

25500628 Rev. A1 0820

Safety Message to Installers of Warning Light Equipment

▲ 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 or Service

Qualifications

- To properly install or service this equipment, you must have a good understanding of automotive mechanical and 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 performing equipment installations 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.
- 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 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 or Service

- 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-FPIU20NDB is a mounting kit for the Federal Signal ES100 and AS124 speakers. This kit mounts the speaker to the front bumper of the 2020 Police Ford Intercept Utility vehicle.

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 below 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-FPIU20NDB Kit Contents

Qty.	Description	Part Number
1	ESB-FPI U20NDB/ESB2-FPIU20NDB Instruction Sheet	25500628
1	ESB-FPIU20NDB /ESB2-FPIU20NDB ES100-AS124 Hardware Kit	77701256
1	FPIU20 No-Drill ES100-AS124 Clam Shell Rear Bracket	856703357
1	FPIU20 No-Drill Clam Shell Front Bracket	856703358

Table 2 ESB2-FPIU20NDB Kit Contents

Qty.	Description	Part Number
1	ESB-FPIU20NDB/ESB2-FPIU20NDB Instruction Sheet	25500628
2	ESB-FPIU20NDB /ESB2-FPIU20NDB ES100-AS124 Hardware Kit	77701256
2	FPIU20 No-Drill ES100-AS124 Clam Shell Rear Bracket	856703357
2	FPIU20 No-Drill Clam Shell Front Bracket	856703358

Table 3 ESB-FPIU20NDB/ESB2-FPIU20NDB Hardware Kit Contents

Qty.	Description	Part Number
4	3/8-16 x 1.5-inch 18-8 Stainless Steel Hex Head Bolt	7002A009-24
4	3/8-16, 18-8 Stainless Steel Hex Nut	7059A063
8	0.0406 x 1. x 0.063 inch 18-8 Stainless Steel Flat Washer	7072A035
4	3/8-inch 18-8 Stainless Steel Split Lockwasher	7074A046
2	5/16-18 18-8 Hex Head Stainless Steel Bolt Cap	7002A005-14
2	5/16-inch Stainless Steel Split Lockwasher	7074A020

Installing the Speaker

⚠ 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.

NOTICE

MOUNTING PRECAUTIONS: 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 and 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.

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

1. Remove the front bumper fascia according to the manufacturer's service manual to access the mounting area.
2. Remove the upper and lower grille shrouds.

NOTE: Some additional modifications to mounting area may be required.

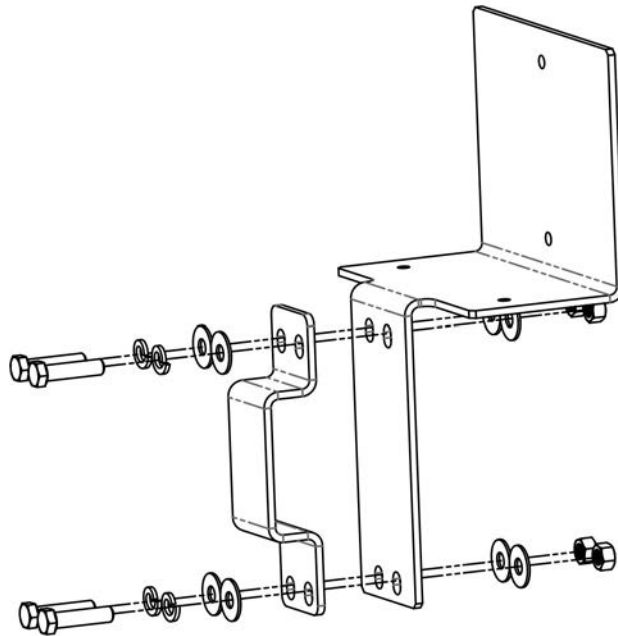
3. Starting on the driver side of the vehicle, place both the front and the rear speaker brackets onto the desired location on the bumper channel. See Figure 1.

Figure 1 Bracket Placement



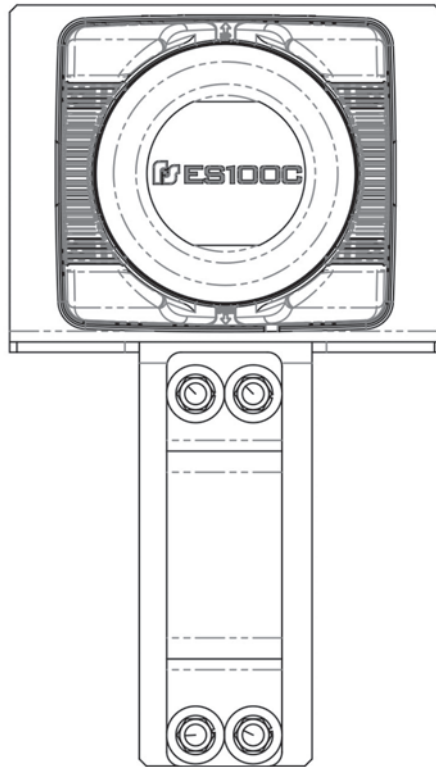
4. Add the bolts, lock washers, flat washers, and hex nuts to each bracket mounting hole starting with the top two holes. See Table 3 for hardware kit contents. Hand tighten the mounting hardware for now. See Figure 2.

Figure 2 ES100/AS124 Speaker Bracket Assembly



5. Ensure that the speaker bracket location does not interfere with any additional bumper mounted accessories.
6. Once the desired location of the brackets has been set, properly secure the mounting hardware to the bumper.
7. Repeat steps 3-6 if you are adding a passenger side mounting bracket assembly to the vehicle.
8. Secure the speaker(s) to the bracket(s) with the mounting hardware that was supplied with the speaker kit. See Figure 3 for ES100 speaker mount. See Figure 4 for AS124 speaker mount.

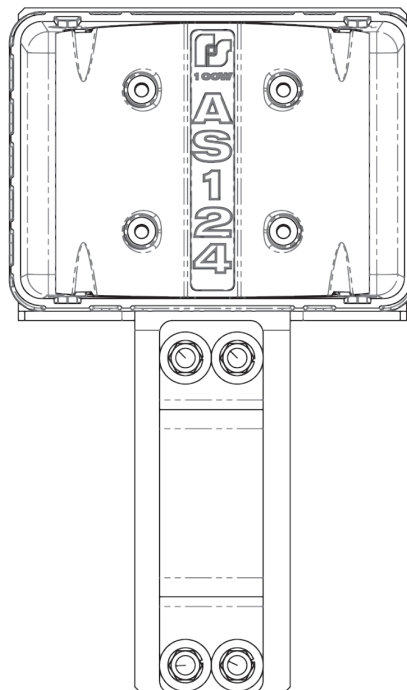
Figure 3 ES100 Speaker with Bracket Assembly



The hardware for mounting the ES100 speaker to this bracket assembly is in the ESB-FPIU20NDB hardware kit contents and consists of the following:

- Two 5/16-18 by 0.75-inch Stainless Steel Hex Head Bolts
- Two 5/16-inch Split Lockwashers

Figure 4 AS124 with Speaker Bracket Assembly



9. Complete the speaker installation according to the instructions provided with the speakers.

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

10. Test the siren for proper operation.
11. Replace the upper and lower grille shrouds.
12. Replace and secure the front bumper fascia according to the manufacturer's service manual.

Getting Technical Support and Service

For technical support and service, please contact:

Service Department
Federal Signal Corporation
Phone: 1-800-433-9132
Email: emp-service-info@fed-sig.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.

Limited Warranty

This product is subject to and covered by a limited warranty, a copy of which can be found at www.fed-sig.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@fed-sig.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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