



FEDERAL SIGNAL
Safety and Security Systems

Model ESB-TAR11

Mounting Bracket Kit

Installation Instructions

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Safety Messages 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 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 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.

Installation Instructions

- 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.
- 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.

Product Overview

The Model ESB-TAR11 is a mounting kit for the Federal Signal ES100 speaker. The kit is designed to mount the speaker in the 2011+ Ford Taurus, the 2013+ Ford Police Interceptor Sedan, and the 2011+ Dodge Charger. If the ES100 speaker is installed with another mounting system, the safety and effectiveness of the installation must be carefully evaluated.

IMPORTANT: The ES100 speaker complies with the requirements of SAE J1849 EVS3 and CCR Title 13 Class A when it is used with Federal Signal electronic sirens.

Unpacking the Kit

After unpacking the product, 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).

Table 1 Kit Contents

Qty.	Description	Part Number
1	Bracket	8567215
1	Hardware Kit: 3 Screw, #14 HWH 3 1/4" Split Lockwasher	8567169

Mounting the ES100 Speaker

▲ WARNING

ES100 SPEAKER MOUNTING PRECAUTION— To avoid the reduction of sound output and damage to the speaker, ensure that the speaker is mounted with the wires protruding from the right side of the speaker when viewed from the front.

In the 2011+ Dodge Charger without a Rumbler speaker, and in the 2011+ Ford Taurus and the 2013+ Ford Police Interceptor Sedan, the ES100 mounts with the bracket to the top center of the front bumper.

Installation Instructions

To mount the ES100 to these vehicles:

1. Remove the front fascia from the vehicle.
2. Center the bracket on the top of the front bumper and mark the positions of the three mounting holes.

NOTICE

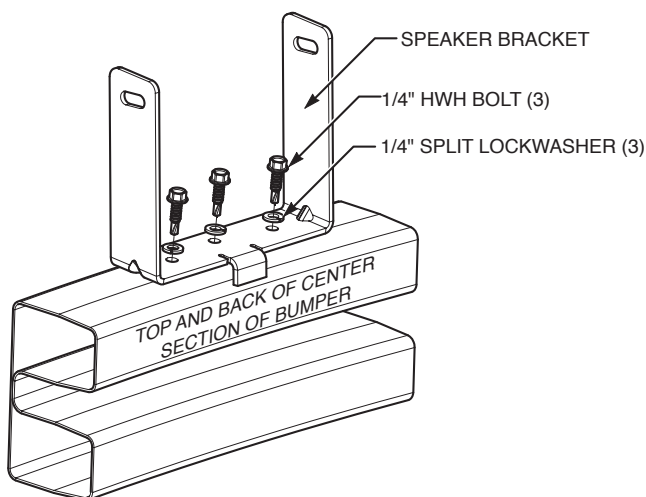
DRILLING PRECAUTIONS—Before drilling holes, check the area into which you plan to drill to ensure you do not damage vehicle components. All drilled holes should be deburred and all sharp edges should be smoothed. All wires going through drilled holes should be protected by a grommet or convolute/split-loom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

NOTICE

DRILLING RECOMMENDATIONS—Many auto manufacturers use ultra-high-strength steel, called boron, in their bumpers. It is recommended that the installer use a 3/16", titanium nitride-coated drill bit, turning between 400 rpm to 500 rpm, to drill into the bumper. To ensure longer tool life, do NOT use excessive force while drilling.

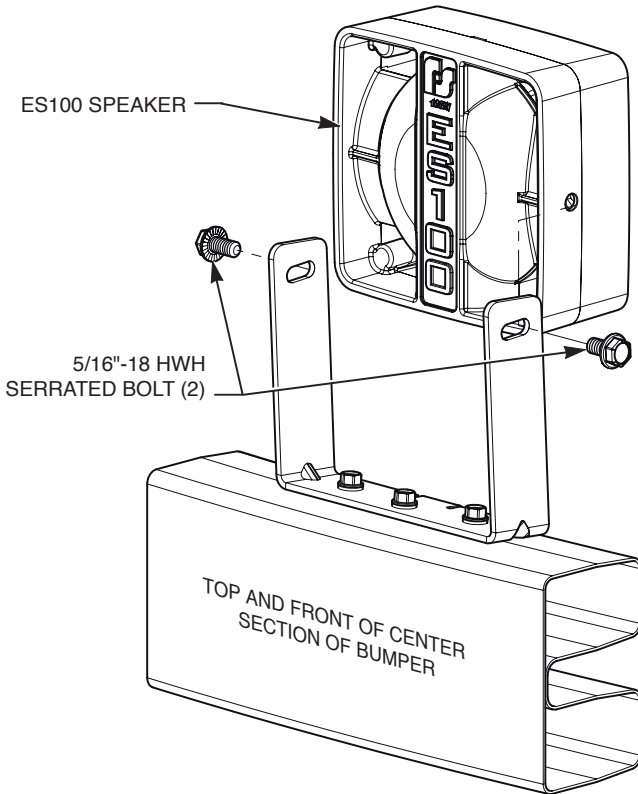
3. Remove the bracket and drill a 3/16" hole into the top of the bumper at each of the marks.
4. See Figure 1. Securely fasten the bracket to the bumper with the three 1/4" HWH bolts and three split lockwashers.

Figure 1 Bracket installed on front bumper



5. See Figure 2. Place the speaker inside the bracket and install the two 5/16"-18 HWH serrated bolts only tight enough to allow adjustment of the speaker location. The speaker wires must be towards the ground.
6. Adjust the speaker forward away from the radiator.
7. Securely fasten the speaker.

Figure 2 Bracket installed on front bumper



Mounting the ES100 Speaker on a 2011+ Charger with the Rumbler Installed

⚠ WARNING

ES100 SPEAKER MOUNTING PRECAUTION— *To avoid the reduction of sound output and damage to the speaker, ensure that the speaker is mounted with the wires protruding from the right side of the speaker when viewed from the front.*

The ES100 mounts with the bracket to the bottom center of the front bumper in a 2011+ Dodge Charger with a Rumbler speaker.

To mount the ES100 speaker to this vehicle:

1. Remove front fascia from the vehicle.
2. Center the bracket on the bottom of the front bumper and mark the position of the three mounting holes.

NOTICE

DRILLING PRECAUTIONS— *Check the area into which you are drilling to be sure you do not damage vehicle components. All drilled holes should be deburred 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.*

NOTICE

DRILLING RECOMMENDATIONS— *Many auto manufacturers use ultra-high-strength steel, called boron, in their bumpers. It is recommended that the installer use a 3/16", titanium nitride-coated drill bit, turning between 400 rpm to 500 rpm, to drill into the bumper. To ensure longer tool life, do NOT use excessive force while drilling.*

3. Remove the bracket and drill a 3/16" hole into the top of the bumper at each of the marks.
4. See Figure 3 on page 11. Securely fasten the bracket in place using the three 1/4" HWH bolts and split lock washers.
5. See Figure 4 on page 12. Place the speaker inside the bracket and install the two 5/16"-18 HWH serrated bolts only tight enough to allow adjustment of speaker location. The speaker wires must be towards the ground.
6. Adjust the speaker forward away from the radiator.

7. Securely fasten the speaker.

Wiring the Speaker

To wire the speaker:

1. Connect the two leads from the speaker to the speaker cable. Refer to the instructions provided with the electronic siren for additional details.
2. Test the speakers for proper operation as well as the emergency warning system to ensure that it is operating properly. Refer to the warnings and instructions on page 12.
3. Reinstall the front fascia.

Figure 3 Speaker bracket attached to front bumper

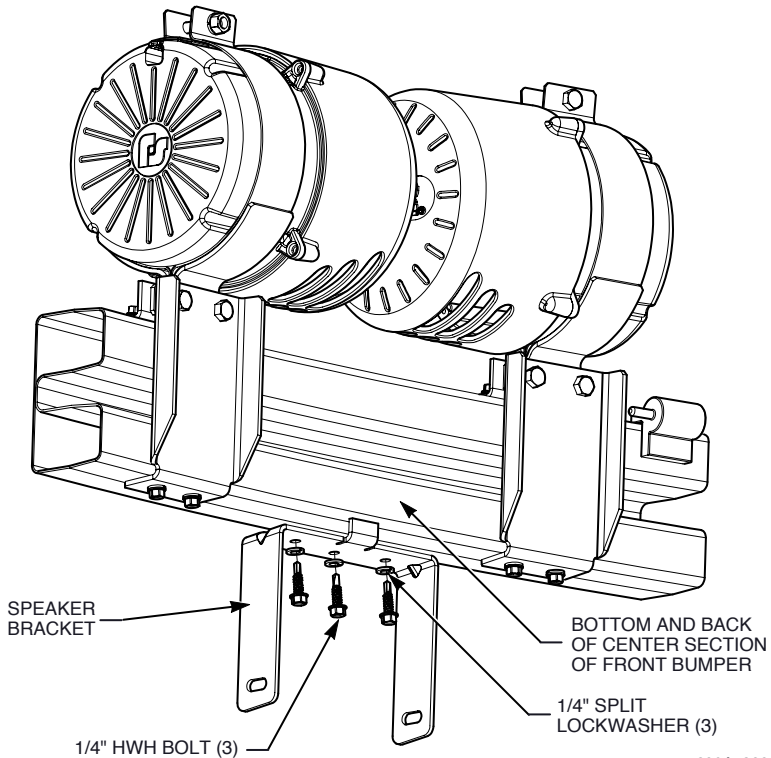
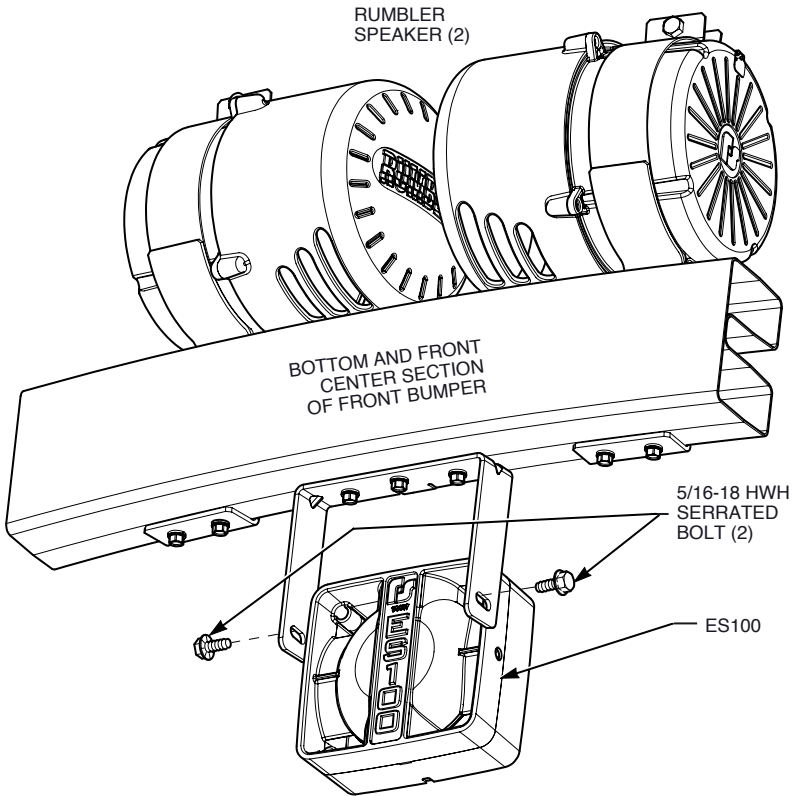


Figure 4 Speakers secured to bracket



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

The lives of people depend on your safe operation of Federal 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.

Installation Instructions

- 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.

Getting Technical Support and Service

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

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

Ordering Replacement Parts

The speaker has no field-serviceable parts. To order replacement parts for the mounting kit, please contact your local dealer/distributor or:

Customer Support
Federal Signal Corporation
Phone: 1-800-264-3578



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