

25500884 Rev A0 0923

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. 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 it to ensure that 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/or 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.
- Ensure that 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.

Mounting Instructions for Rumbler® Compact Speakers in the 2023 Ford® E-Series® Cutaway

- Sound output will be severely reduced if any objects are in front of the speaker. If maximum sound output is required for your application, 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.
- 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 that connects to the vehicle wiring without reviewing a vehicle wiring diagram, which is available from the vehicle manufacturer. Ensure that your installation will not affect vehicle operation and safety functions or circuits. Always check the 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, ensure 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 they are 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.

Introduction

The RBC2-ES23/RBS-ES23 is a mounting kit for the Federal Signal Rumbler low-frequency signaling system. This kit mounts both speakers symmetrical on the front frame of the 2023 Ford E-Series Cutaway.

NOTE: A 3/8-16 tap is required for this installation.

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 your kit are included in your 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 RBC2-ES23 Kit Contents

Qty.	Description	Part Number
1	2023 Ford E-Series Cutaway Rumbler Bracket, Driver Side	828304436-DS
1	2023 Ford E-Series Cutaway Rumbler Bracket, Passenger Side	828304436-PS
2	1/2-13 Hex Head Bolt	7002A014-24
6	1/2-inch Flat Washer	7072255
2	1/2-inch Lock Washer	7074076
2	1/2-inch Nut	7057A056
4	3/8-inch Hex Head Bolt	7002A009-16
8	3/8-inch Flat Washer	7072A035

Table 2 RBS-ES23 Kit Contents

Qty.	Description	Part Number
1	2023 Ford E-Series Cutaway Rumbler Bracket, Driver Side	828304436-DS
1	1/2-13 Hex Head Bolt	7002A014-24
3	1/2-inch Flat Washer	7072255
1	1/2-inch Lock Washer	7074076
1	1/2-inch Nut	7057A056
2	3/8-inch Hex Head Bolt	7002A009-16
4	3/8-inch Flat Washer	7072A035

Installing the Speakers

⚠ WARNING

FIRE HAZARD: 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 a fire during a vehicle collision, causing personal injury or death.

⚠ WARNING

USE WITH RUMBLER AMPLIFIER OR PATHFINDER SIREN: This speaker is designed to only be used with the Rumbler Amplifier or directly to the Pathfinder® siren. Do not connect this speaker directly to any other 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.

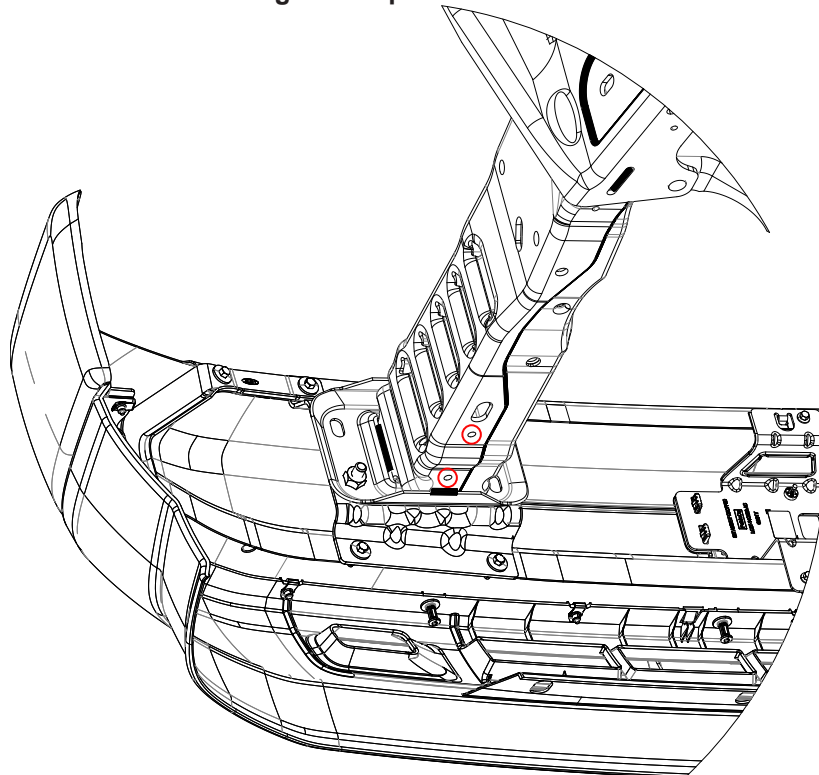
⚠ WARNING

SOUND REDUCTION: To avoid reduction of sound output and damage to the speaker, ensure that the speaker is mounted with the slots facing the ground and with the wires protruding from the bottom of the speaker. Failure to follow this warning may cause serious injury or death.

To install the speakers:

1. Remove the rubber inserts in the two through holes on the driver-side front frame of the vehicle. See Figure 1.

Figure 1 Tap Hole Location



NOTICE

DRILLING PRECAUTIONS: Before drilling holes, check the area you are drilling into to ensure that 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. Using a 3/8-16 tap and a drill, tap the two marked holes to make the through hole into a 3/8-16 threaded hole.
3. With the provided hardware, mount the driver side bracket to the vehicle aligning the two slotted holes to the tapped holes in Figure 1 and aligning the 1/2-inch through slot onto the through hole on the bumper. See Figures 2 and 3.

NOTE: Wedge the 1/2-inch spacer washers for the 1/2-inch hex bolt between the bracket and the bumper.

Figure 2 Hardware Assembly

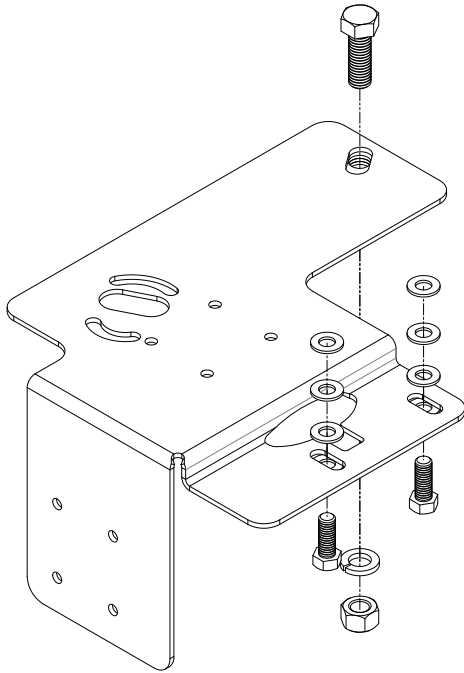
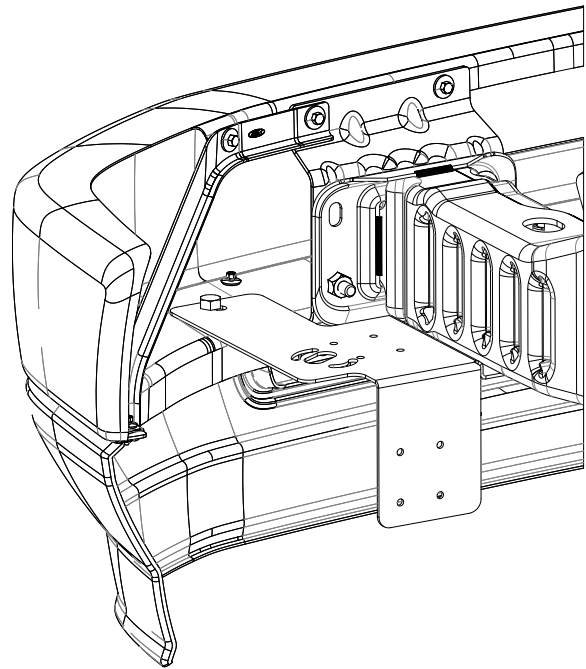
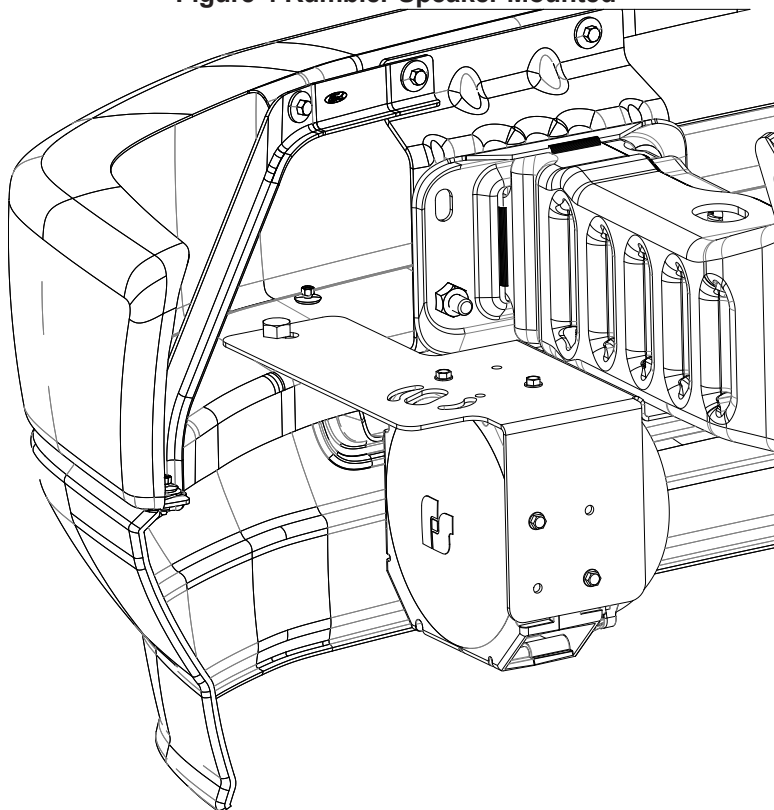


Figure 3 Bracket Mounted



4. With the bracket mounted, connect the wire harness for the Rumbler Compact Speaker to the speaker. Mount the speaker to the bracket using the Plastite® Screws provided with the speaker. Torque the screws to 75 ft-lb. Be sure to mount the speaker with the two drain ports facing downward. See Figure 4.

Figure 4 Rumbler Speaker Mounted



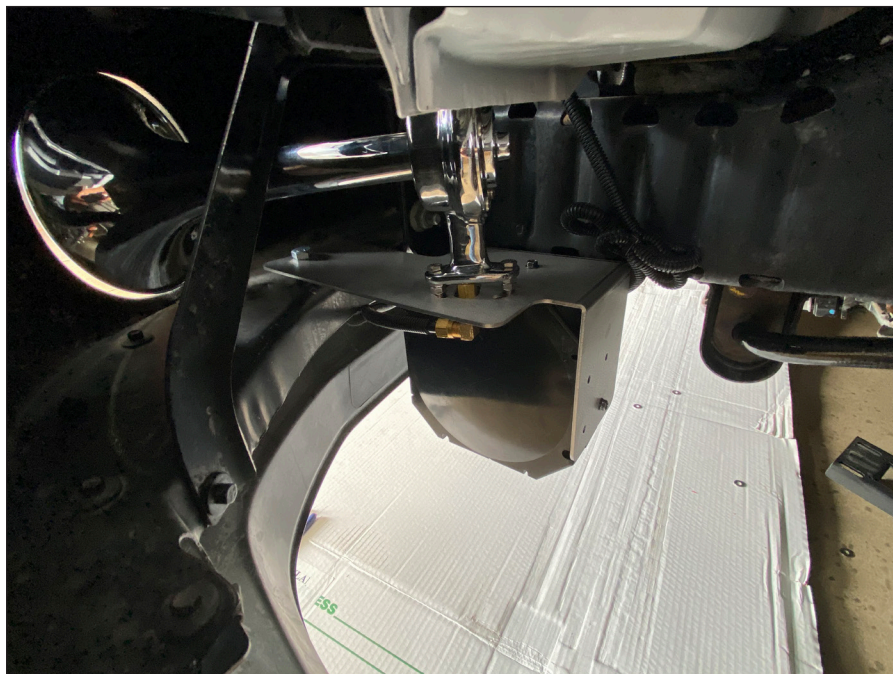
5. Secure all hardware. If you are installing the RBC2-ES23, repeat steps 1-5 for the passenger side.

NOTE: If you are installing the air compressed horn on the vehicle, mount the airhorn to align to the slotted mounting point on the bracket and run the air compressor hose so that it does not interfere with the Rumbler speaker. See Figure 5.

NOTICE

POTENTIAL DAMAGE: When mounting the airhorn, follow the manufacturer's guidelines, as Federal Signal is not responsible for any damage or defects that may occur to the airhorn.

Figure 5 Bracket with Hose



⚠ 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 sound and wear hearing protection. Do not sound siren indoors or in enclosed areas where you and others will be exposed to the sound.

6. Test the device for proper operation.

Getting Technical Support

For technical support, please contact:

Federal Signal Corporation
Service Department
Phone: 1-800-433-9132
Email: 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 an 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

Ordering Replacement Parts

To order replacement parts, call Customer Support at 1-800-264-3578, 7 a.m. to 5 p.m., Monday through Friday (CT) or contact your nearest distributor.

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. 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 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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