

25500220 Rev. B1 0118

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. 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 the 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 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. 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 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 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 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.

Mounting Rumbler Speakers in the 2016 Ford Interceptor Utility

- Sound output is 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.

Mounting the Speaker

- Install the speaker(s) as far forward on the vehicle as possible, in a location which 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 reduces 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 is 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 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, which is available from the vehicle manufacturer. Ensure that your installation does 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.

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.

Introduction

The RB-FPIU16 is a mounting kit for the Federal Signal Rumbler® low-frequency signaling system. This kit mounts both speakers under the driver-side headlight of a 2016 Ford Interceptor® Utility.

Unpacking the Kit

After unpacking the kit, inspect it for damage that may have occurred in transit. If it has been damaged, or is missing a part, 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). Disposal of all shipping materials must be carried out in accordance with national and local codes and standards.

Table 1 Kit contents

Qty.	Description	Part Number
1	Bracket, Rearward, Rumbler, FPIU16	828301316
1	Bracket, Forward, Rumbler, FPIU16	828301470
4	5/16"-18 x 3/4" Hex-Head Screw	7002A005-12
2	5/16"-18 x 2-1/2" Hex-Head Screw	7002A005-40
6	5/16" Lockwasher	7074A020
6	5/16"-18 Hex Nut	7059125
6	5/16" Flat Washer	7072A031
2	3/8"-16 Hex-Head Screw	7002A009-20
2	Washer Flat, 0.403 ID	7072A035
2	Lockwasher, Split	7072A046
2	Nut, Hex, 3/8"-16	7059A063

Speaker Mounting Precautions

⚠ WARNING

INSTALL THE SPEAKER AWAY FROM THE FUEL TANK AND FUEL LINES: 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 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. Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death.

⚠ WARNING

SPEAKER MOUNTING PRECAUTION: To avoid reducing the sound output and damaging the speaker, ensure that the speaker is mounted with the slots facing the ground.

⚠ WARNING

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

NOTICE

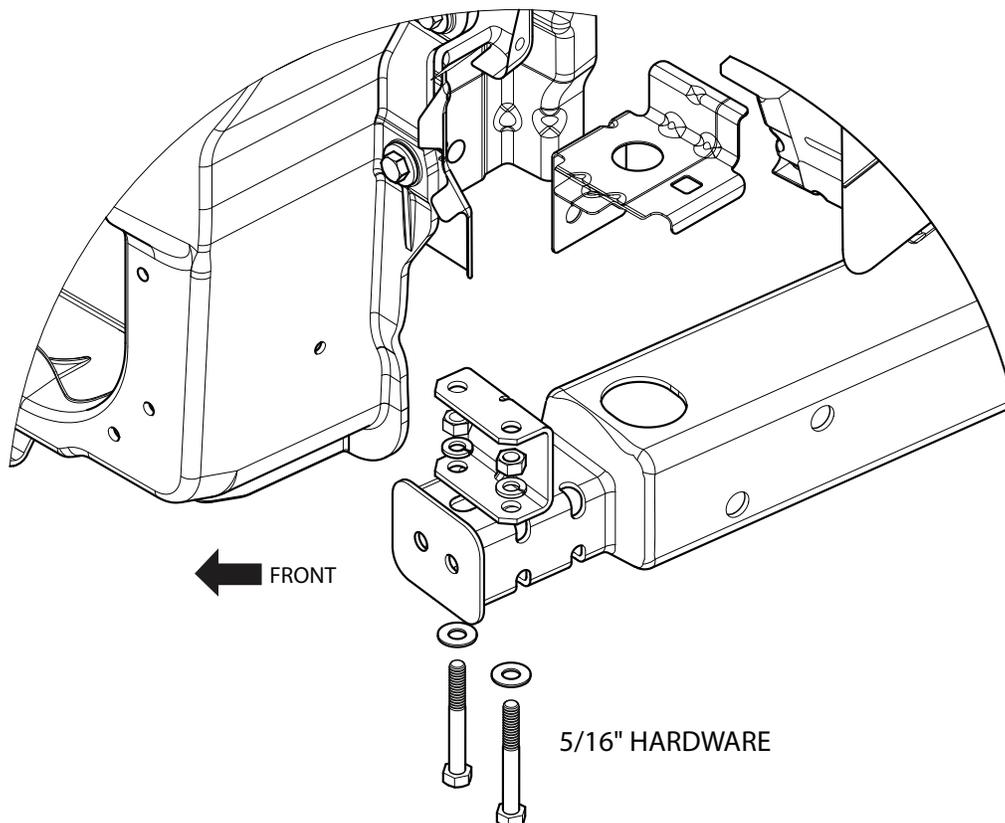
DRILLING PRECAUTIONS: Before drilling holes, check the area you are drilling into to be sure you do not damage vehicle components while drilling. All drilled holes should be de-burred and all sharp edges should be smoothed. All wire routings going through drilled holes should be protected by a grommet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

Installing the Mounting Brackets

These instructions describe how to install two Rumbler speakers on the powertrain cradle.

1. Remove the fascia per the manufacturer's service manual.
2. See Figure 1. On the driver's side, bolt the forward Rumbler bracket to the forward slots in the powertrain cradle as shown, using the supplied 5/16" x 2-1/2" bolts, washers, lockwashers, and nuts.

Figure 1 Forward Rumbler bracket secured to driver-side powertrain cradle



- 3a. WITH SCUFF PLATE:** See Figure 2. Loosen the two 10 mm nuts on the powertrain cradle, slide the rearward bracket into place and retighten the nuts.
- 3b. WITHOUT SCUFF PLATE:** See Figure 3. Working through the lower access hole, insert the two 3/8" screws through the mounting holes in the powertrain cradle. Loosely assemble the 3/8" washers, lockwashers, and nuts. Slide the rearward bracket into place and tighten the nuts.

Figure 2 With Scuff Plate

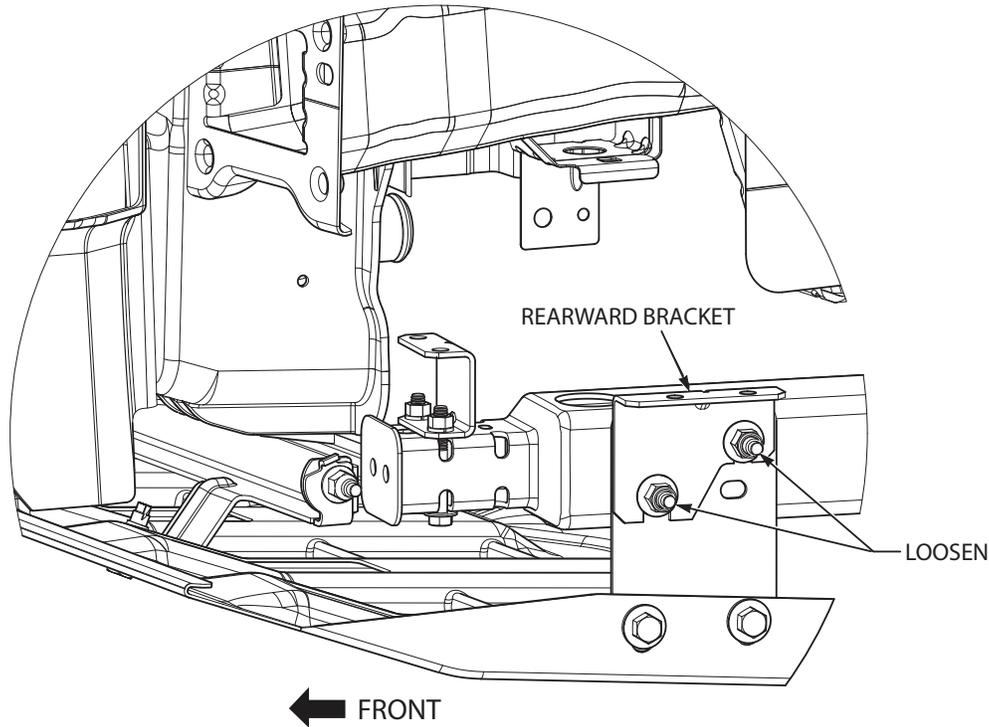
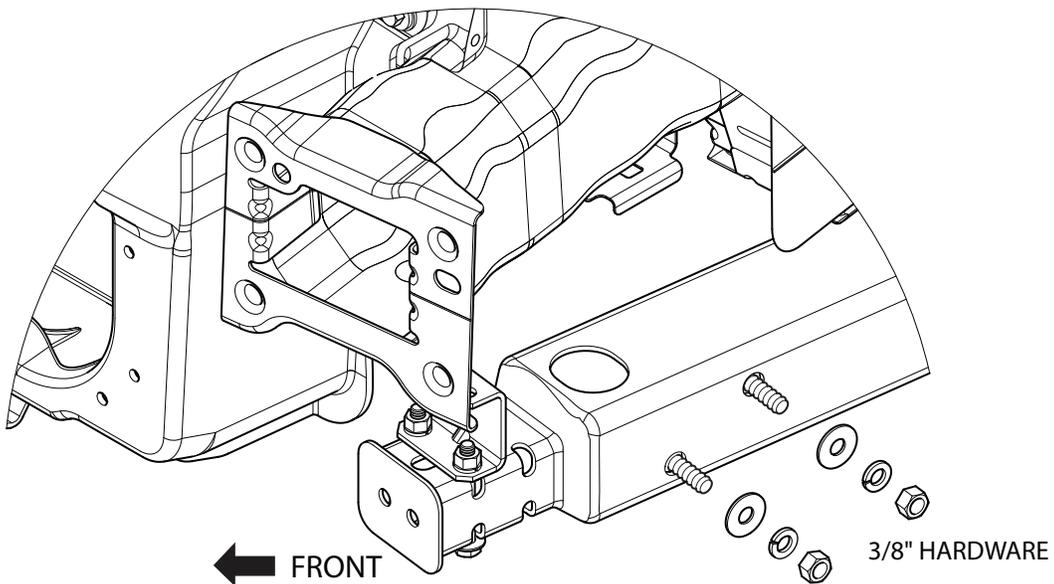


Figure 3 Without Scuff Plate

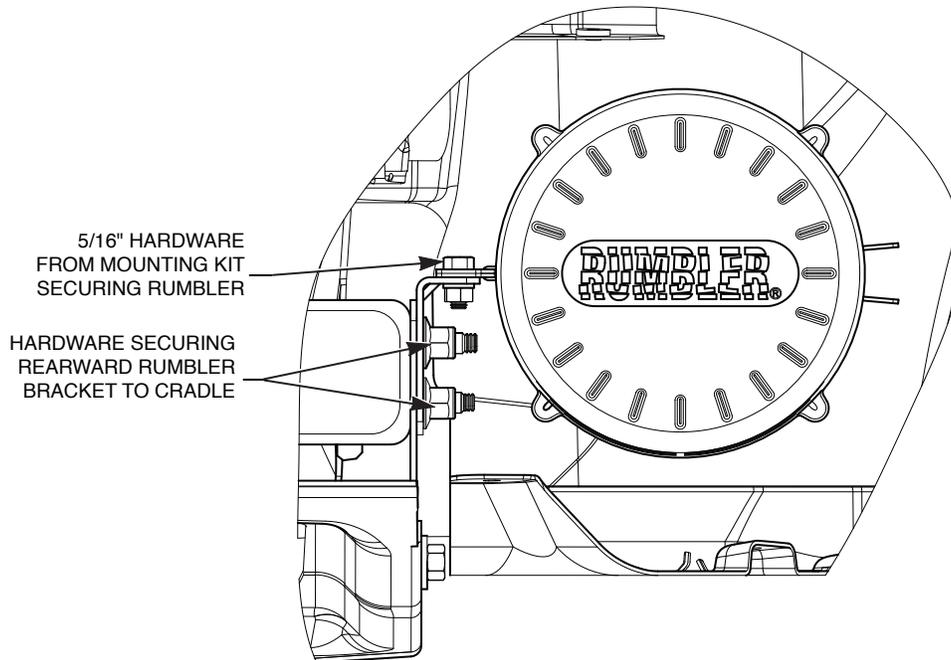


Installing the Bands and Mounting the Speakers

To install the bands and mount the speakers:

1. Install two bands (supplied with the Rumbler kit) to the rearward bracket using the 3/4" long, 5/16" bolts, nuts, and lockwashers supplied with this kit.
2. Slide the lower speaker into the bands with the Rumbler logo toward the front of the vehicle, slots down. Secure it with the 5/16" hardware supplied with the Rumbler kit.

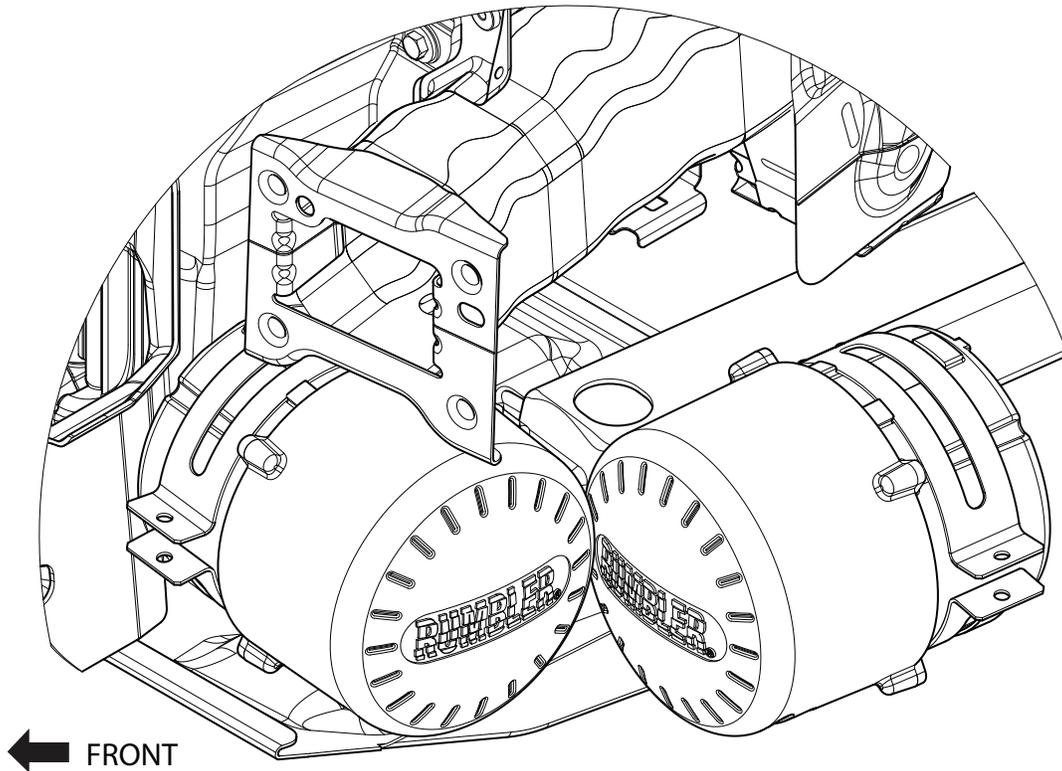
Figure 4 Rearward speaker (front view)



3. Install two bands supplied with the Rumbler kit to the forward bracket using the 3/4" long, 5/16" bolts, nuts, and lockwashers supplied with this kit.
4. Slide the forward speaker into the bands with the Rumbler logo toward the driver's side of the vehicle, slots down. Secure with the 5/16" hardware supplied with the Rumbler kit.
5. After you have mounted the speakers, connect the supplied wire harness to the leads from the amplifier. For details, refer to the instructions included with the amplifier.

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

Figure 5 Orientation of forward and rearward speakers



Testing the Siren and Light System

⚠ 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.

⚠ 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 the installation, check the siren and light system to ensure that it operates properly.

Getting Technical Support and Repair Service

The Federal Signal factory provides technical assistance with any problems that cannot be handled locally. Any units 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.

For technical support, please contact:

Federal Signal Corporation

Service Department

Phone: 1-800-433-9132

Fax: 1-800-343-9706

Email: empserviceinfo@fedsig.com



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