

25500590A Rev. A0 0619

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. 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 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.
- 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 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.
- Make sure the siren amplifier and speaker(s) in your installation have compatible wattage ratings.

ESB-SPRNTR19-D/-P Mounting Instructions for the ES100/Dynamax® Speaker

- 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 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 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 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 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, ensure that both sides of the surface are clear of anything that could be damaged.
- If a vehicle seat is temporarily removed, verify with the vehicle manufacturer if the seat needs to be recalibrated for proper airbag deployment.

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 or reinstalling the product.

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death.

Introduction

The ESB-SPRNTR19-D and -P speaker kit can be used on the 2019 model year Mercedes Benz Sprinter van.

Unpacking the Kit

After unpacking the kit, inspect it for damage that may have occurred in transit. If damage has occurred, 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 in the Kit Contents Lists 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 ESB-SPRNTR19-D/P Kit Contents

Qty.	Description	Driver Side	Passenger Side
		Part Number	Part Number
1	ESB-19SPRNTR-D/P Instruction Sheet	25500590	25500590
1	ESB-SPRNTR-D & -P Hardware Kit	77700312	77700312
1	ES100 2019 MB Sprinter Backplate	856703035	856703035
1	ES100 2019 MB Front Sprinter Bracket	856703133	856703133
1	ES100C MB Sprinter Driver Side Grille	856700840	856700840-01

Table 2 ESB-SPRNTR-D and -P Hardware Kit

Qty.	Description	Part Number
1	1/4"-20 X 1 Hex Head 18-8 Stainless Steel Machine Screw	7000A311-16
1	1/4"-20 Pan Head Phillips Black Steel Machine Screw	7000547A-08
1	1/4"-20 Stainless Steel Thin El Stop Nut	7058055
1	.266X11/16X.063-inch Flat Stainless Steel Washer	7072A024

Table 3 ES100-SPRNTR19 Kit Contents

Qty.	Description	Driver Side	Passenger Side
		Part Number	Part Number
2	100W Plastic Finished Model Emergency Speaker	ES100C	ES100C
1	ES100 2019 MB Sprinter Bracket Assembly	ESB-SPRNTR19-D	ESB-SPRNTR19-P

Installing the Speaker

NOTICE

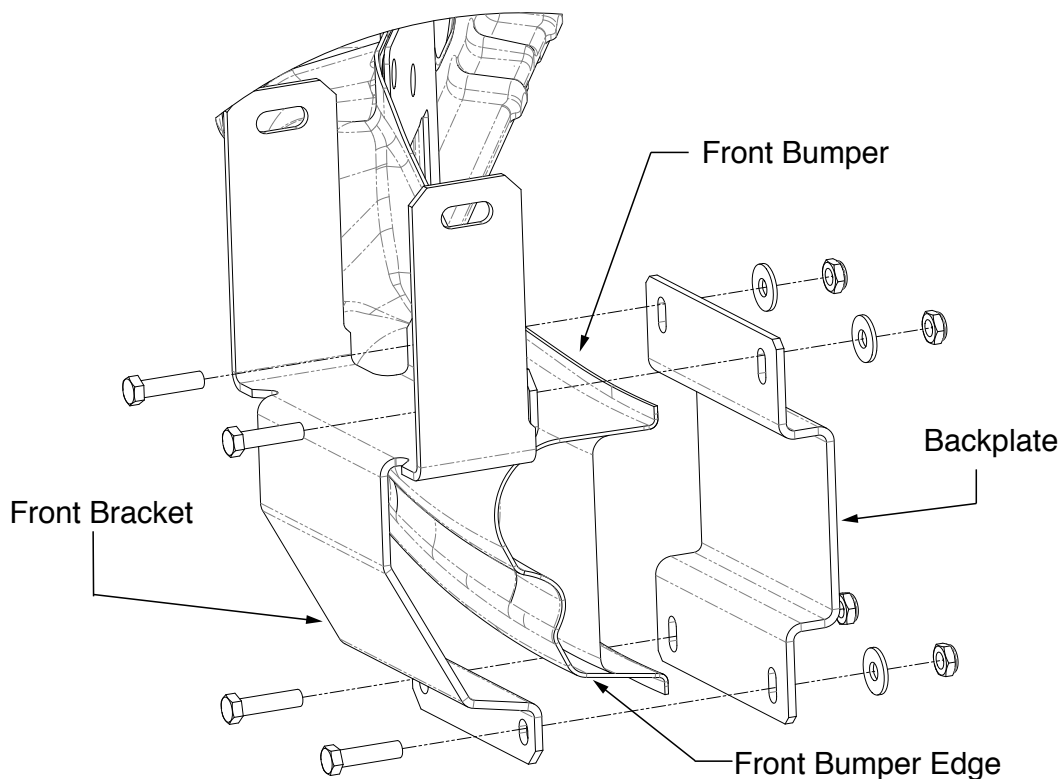
DRILLING PRECAUTIONS: Before drilling all holes, check the area you are drilling into to be sure you do not damage vehicle components while drilling. All drilled holes should be de-burred and all sharp edges should be smoothed. All wire routings going through drilled holes should be protected by a grommet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

Before mounting the speakers, remove the front bumper fascia from the vehicle and set aside for speaker cutout area removal.

The steps for mounting a speaker on the driver side and the passenger side are the same. To mount a speaker bracket:

1. Place the driver side front bracket on the front bumper so that the outside edge wraps around the outside edge of the bumper.

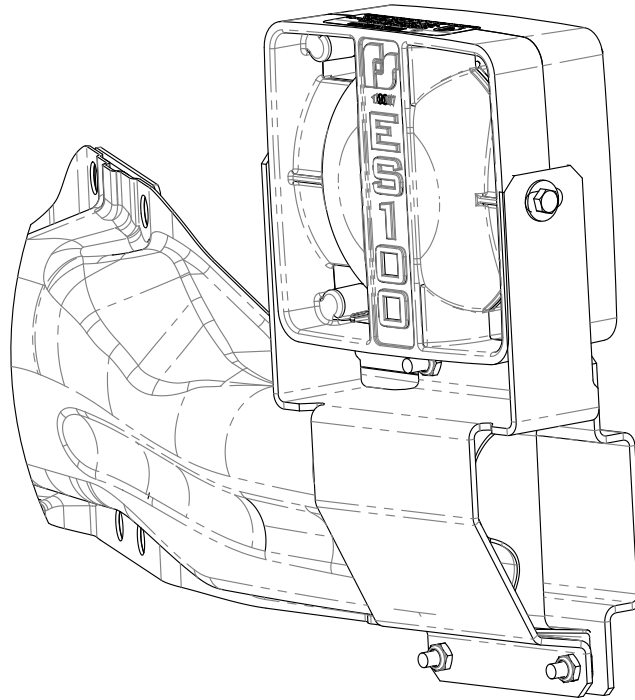
Figure 1 Bracket installed on front bumper



2. Place the backplate behind the front speaker bracket and the bumper. Secure the front speaker bracket to the backplate using the supplied 1/4"-20 screws, lockwashers, and flat washers. See Figure 1.
3. Position the ES100 speaker onto the front speaker bracket and secure it using the supplied 1/4"-20 hardware. See Figure 2.

NOTE: Once installed, the bracket can be adjusted on the bumper towards the center of the vehicle up to approximately one inch to align the speakers equidistant from the center.

Figure 2 Bracket Assembly with speaker attached to vehicle frame



4. Repeat steps 1-3 for the passenger side speaker bracket.

To cut holes on the bumper fascia:

5. Align the front bumper fascia with the corresponding vehicle body connectors without fastening to the vehicle and carefully mark the speaker locations on the inside of the bumper fascia for the speaker cutout. **CUT THE BUMPER FASCIA ONLY IN THE RECESSED FOG LIGHT AREA.** See Figure 3.

Figure 3 Speaker Alignment



6. Make a cardboard outline of each ES100 speaker to use as templates to cut holes for the speakers.
7. Carefully cut out the speaker outline on the front bumper fascia and remove any burrs from the cut area.

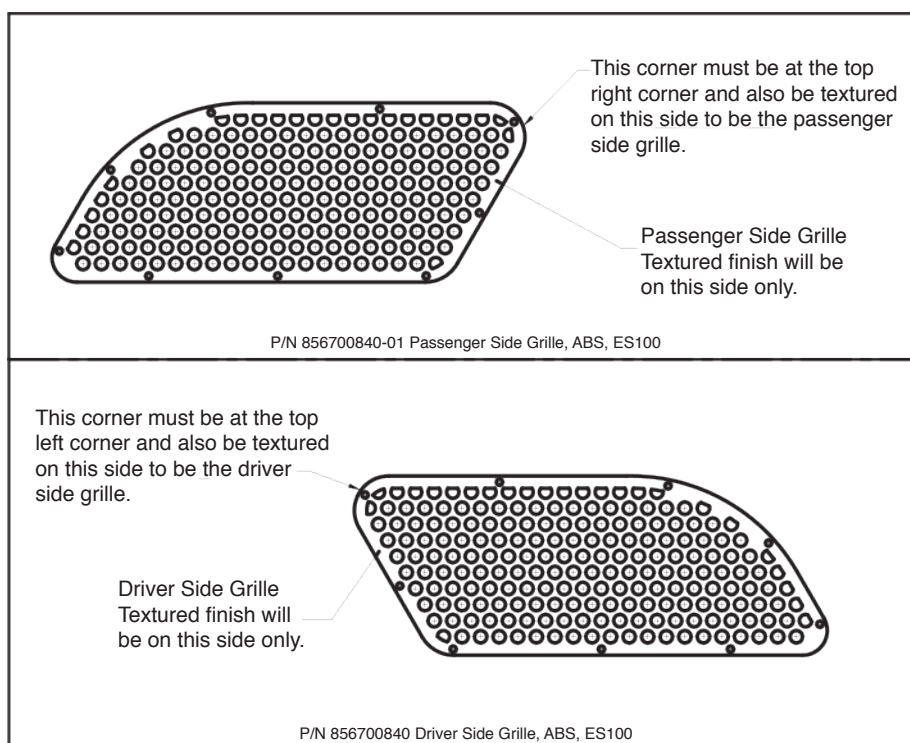
IMPORTANT: Do not cut the bumper fascia above the recessed fog light indented section. Doing so will result in an open area that will not be covered by the speaker grille cover.

The steps for attaching the grille cover on the driver side and the passenger side are the same. To add the grille covers:

1. Place the driver side speaker grille cover over the driver side speaker cutout on the bumper fascia. Carefully align the speaker grille cover so that it covers the entire recessed fog light area body outline. Make sure the textured side of the speaker grille faces out. See Figure 4.

NOTE: The grille covers are textured on one side and smooth on the other. The textured side is the outside of the speaker grille cover, which is made to blend in with the textured surface of the bumper fascia.

Figure 4 Grilles



2. Once the speaker grille cover is in place, carefully mark the hole locations. Set the speaker grille cover aside and drill all marked hole locations on the bumper fascia.
3. Align the speaker grille cover with drilled holes and secure to the bumper fascia with the supplied 1/4"-20 pan head screws and 1/4"-20 stop nuts.

NOTE: Some speaker positioning adjustments may have to be made in order to properly secure the speaker grille covers to the bumper fascia.

4. Repeat steps 1-3 for the passenger side.
5. Make sure the appropriate electrical connections for the speakers are made and test for proper operation.
6. Attach the bumper fascia to the vehicle.

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Getting Technical Support and Service

For technical support and service, please contact:

Service Department
Federal Signal Corporation
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 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.

Address all communications and shipments to the following:

Federal Signal Corporation
Service Department
2645 Federal Signal Drive
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.



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