the speaker(s) or route the speaker wires where they may interfere with the operation of airbag sensors.
- If a vehicle seat is temporary removed, verify with the vehicle manufacturer if the seat needs to be recalibrated for proper airbag deployment.
- Installation of two speakers requires that you wire the speakers in phase.
- Never attempt to install aftermarket equipment, which connects to the vehicle wiring, without reviewing a vehicle wiring diagram, which is available from the vehicle manufacturer. Insure that your installation will not affect vehicle operation and safety functions or circuits. Always check vehicle for proper operation after installation.
- DO NOT install equipment or route wiring or cord in the deployment path of an airbag.
- Locate the control head so the vehicle, controls, and microphone can be operated safely.
- When drilling into a vehicle structure, be sure that both sides of the surface are clear of anything that could be damaged.
- If a vehicle seat is temporarily removed, verify with the vehicle manufacturer if the seat needs to be recalibrated for proper airbag deployment.

After Installation

- After installation, test the siren system and light system to ensure that it is operating properly.
- Test all vehicle functions, including horn operation, vehicle safety functions and vehicle light systems, to ensure proper operation. Ensure that installation has not affected vehicle operation or changed any vehicle safety function or circuit.
- After testing is complete, provide a copy of these instructions to the instructional staff and all operating personnel.
- File these instructions in a safe place and refer to them when maintaining or reinstalling the product.

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death.

Product Overview

The RB-CAP11 is a mounting kit for the Federal Signal Rumbler® low-frequency signaling system. This kit mounts one speaker in each side of the rear bumper of a 2011 and newer Chevy Caprice.

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 damage. Carefully check all envelopes, shipping labels, and tags before removing or destroying them. Ensure that the parts listed in Table 1 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 1 Kit contents

Qty.	Description	Part Number
2	Band, Long	82831114
2	Band, Short	82831115
4	1/4" x 5/8" Screw, Type B	7011165-10
2	5/16"-18 Cap Hex Hd. Screw	7002A005-20
6	5/16" Lockwasher	7074A020
6	5/16"-18 Hex Nut	7059125
4	5/16"-18 Mach. Hex Hd. Screw	7000469-40
4	5/16" Flat Washer	7072A031
8	Spacer, Bronze	230301
2	Bracket, Step	82831120
2	Shield, Tail Pipe	82831121
4	Clamp, #36, Worm Drive, SS	150201

Mounting the Rumbler

WARNING

INSTALLATION PRECAUTION—Do not install the speaker near the fuel tank or fuel lines. Installing the speaker too close to fuel line/tank areas may cause fuel leakage or fire during a vehicle collision, causing personal injury or death.

WARNING

USE ONLY WITH RUMBLER AMPLIFIER—This speaker is designed to be used only with the Rumbler Amplifier. Do not connect this speaker directly to a standard electronic siren. Connecting this speaker directly to a standard electronic siren will greatly reduce the effectiveness of the siren signal. When installing this speaker, always refer to the Rumbler low-frequency amplifier installation and operating instructions (part no. 2562420) for more detailed information about the siren system and how to install, service, and operate the system safely. Instruction manuals are available for viewing or downloading at www.fedsig.com.

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death.

⚠ WARNING

SPEAKER MOUNTING PRECAUTION—To avoid reduction of sound output and damage to the speaker, ensure that the speaker is mounted with the slots facing the ground.

NOTE: The band halves included with the Rumbler speaker are not used in this installation.

To mount the speakers:

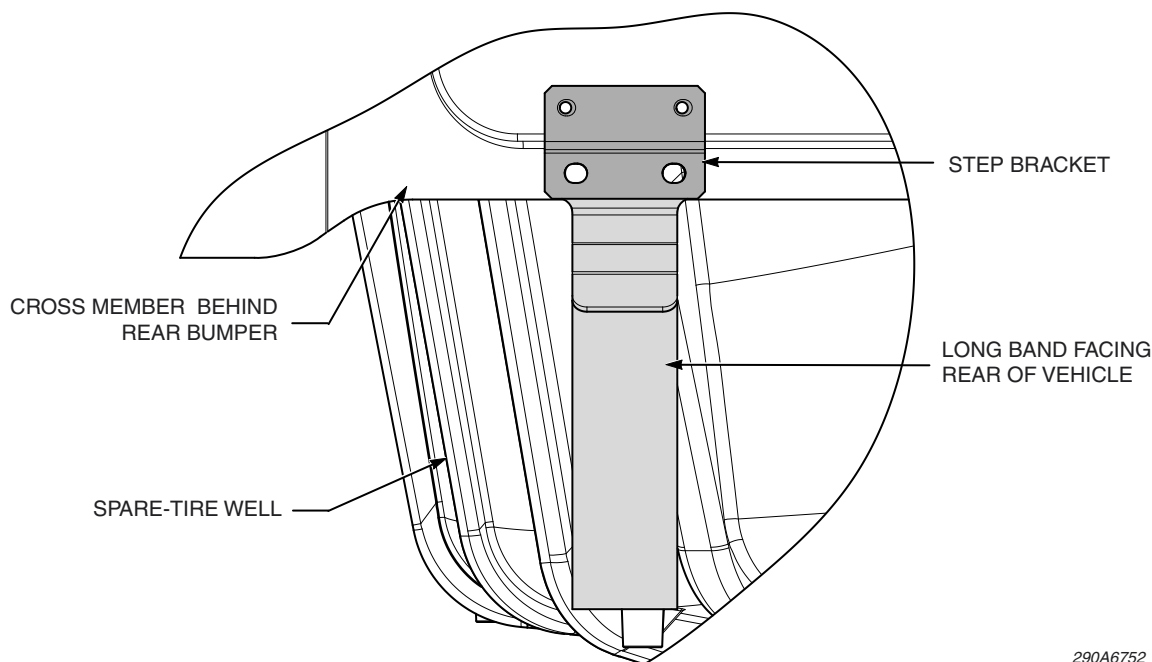
1. To gain access to the area inside the rear bumper, disassemble the vehicle according to the instructions in the manufacturer's service manual.

NOTICE

DRILLING PRECAUTIONS—Before drilling holes, check the area you are drilling into to be sure you do not damage vehicle components while drilling. All drilled holes should be de-burred and all sharp edges should be smoothed. All wire routings going through drilled holes should be protected by a grommet or convolute/split loom tubing.

2. See Figures 1 below and Figure 2 on page 3. Position a step bracket on the cross member as shown and mark the centers of the four mounting holes. Drill the upper holes 3/16" in diameter and the lower holes 3/8" in diameter. Remove any burrs to ensure that the brackets and mounting hardware fit properly.

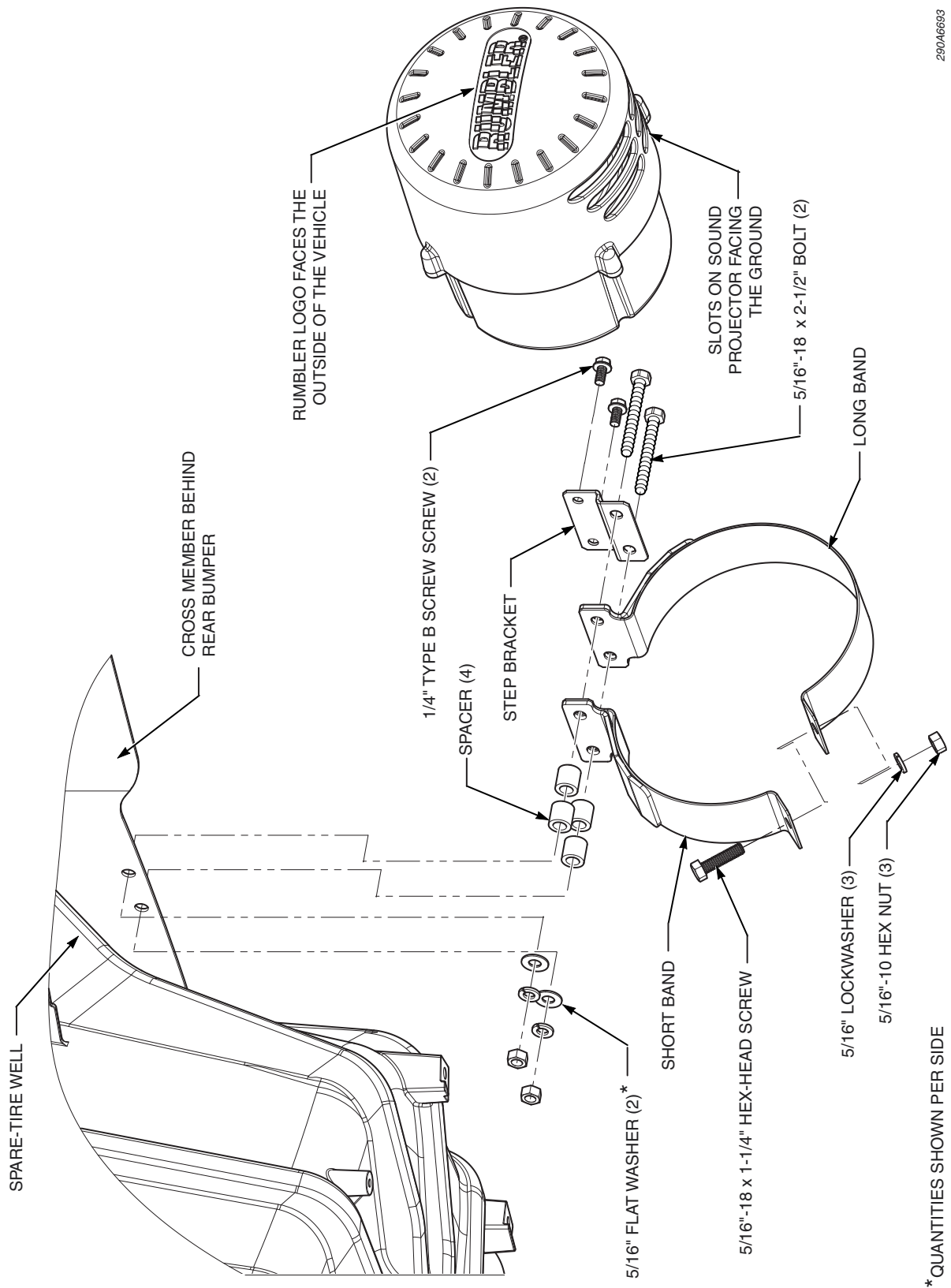
Figure 1 Step bracket and bands positioned against cross member



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3. See Figure 2 on page 5 and Figure 3 on page 6. Loosely assemble the Rumbler speaker in the long and short bands using a 5/16" x 1-1/4" bolt in the hole in the bottom of the band tabs. The short band faces the front of the vehicle. Insert two 5/16"-18 x 2-1/2" bolts through the step bracket and bands, and then place two spacers on each bolt.

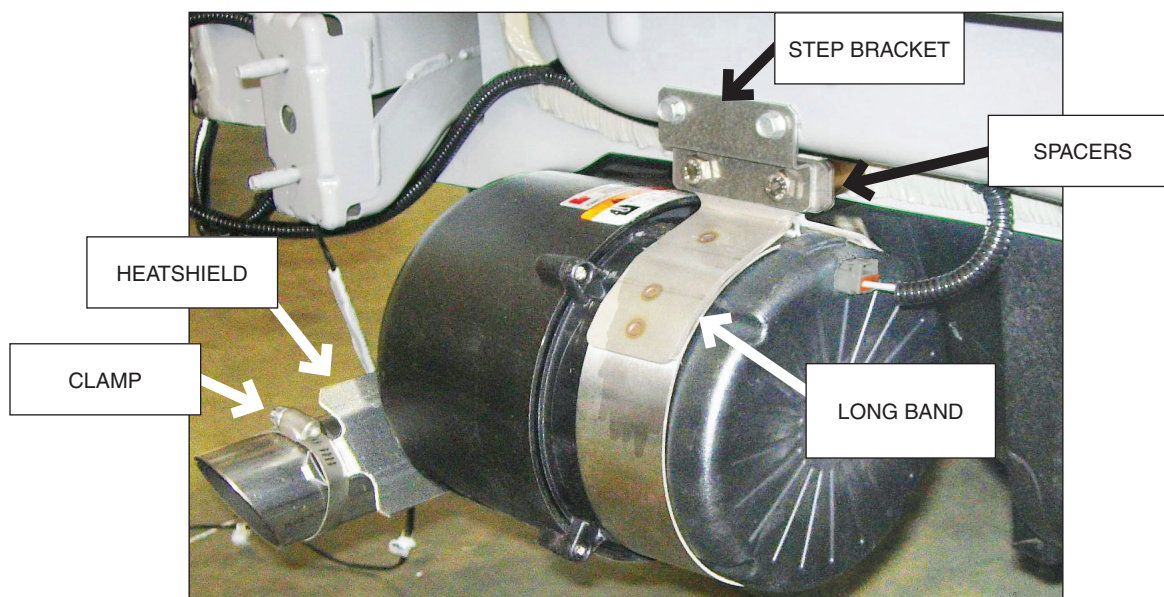
Figure 2 Exploded view of Rumbler in bands secured in place with step bracket



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4. With the sound projector (with Rumbler insignia) facing the outside of the vehicle, place this assembly against the cross member, the long 5/16" bolts going through the 3/8" holes. Install flat washers, lock washers, and nuts loosely. Install two 1/4" Type B screws into the 3/16" drilled holes. Adjust the speaker for maximum clearance from the tailpipe, and tighten all the bolts.
5. Position the heatshield on the tailpipe and secure it with the two hose clamps.
6. Repeat steps 2 through 5 for the other side of the vehicle.

Figure 3 Rumbler in bands secured in place with step brackets



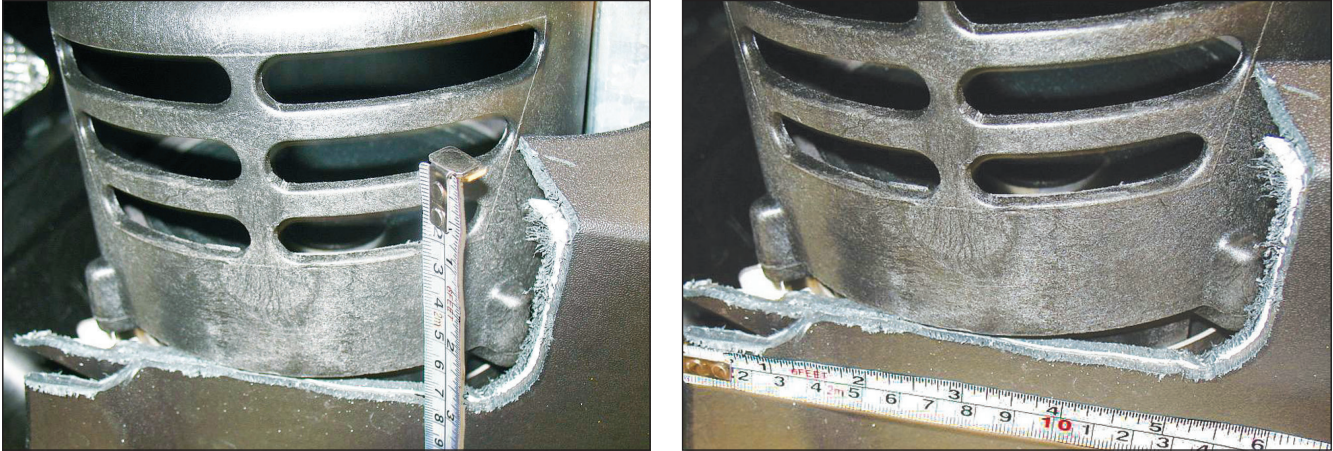
8. After you mount the speakers, connect the supplied wire harness to the leads from the Rumbler amplifier. Note that two speakers must be connected in parallel and in phase. For details, refer to the instructions included with the amplifier.
9. See Figure 4 below and Figure 5 on page 7. Remove an approximately 3" x 6" section on each end of the lower splash panel for speaker clearance.

Figure 4 Two 3" x 6" sections marked in lower splash panel



10. Test the speakers for proper operation as well as the emergency warning system to ensure that it is operating properly. See the next two sections for warnings and instructions.
12. Reassemble the vehicle.

Figure 5 Rumbler seen from bottom protruding through lower splash guard



Safety Message to Operators of Federal Signal Electronic Sirens and Light/Sound Systems

⚠ WARNING

The lives of people depend on your safe operation of Federal Signal products. It is important to read and follow all instructions shipped with the products. In addition, listed below are some other important safety instructions and precautions you should follow:

Qualifications

- To properly use an electronic siren and speaker(s), you must have a good understanding of general vehicle operation, a high proficiency in the use of safety warning equipment, and thorough knowledge of state and federal UNIFORM TRAFFIC CODES.

Sound Hazards

- Your hearing and the hearing of others, in or close to your emergency 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.”
- All effective sirens and horns produce loud sounds (120 dB) that may cause permanent hearing loss. Always minimize your exposure to siren sound, roll up your windows and wear hearing protection. Do not sound the siren indoors or in enclosed areas where you and others will be exposed to the sound. Only use the siren for emergency response situations.

Sound Limitations

- Before using the vehicle, check to see if the siren speakers are concealed from view. If the siren speaker is not in clear view on the front of the vehicle, use extra caution when operating the vehicle. A concealed siren speaker installation is less effective at warning others.

- Maximum sound output will be severely reduced if any objects are in front of the speaker. If your installation has obstructions in front of the speaker, drive even more cautiously.
- Frequently inspect the speaker to ensure that it is clear of any obstruction, such as mud or snow, which will reduce maximum sound output.

Signaling Limitations

- Be aware that the use of your visual and audible signaling devices does not give you the right to force your way through traffic. Your emergency lights, siren, and actions are REQUESTING the right-of-way.
- 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 driving cautiously.
- Situations may occur which obstruct your warning signal when natural or man-made objects are between your vehicle and others. This can also occur when you raise your hood or trunk lid. If these situations occur, be especially careful.

Driving Limitations

- At the start of your shift, you should ensure that the light/sound system is securely attached to the vehicle and operating properly.
- If the unique combination of emergency vehicle equipment installed in your vehicle has resulted in the siren controls being installed in a position that does not allow you to operate them by touch only, OPERATE CONTROLS ONLY WHILE YOUR VEHICLE IS STOPPED.
- If driving conditions require your full attention, you should avoid operating the siren controls while the vehicle is in motion.

Continuing Education

- File these instructions in a safe place and refer to them periodically. Give a copy of these instructions to new recruits and trainees.

Failure to follow these safety precautions may result in property damage, serious injury, or death.

Testing the Installation

⚠ WARNING

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

⚠ WARNING

LIGHT HAZARD—To be an effective warning device, an emergency warning system produces bright light that can be hazardous to your eyesight when viewed at a close range. Do not stare directly into the lights at a close range or permanent damage to your eyesight may occur.

After testing the installation, test the emergency warning system to ensure that it is operating properly. Also test all vehicle functions, including horn operation, vehicle safety functions, and vehicle lighting systems to ensure proper operation. Ensure that the installation has not affected the vehicle operation or changed any vehicle safety functions or circuits.

Do not test the sound and light system of the vehicle while driving. Operating the vehicle warning systems may pose a hazard to the operator and other drivers if the systems do not function as expected. Test the vehicle only in a controlled environment. After testing is complete, provide a copy of these instructions to the instructional staff and all operating personnel.

Getting Technical Support and Service

The speaker has no field-serviceable parts. Opening the speaker will void the warranty. The Federal Signal factory can and will service your speaker. If you are experiencing problems with the speaker, please contact:

Federal Signal Corporation
Service Department
Public Safety Systems
Phone: 1-800-433-9132
Fax: 1-800-343-9706
Email: empserviceinfo@fedsig.com

Ordering Replacement Parts

The speaker has no field-serviceable parts. To order replacement parts for the mounting kit, please contact your local dealer/distributor or:

Customer Support
Federal Signal Corporation
Phone: 1-800-264-3578

Returning a Product to Federal Signal

Before returning a product to Federal Signal, call 800-264-3578, 800-433-9132, or 800-824-0254 to obtain a Returned Merchandise Authorization number (RMA number). To expedite the process please be prepared with the following information:

- Your Federal Signal customer or account number.
- The purchase order number under which the items were purchased.
- The shipping method.
- The model or part number of the product being returned.
- The quantity of products being returned.
- Drop ship information as needed.
- Any estimate required.

When you receive your RMA Number:

- Write the RMA number on the outside of the box of returned items.
- Reference the RMA number on your paperwork inside of the box.
- Write the RMA number down, so that you can easily check on status of the returned equipment.

Send all material with the issued RMA Number to:

Federal Signal Corporation
Public Safety Systems
2645 Federal Signal Drive
University Park, IL 60484-3167
Attn: Service Department
RMA: # _____
800-433-9132
800-343-9706 (fax)
www.fedsig.com



2645 Federal Signal Drive, University Park, IL 60484-3167
Tel.: (800) 264-3578 • Fax: (800) 682-8022
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