

25500226 Rev. A0 0815

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. 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 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.
- 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 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 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.
- 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.
- If a vehicle seat is removed, verify with the vehicle manufacturer if the seat needs to be recalibrated for proper airbag deployment.
- 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

This publication has instructions for using the ESB-FRD15 Bracket Kit to mount the DynaMax™ ES100C speaker in the bumper of the 2015 FORD F150. The speaker can be mounted on either the driver side or passenger side.

NOTE: For electrical installation instructions, refer to the Installation and Maintenance Instructions included with the speaker.

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). 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 Assy., 2015 F150, ES100C	856701290
2	Screw, TYPE TT®, 1/4"-20 Pan-Head	700000142-08
2	Lockwasher, Split, 5/16", SS	7074A020
2	Bolt, Cap, 5/16"-18, Hex SS	7002A005-14

*User-supplied thread-locking compound is required.

Mounting the Speaker

WARNING

AIRBAG DEPLOYMENT: 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.

WARNING

ES100C SERIES SPEAKER WIRES: To avoid reducing the sound output and damaging the speaker, ensure that the speaker is mounted with the wires protruding from the bottom of the speaker.

WARNING

SOUND REDUCTION WARNING: To avoid reduction of sound output, ensure that the speaker is mounted with the sound opening facing directly in the direction intended to warn.

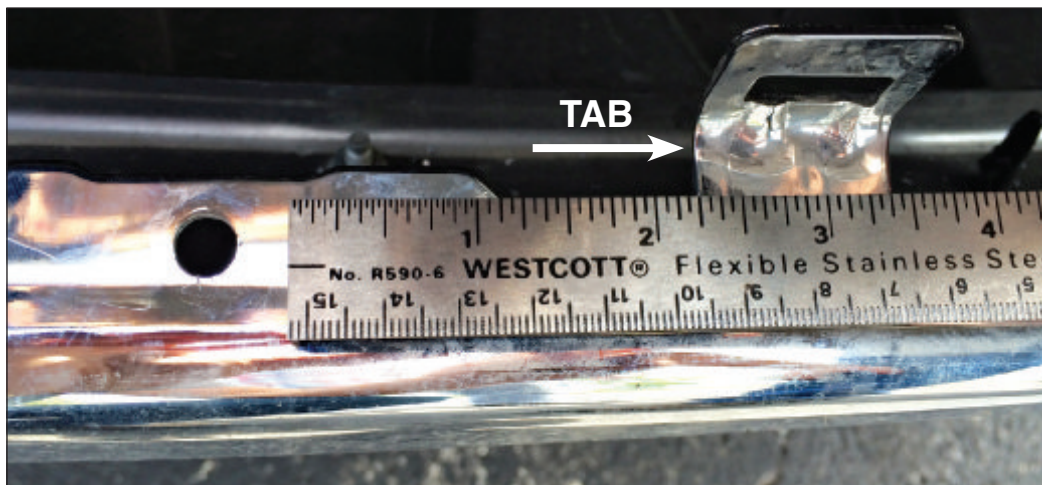
NOTICE

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.

To mount the bracket and speaker:

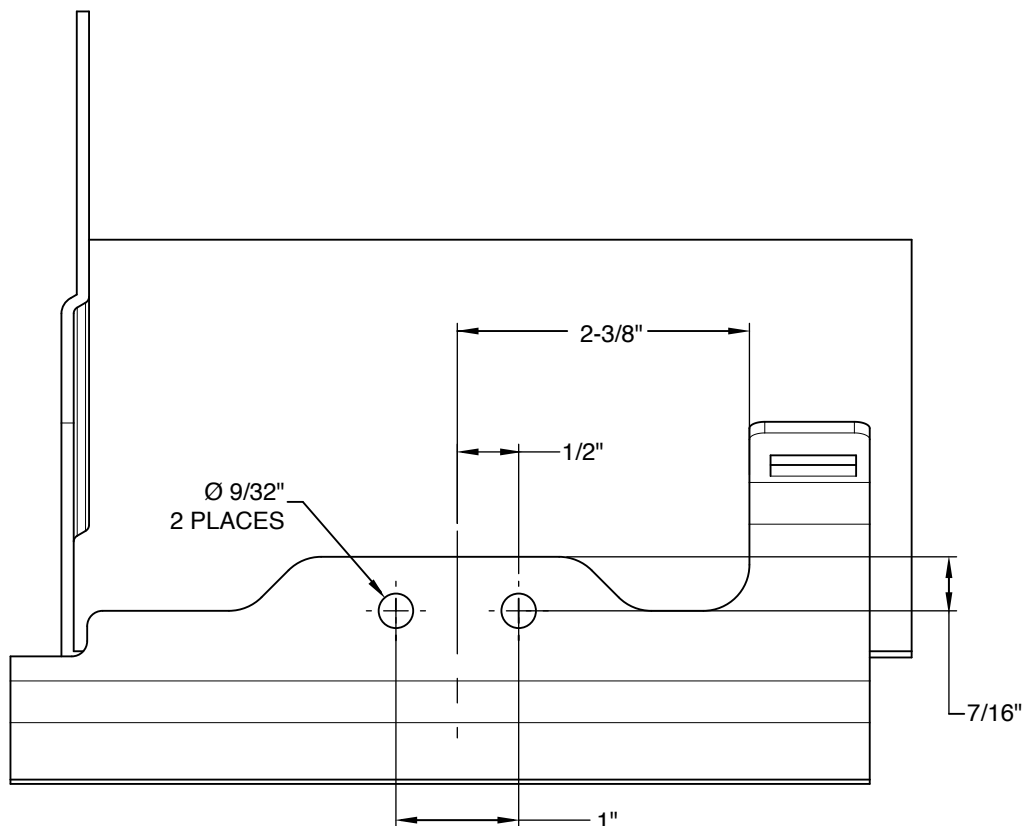
1. Remove the plastic bumper trim according to the manufacturer's instructions.
2. Position the bracket so that the center of the bracket is 2-1/4" from the tab as shown in Figure 1.

Figure 1 Center of bracket from tab on bumper lip



3. Mark and drill two 9/32" holes in the bumper lip as shown in Figure 2.

Figure 2 Mounting hole dimensions on bumper lip



4. Mount the speaker to the bracket with the 5/16" bolts and lock washers.
5. Apply thread-locking compound to the 1/4" six-lobe screws
6. Slide the speaker into the opening in the bumper, and secure the bracket with the 1/4" six-lobe screws as shown in Figure 3.
7. Complete the installation according to the instructions provided with the speakers

Figure 3 Speaker mounted in opening in bumper



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8. Test the siren to ensure it operates properly.
9. The bumper trim may be open or solid. If the bumper trim is solid, choose an appropriate drill to open it up for improved sound output.
10. Reinstall the bumper trim.

Getting Technical Support and Service

This speaker has no field-serviceable parts. Opening the speaker will void the warranty. The factory can and will service your speaker. If you are experiencing any problems with the speaker, 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 for the mounting system, 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 Corp.
2645 Federal Signal Drive
University Park, IL 60484-3167
Attn: Service Department
RMA: # _____
800-433-9132
800-343-9706 (fax)
www.fedsig.com

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TYPE TT is a registered trademark of Research Engineering & Manufacturing Inc.



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