

2562424B REV. B 312

Safety Message to Installers of Federal Signal 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. In addition, 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 vehicle's service manuals when installing equipment on a vehicle.

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 recommendation. 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 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 manufactures 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 and guidelines.

During Installation

- DO NOT get metal shavings inside the product. Metal shavings in the product 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 the 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 caused 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 vehicle frame, high current conductors can cause hazardous sparks resulting in electrical fires or flying molten metal.
- Be sure 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.

Mounting Instructions for the Rumbler® Speaker

- 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 and minimizes 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 the 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 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 parallel and in phase.
- Never attempt to install aftermarket equipment, which connects to the vehicle wiring, without reviewing a vehicle wiring diagram available from the vehicle manufacturer. Insure that your installation will not affect vehicle operation and safety functions or circuits. Always check the vehicle for proper operation after installation.
- DO NOT install equipment or route wiring or cords 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 side 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 safely.
- 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 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 Model RB-ES08 is a mounting kit for the Federal Signal Rumbler Model 689000-00 low frequency speaker. The kit mounts the speaker in the front driver and passenger side wheel wells of a 2008 Ford E-Series Chassis vehicle.

⚠ WARNING

USE ONLY WITH RUMBLER AMPLIFIER—*This speaker is designed to only be used 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 download at www.fedsig.com.*

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 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	Bracket, Mounting, "A"	82831074
2	Bracket, Mounting, "B"	82831075
2	Mounting Plate Assy.	82831077
8	Lockwasher, Split, 5/16"	7074A020
8	Hex Nut, 5/16-16	7057A027

Preparing the Mounting Location on the Driver Side

⚠ WARNING

FIRE HAZARD—*Do not install the speaker near the fuel tank or fuel lines. Installing the speaker too close to fuel lines and tank areas may cause fuel leakage or a fire during a vehicle collision. Failure to follow this safety precaution may result in property damage, serious injury, or death.*

To prepare the mounting surface:

1. See Figure 1 on page 4. Remove the three fasteners that secure the radiator fluid reservoir and move it aside.
2. Remove the fasteners securing the air filter box assembly and move it aside.

Figure 1 Radiator fluid reservoir and air filter box (driver side)



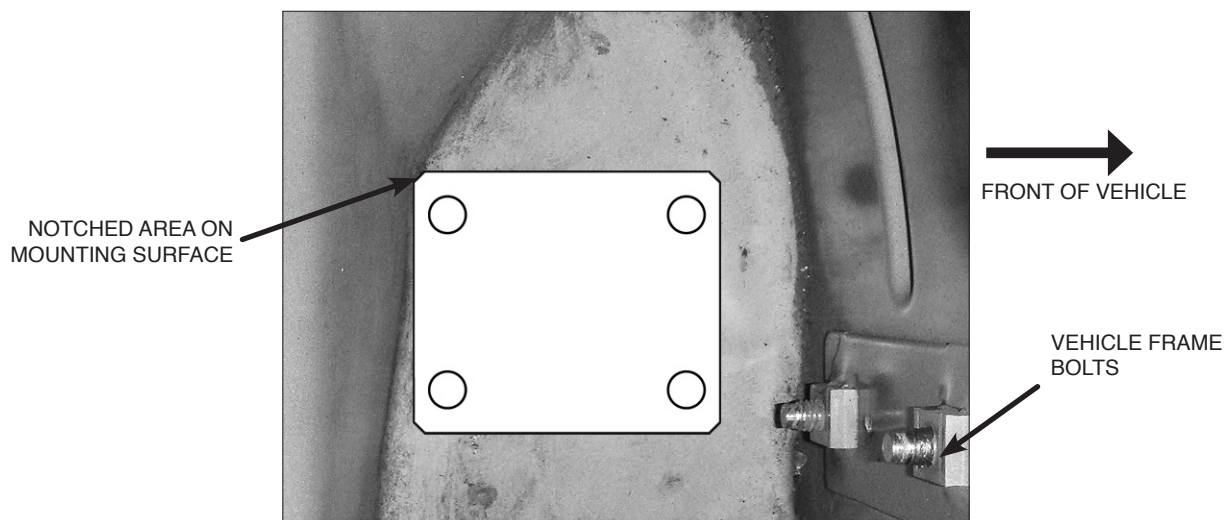
3. Detach or photocopy the reinforcement mounting hole template for the mounting plate on page 11. Verify the dimensions of the template.

NOTICE

PLACE TEMPLATE CORRECTLY—The placement of the mounting hole template must not interfere with the vehicle frame bolts (Figure 2).

4. See Figure 2. Place the top right chamfered corner of a short edge of the drawing against the notched area of the horizontal flat surface. The other short edge of the drawing should be parallel to the front of the vehicle.

Figure 2 Template on mounting surface next to wheel well (driver side)



5. Scribe the four drill-position marks through the mounting hole template.

⚠ WARNING

DRILLING PRECAUTIONS—Before drilling holes, check the area into which you plan to drill to ensure you do not damage vehicle components. All drilled holes should be deburred and all sharp edges should be smoothed. All wires going through drilled holes should be protected by a grommet or convolute/split-loom tubing.

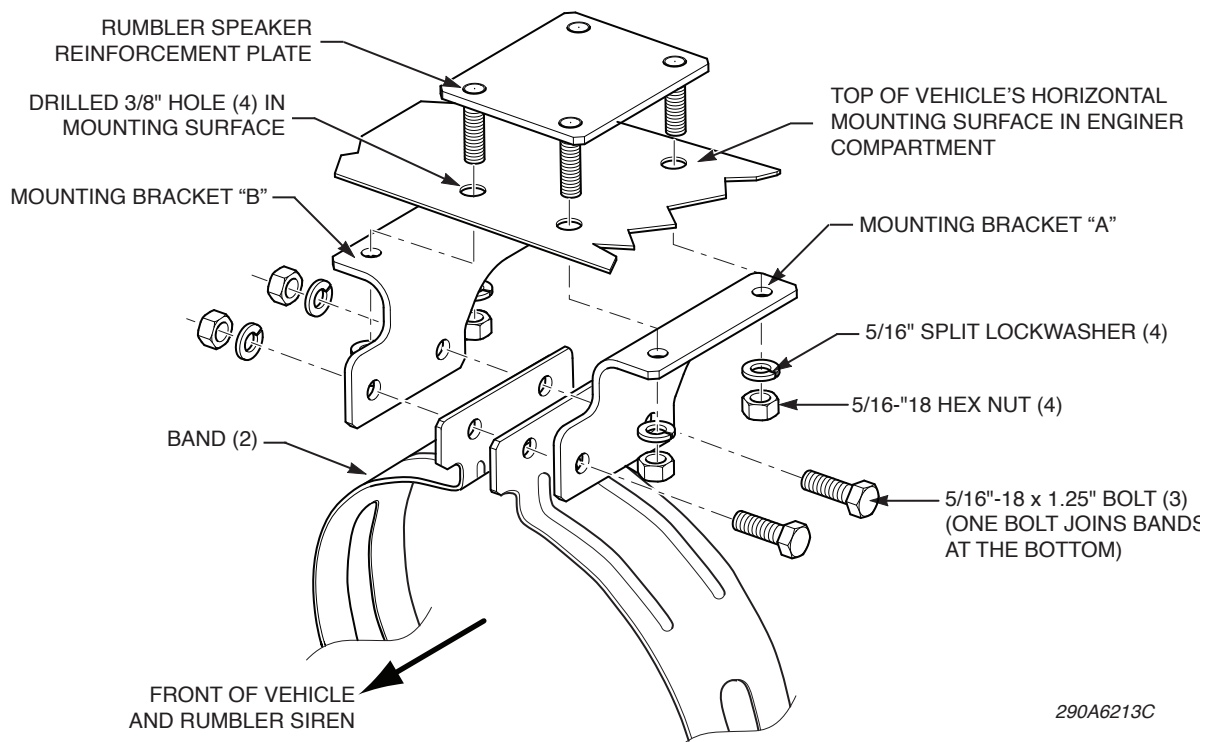
6. Remove the template and drill the four 3/8" holes. Remove any burrs to ensure that the speaker's reinforcement plate and mounting hardware fit properly.

Mounting a Rumbler Speaker on the Driver Side

To mount the speaker:

1. See Figure 3. Insert the threaded studs of the speaker reinforcement plate into the drilled four holes.
2. From the underside of the vehicle, place the holes of mounting bracket "A" over the threaded studs on the speaker's reinforcement plate. Secure the bracket using the 5/16" split lockwashers and 5/16"-16 hex nuts. Attach bracket "B" in the same way.
3. See Figure 3. Attach the bands to mounting bracket "A" using the 5/16"-18 x 1.25" bolts, 5/16" split lockwashers, and 5/16"-18 hex nuts.

Figure 3 Hardware for mounting one speaker

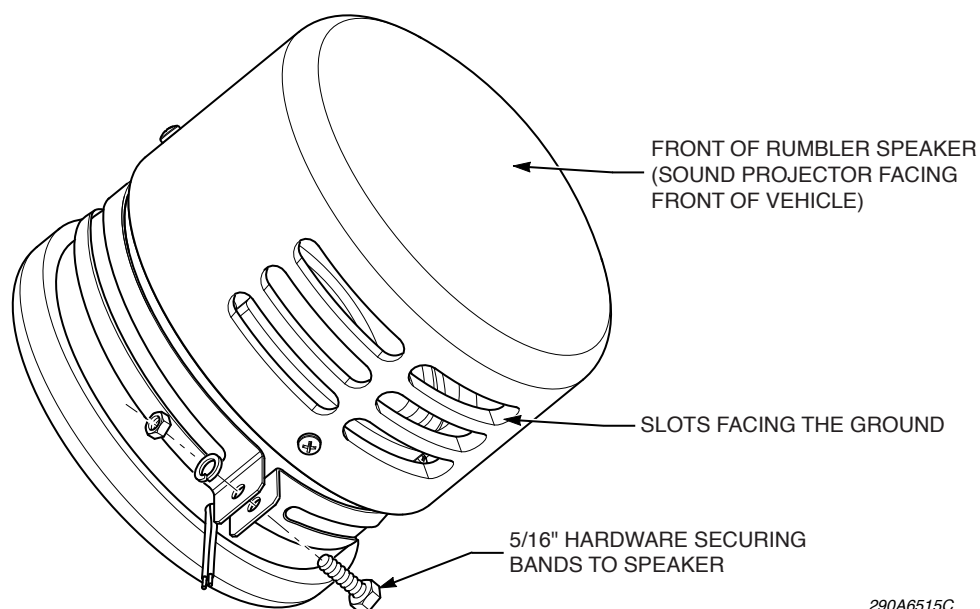


⚠ WARNING

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 (Figure 7 on page 9).

4. See Figure 4 on page 6. Spread the bands apart to place the speaker in the mounting bracket assembly. Tighten the bands around the speaker using the 5/16" hardware.

Figure 4 Bands secured with 5/16"-18 hardware



5. Connect the two leads from the speaker to the electronic siren's speaker cable. Refer to the instructions provided with the electronic siren for additional information.

NOTE: Two speakers must be wired in parallel and in phase.

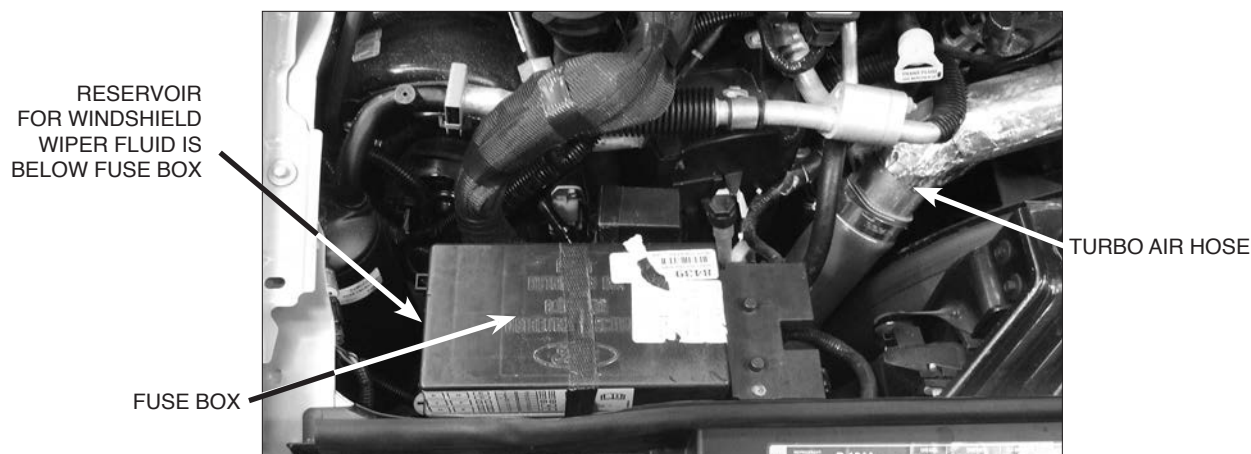
6. Test the speakers for proper operation as well as the emergency warning system to ensure that it is operating properly. For warnings and instructions, see page 9.
7. Move the air filter box assembly back into position and secure it with its fasteners.
8. Move the radiator fluid reservoir back into position and secure it with its three fasteners.

Preparing the Mounting Location on the Passenger Side

To prepare the mounting surface:

1. See Figure 5. Remove the four bolts from the fuse box holder and move the holder aside.

Figure 5 Locations of fuse box and reservoir for the windshield wiper fluid



2. Loosen the clamp on the turbo air hose and move aside the hose with the clamp.
3. Remove the four bolts from the reservoir for the windshield wiper fluid and move the reservoir aside.
4. Detach or photocopy the reinforcement plate's mounting hole template on page 11. Verify the dimensions of the template.

NOTICE

PLACE TEMPLATE CORRECTLY—The placement of the mounting hole template must not interfere with the vehicle frame bolts (Figure 6).

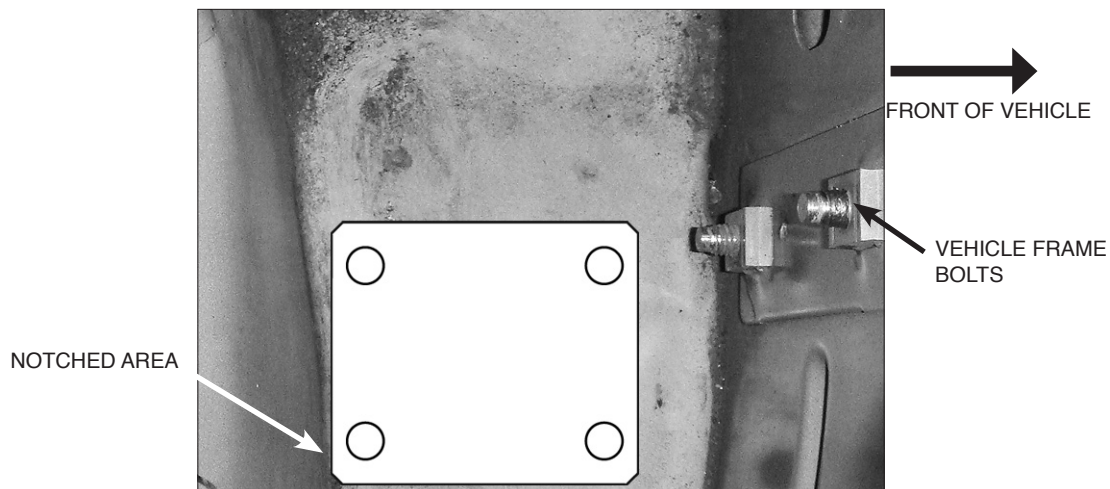
5. See Figure 6. Place the top right chamfered corner of a short edge of the drawing against the notched area of the horizontal flat surface. The other short edge of the drawing should be parallel to the front of the vehicle.

⚠ WARNING

DRILLING PRECAUTIONS—Before drilling holes, check the area into which you plan to drill to ensure you do not damage vehicle components. All drilled holes should be deburred and all sharp edges should be smoothed. All wires going through drilled holes should be protected by a grommet or convolute/split-loom tubing.

6. Remove the template and drill the four 3/8" holes. Remove any burrs to ensure that the speaker's reinforcement plate and mounting hardware fit properly.

Figure 6 Template on mounting surface next to wheel well (passenger side)



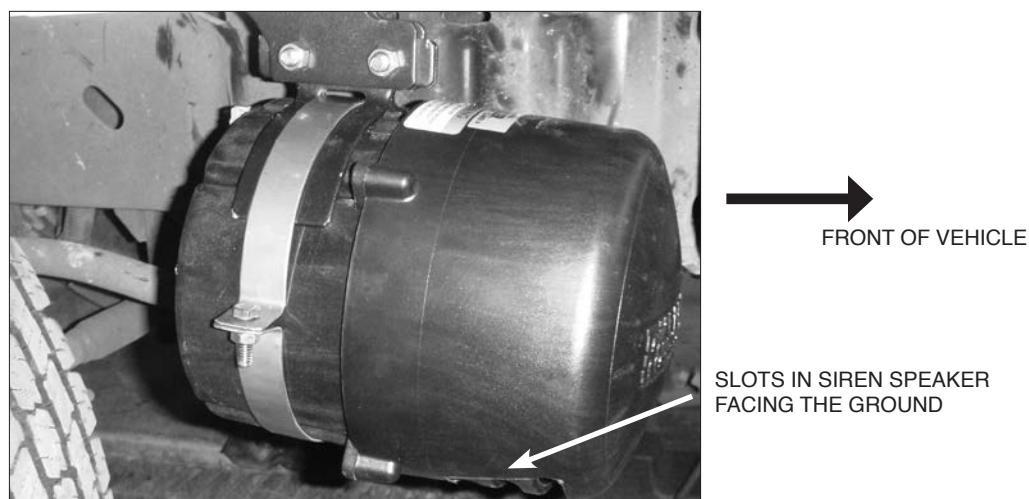
Mounting a Rumbler Speaker on the Passenger Side

To mount the speaker:

1. See Figure 3 on page 5. Insert the studs of the speaker's reinforcement plate into the four drilled holes.
2. From the underside of the vehicle, place the holes of mounting bracket "A" over the threaded studs on the speaker's reinforcement plate. Secure the bracket using the 5/16" split lockwashers and 5/16"-16 hex nuts. Attach bracket "B" in the same way.
3. Attach the bands to mounting bracket "A" using the 5/16"-18 x 1.25" bolts, 5/16" split lockwashers, and 5/16"-18 hex nuts.

5. See Figure 7. Spread the bands apart to place the speaker in the mounting bracket assembly. Tighten the bands around the speaker using the 5/16" hardware.

Figure 7 Rumbler mounted on passenger side



6. Connect the wire harness from the siren amplifier to the speaker wires. Refer to the installation instructions provided with the amplifier for further details.
7. Plug the speaker wire connector into the back of the speaker.
NOTE: Two speakers must be wired in parallel and in phase.
8. Test the speakers for proper operation as well as the emergency warning system to ensure that it is operating properly. Refer to the safety instructions on page 9.
9. Reinstall the turbo air hose and clamp.
10. Reinstall the fuse box holder with its four bolts.

Getting Technical Support and Service

For technical support and service, please contact:

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

Returning a Product to Federal Signal

Before returning a product to Federal Signal, call 800-264-3578 (Mobile Systems) or 800-433-9132 (Service) 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

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

Mounting Instructions for the Rumbler® Speaker

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.

Light Hazard

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

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.

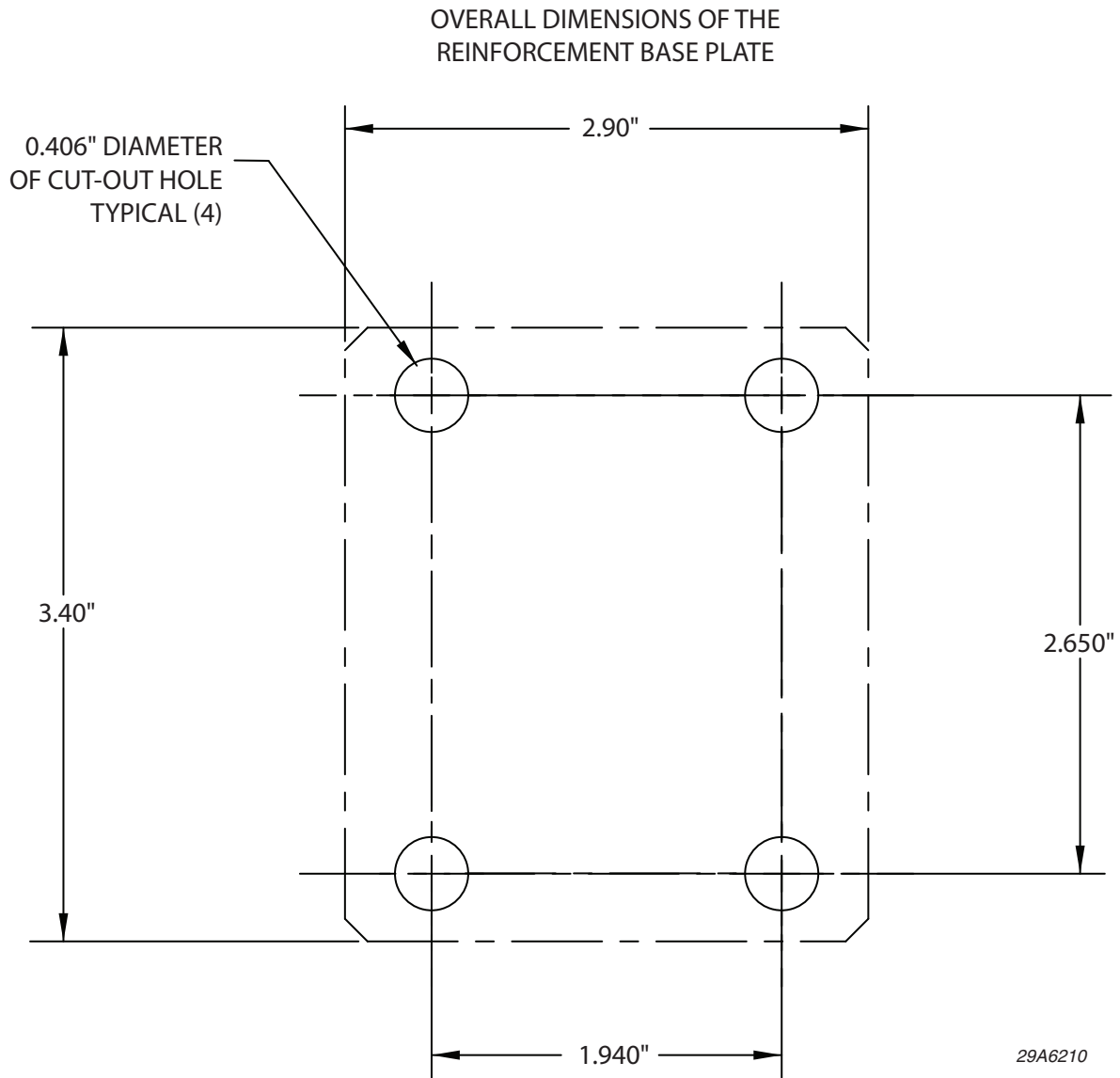
Driving Limitations

- At the start of your shift, you should ensure that the siren 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.



MOUNTING HOLE TEMPLATE FOR
THE RUMBLER SPEAKER REINFORCEMENT PLATE



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www.fedsig.com

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