

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 siren sound and wear hearing protection. Do not sound the siren 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.
- 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 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 equipment or route wiring in the deployment path of an airbag. Failure to observe this warning will reduce the effectiveness of the airbag or potentially dislodge the equipment, causing serious injury or death.
- If a vehicle seat is temporarily 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.
- 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.

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 and/or reinstalling the product.

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

Before You Begin

The Model RB-FPIU13 is a mounting kit for use with the Federal Signal Rumbler™ low-frequency signaling system. The kit mounts two speakers on upper frame beneath the driver-side headlight on the 2012 and newer Ford Police Interceptor Utility and Explorer. Figure 1 shows the mounting location on the upper frame.

Unpacking the Kit

After unpacking the kit, inspect it for damage that may have occurred in transit. If it has been damaged, do not install 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 (Table 1), contact Customer Support at 1-800-264-3578, 7 a.m. to 5 p.m., Monday through Friday (CT).

Figure 1 Mounting location on upper front frame

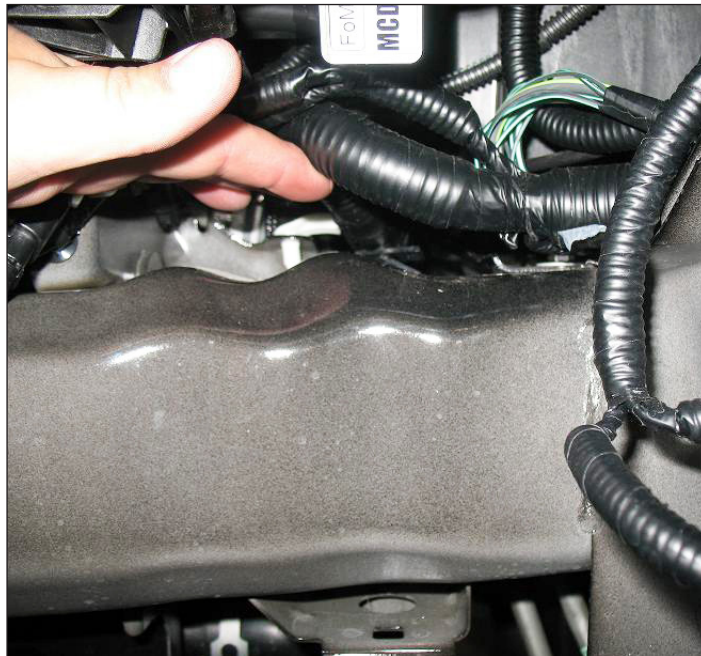


Table 1 Kit contents

Qty.	Description	Part Number
1	Bolt, 5/16", Hex, Machine	7002A005-12
4	Bolt, 5/16" HWH, Tri-Lobe	7011213-16
1	Nut, Nylon, Lock, 5/16"	7058049
1	Washer, 5/16" Flat, S.S.	7072A031
4	Washer, 5/16" Split Lock	7074A020
1	Bracket, Top, Utility	828300100
1	Bracket, Side, Utility	828300101

Required Tools

Hammer, center punch, drill, 9/32" drill bit, 1/2" wrench (2) and 10 mm wrench

Installing the Mounting Brackets

⚠ WARNING

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

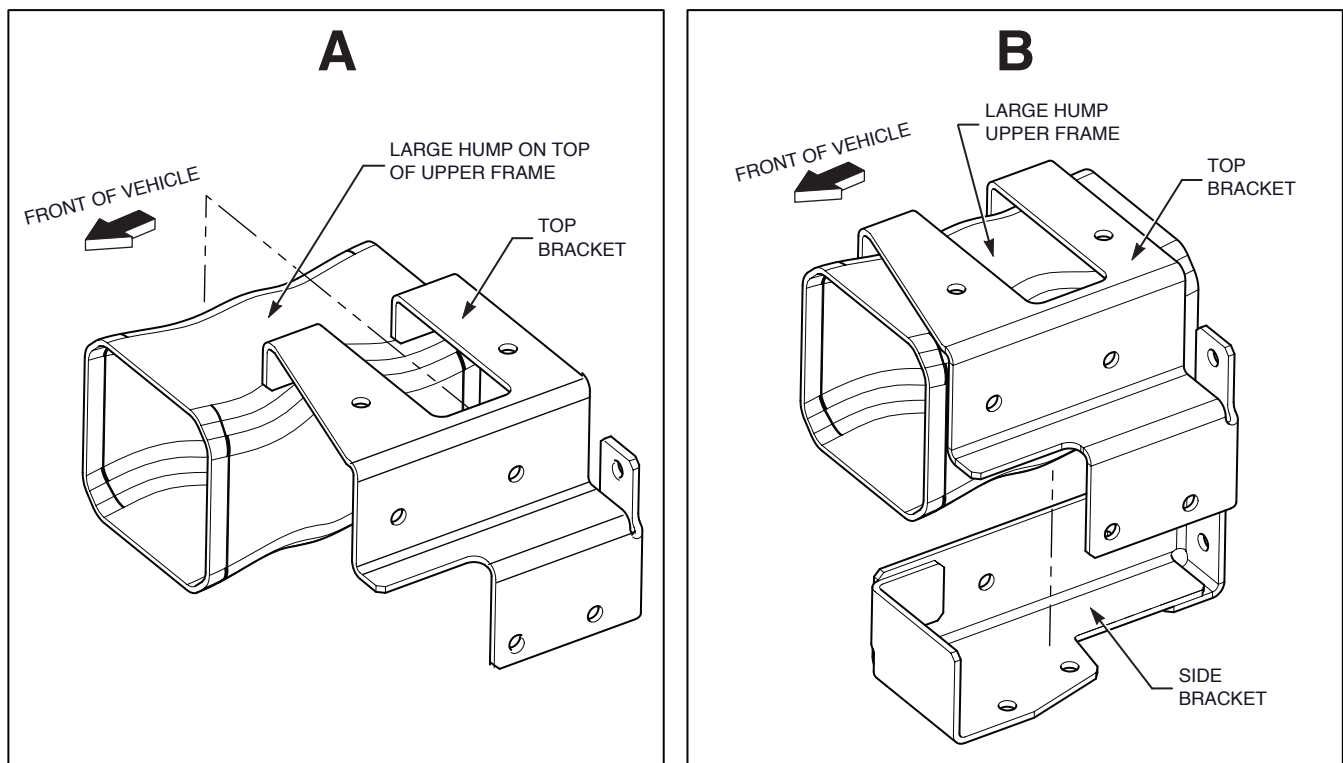
NOTICE

BOTH SPEAKERS ARE MOUNTED ON THE DRIVER SIDE OF THE VEHICLE!

To install the top and side brackets:

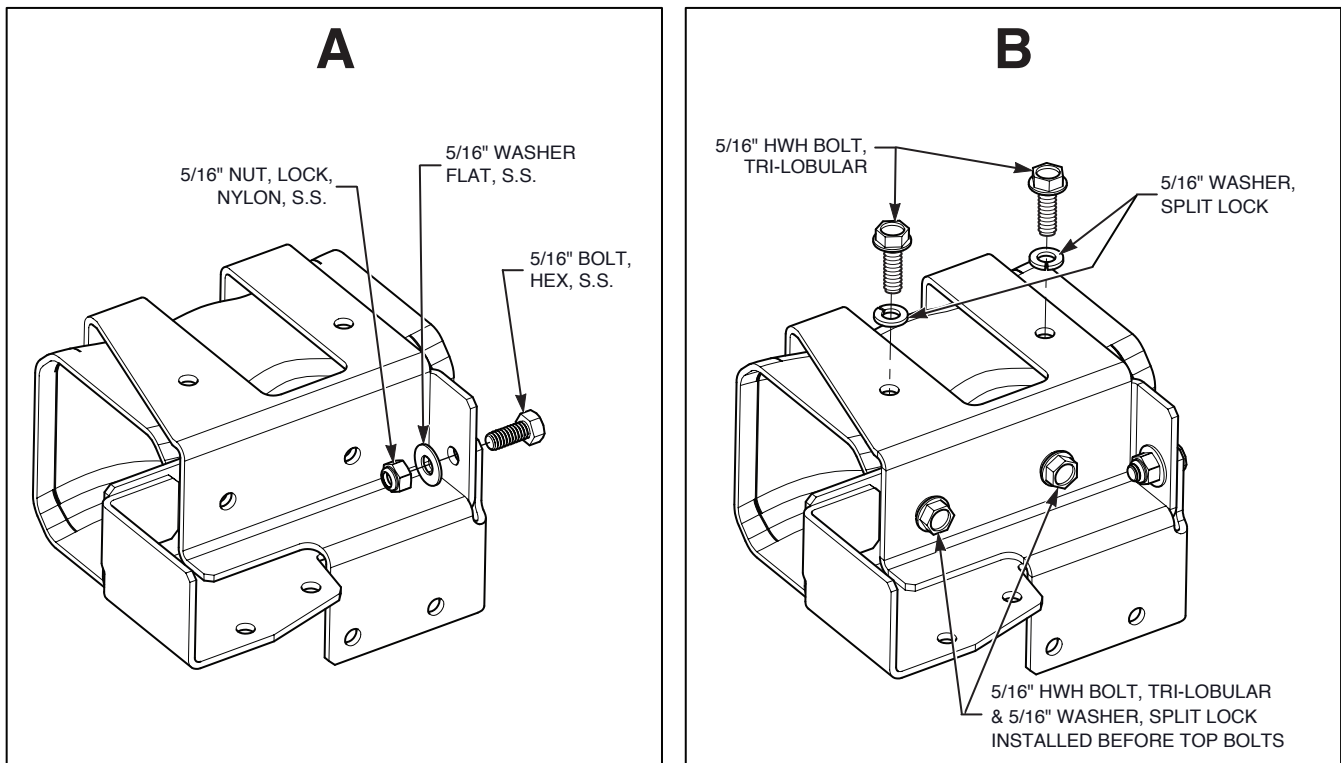
1. Remove the front fascia.
2. Remove the driver-side headlight.
3. See Figure 2 A. Slide the top bracket over the upper frame so that the large hump in the frame fits in the slot on top of the bracket.

Figure 2 Top and side brackets mounted on upper frame



4. Hold the top bracket against the top and side of the frame and mark the locations of the two bolt holes on the side of the bracket.
5. Remove the top bracket and drill two 9/32" holes into the side of the upper frame.
6. Again slide the top bracket over the upper frame so that the large hump in the frame fits in the slot on top of the bracket. .
7. See Figure 2 B on page 4. Slide the side bracket between the frame and the top bracket.
8. See Figure 3 A. Fasten the brackets together using the 5/16" hardware. 9. Fasten the bracket assembly in place using two 5/16" HWH screws and two split lock washers.

Figure 3 Brackets secured to upper frame



10. Mark the locations of the two top bolt holes and drill two 9/32" holes into the top of the frame.
11. See Figure 3 B. Fasten the top of the bracket assembly using two 5/16" HWH screws and two split lock washers.

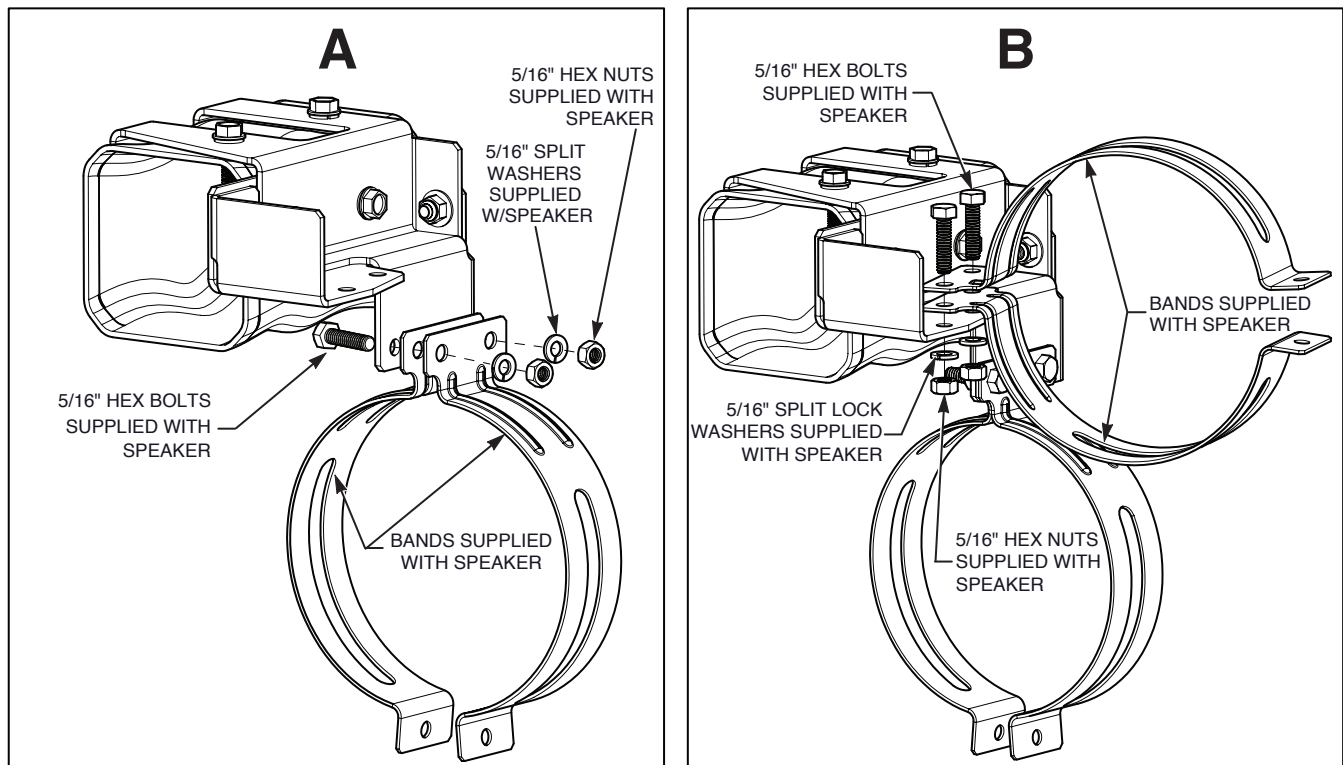
See "Mounting the Speakers" on page 6.

Mounting the Speakers

To mount the speakers:

1. Attach two bands to the vertical mount as shown in Figure 4 A and securely tighten the 5/16" hardware.

Figure 4 Bands secured to horizontal mounting bracket



2. Attach two bands to the horizontal mount as shown in Figure 4 B and securely tighten the 5/16" hardware.
3. See Figure 6 on page 8. Disconnect the wires to the stock horns and carefully remove the horns, which are to be reinstalled after the speaker installation.

⚠ WARNING

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.*

4. See Figure 5 A on page 7. Slide the speaker into the top bands with the back of the speaker facing the front of the vehicle. Secure the speaker with the 5/16" hardware supplied with the speaker.
5. See Figure 5 B on page 7. Slide the speaker into the bottom bands with the back of the speaker facing the front of the vehicle. Secure the speaker with the 5/16" hardware supplied with the speaker.
6. Remount the stock horns and reconnect the wiring as shown in Figure 6 on page 8.
7. Refer to the "Wiring the Speakers" on page 8
8. Replace the driver-side headlight.
9. Replace the front fascia.

Figure 5 Speakers inserted in bands

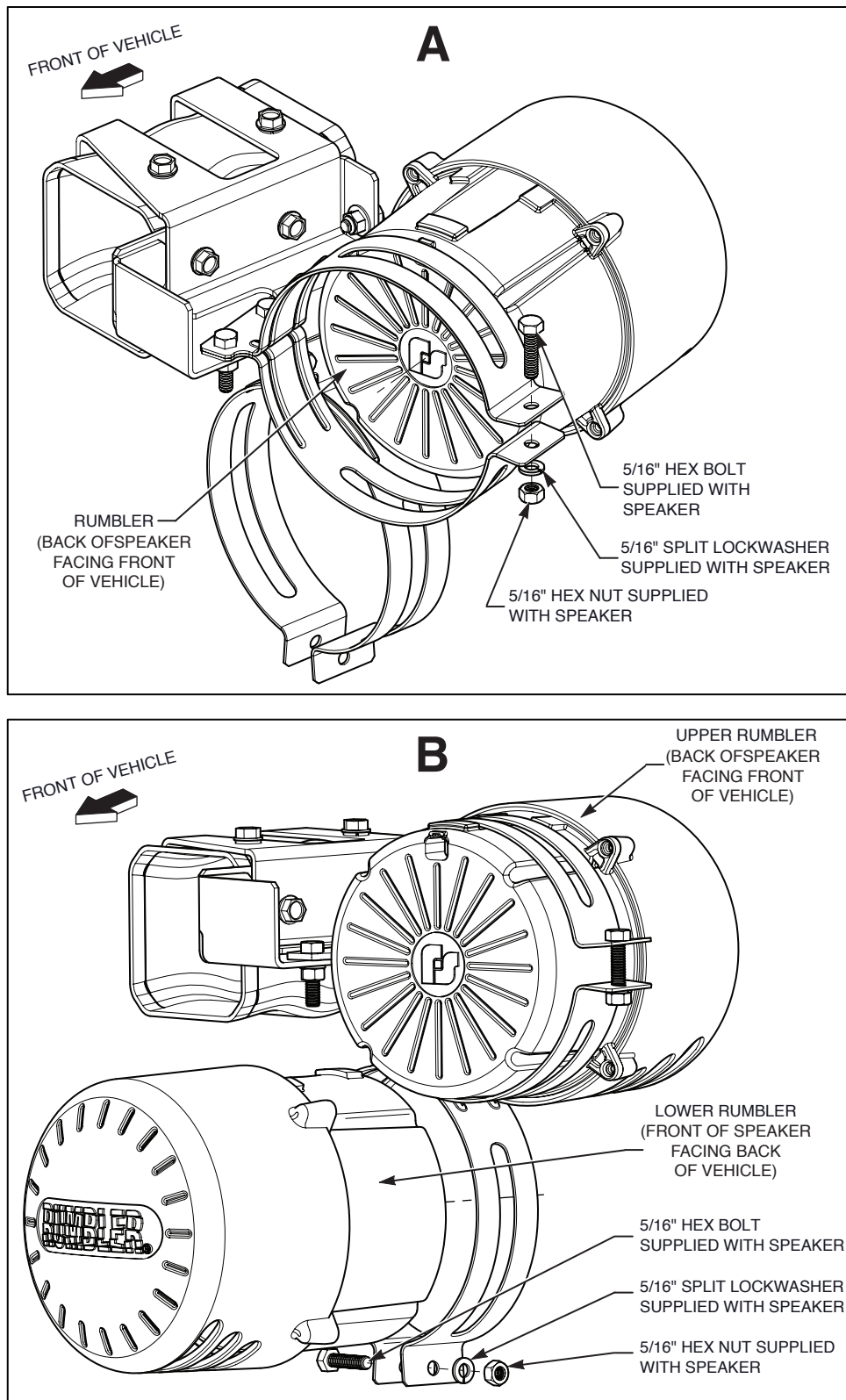
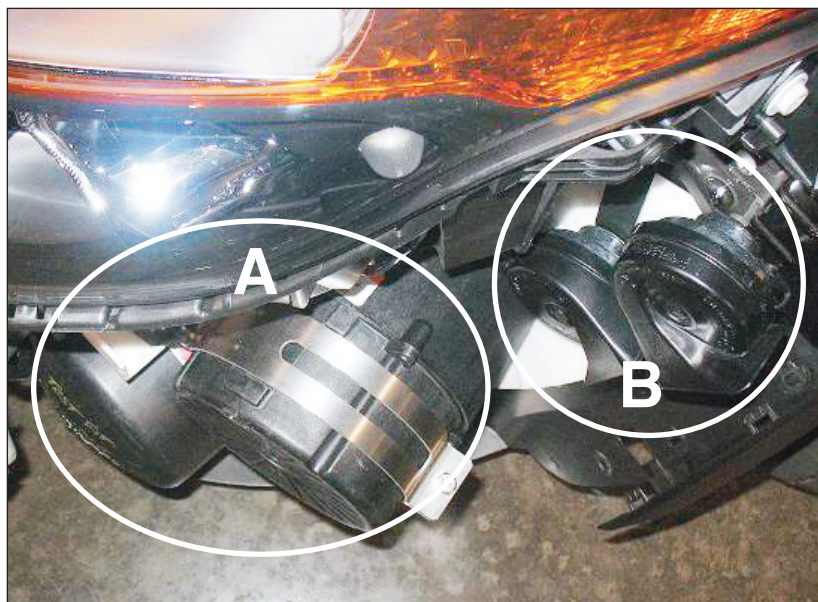


Figure 6 Speakers (A) and stock horns (B) installed



Wiring the Speakers

To wire the speakers:

1. Connect the wire harness from the siren amplifier to the speaker wires. For details, refer to the installation instructions provided with the amplifier.
2. Plug the speaker wire connector into the back of the speaker.
3. Test the speaker system for proper operation. See the safety messages on page 10.

Getting Technical Support and Service

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

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

Ordering Replacement Parts

To order replacement parts, 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
2645 Federal Signal Drive
University Park, IL 60484-3167
Attn: Service Department
RMA: # _____

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

People's lives 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.



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