

25500698 Rev. A1 0521

Safety Message to Installers of Warning Light Equipment

▲ WARNING

People's lives depend on your safe installation of our products. It is important to read, understand, and follow all instructions shipped with this product and the related add-on products. Listed below are some other important safety instructions and precautions you should follow.

Before Installation

Qualifications

- To properly install a siren, you must have a good understanding of automotive electrical procedures and systems, along with proficiency in the installation and use of safety warning equipment.

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.

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 ensure that there are no shavings present in or near the unit. Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death.
- 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.
- 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 and minimizes the sound reaching the vehicle's occupants. Refer to the National Institute of Justice guide 500-00 for further information.

Installing the Q2B-SWKIT Q-Siren Solenoid and Foot Switch Kit

- 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 air bag sensors.
- Installation of two speakers requires wiring speakers in phase.
- Never attempt to install aftermarket equipment that connects to the vehicle wiring without reviewing a vehicle wiring diagram 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.
- If a vehicle seat is temporarily removed, verify with the vehicle manufacturer if the seat needs to be recalibrated for proper air bag deployment.
- 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.

After Installation

- After installation, test the emergency warning 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.

RETAIN AND REFER TO THESE MESSAGES

Introduction

The Q2B-SWKIT is a mounting kit for the Q-Siren Solenoid and foot switch.

Installing the Q2B-SWKIT Q-Siren Solenoid and Foot Switch Kit

Unpacking the Kit

After unpacking the kit, examine it for damage that may have occurred in transit. If the product has been damaged, file a claim immediately with the carrier stating the extent of the damage. Carefully check all envelopes, shipping labels, and tags before removing or destroying them. Ensure all parts in the packing list are included in the shipment. If any parts are missing, call Federal Signal Customer Support at 1-800-264-3578, 7 a.m. to 5 p.m., Monday through Friday, CT.

Table 1 Q2B-SWKIT Kit Contents

Qty	Description	Part No
1	250 A 12/24 Vdc Solenoid	19902410
1	Q-Siren Compact Foot Switch	19902412
1	Switch, Push Button #611	8283A691

Figure 1 Solenoid



Figure 2 Foot Switch



Installing the Foot Switch

⚠ CAUTION

DO NOT PRESS FOOT SWITCH AND BRAKE SIMULTANEOUSLY: Pressing the foot switch and brake switch at the same time will result in premature brake failure. The siren is activated by pressing the foot switch. When the siren's sound has peaked, release the foot switch and allow it to coast down. Before the siren stops, press the foot switch again. This produces a "wailing" sound that provides maximum signaling effectiveness and optimum siren life.

NOTICE

SOLENOID DAMAGE: Actuation of the brake switch for more than 30 seconds can damage the brake solenoid. If it becomes necessary to stop the siren rapidly, press the brake switch. The siren will stop in approximately 10-20 seconds.

⚠ 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.

Installing the Q2B-SWKIT Q-Siren Solenoid and Foot Switch Kit

⚠ WARNING

SEAT REMOVAL PRECAUTION: *If a vehicle seat is temporarily removed, verify with the vehicle manufacturer if the seat needs to be recalibrated for proper airbag deployment. Failure to follow this warning could cause serious injury or death.*

Install the foot switch on the vehicle floor in an area that will allow both the vehicle and the controls to be operated safely in all driving conditions. See Figure 3.

To install the foot switch:

1. Place the foot switch on the vehicle floor where you intend to install it. Scribe the locations of the mounting holes in the base.

⚠ WARNING

DRILLING PRECAUTIONS: *Before drilling holes, check the area into which you plan to drill to ensure that you do not damage vehicle components. All drilled holes should be deburred, and all sharp edges should be smoothed. Additionally, all exterior drilled holes must be sealed with Motorcraft seam sealer T-A-2-B or equivalent to prevent the potential exposure to carbon monoxide or other potentially harmful fumes. Failure to observe this warning could cause serious injury or death.*

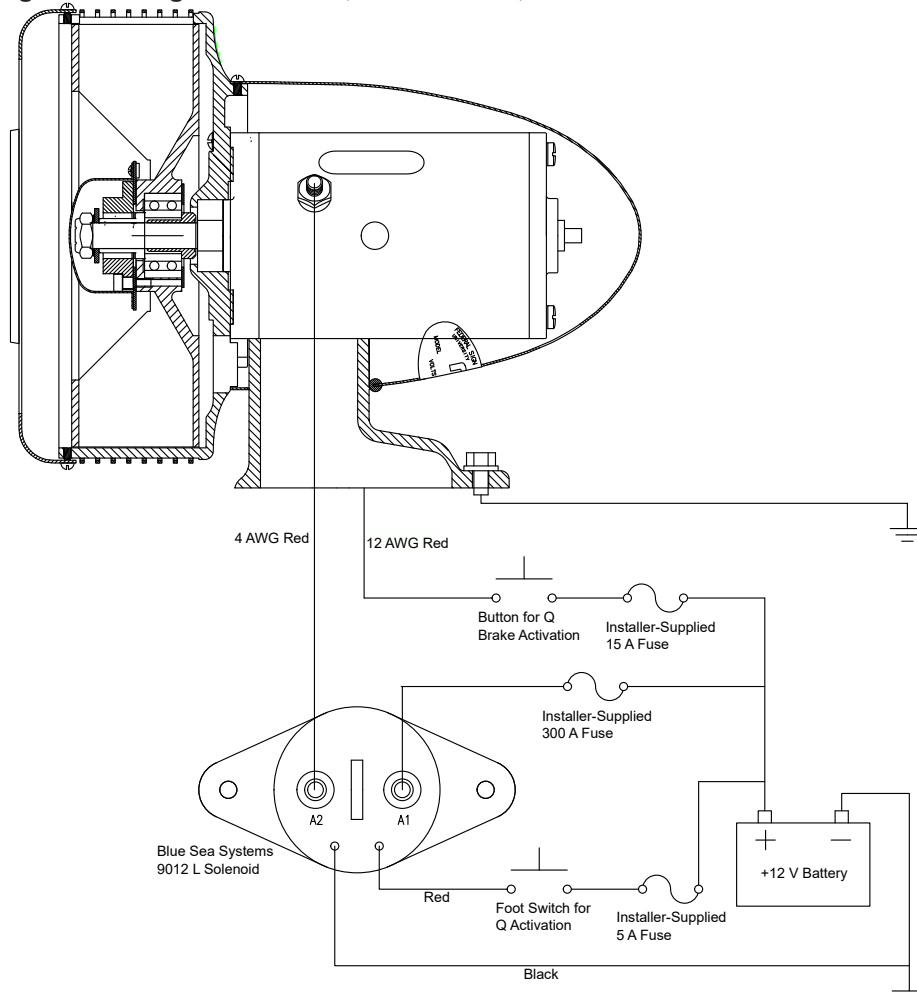
2. Drill 0.096-inch (2.4 mm) holes in the scribed positions.

NOTE: The holes can be opened a bit if necessary.

3. Use screws to secure the foot switch to the vehicle.
4. Route foot switch wire leads to make electrical connections per the Figure 3 wiring diagram.

Installing the Q2B-SWKIT Q-Siren Solenoid and Foot Switch Kit

Figure 3 Wiring the solenoid, brake switch, and foot switch kit to the Q-Siren



Wiring the Siren

NOTICE

GROUND THE SIREN PROPERLY: The siren will not function properly without a good vehicle ground. Ensure that the paint around the mounting holes on both sides of the mounting surface has been removed and that the mounting surface provides an effective ground path.

WARNING

ELECTRICAL FIRE HAZARD: If wires are shorted to the vehicle frame or each other, high current conductors can cause hazardous sparks, resulting in electrical fires and molten metal. Verify that no short circuits exist before connecting to the positive (+) battery terminal.

WARNING

HIGH CURRENT ARCING: Do not connect this system to the vehicle battery until ALL other electrical connections are made and you have verified that no shorts exist. High current conductors can cause hazardous sparks or burning wire, resulting in electrical fires.

Make the electrical connections shown in Figure 3. Install user-supplied fuse holders and fuses (see the current ratings in Figure 3) as close as practical to the battery. Insulate all exposed connections with electrical tape or heat shrink tubing. See Figure 3 for detailed wiring of the solenoid.

Testing the Siren

⚠ 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.

Refer to the Safety Message to Operators section, and then test the siren to ensure that it functions properly.

Installing the Brake Switch

⚠ WARNING

USE A MOMENTARY SWITCH ONLY: The foot switch is designed for use only with a momentary switch. Use of any other type of switch will result in premature failure of the brake solenoid. Failure to observe this warning may cause property damage, injury, or death.

⚠ 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

SEAT REMOVAL PRECAUTION: If a vehicle seat is temporarily removed, verify with the vehicle manufacturer if the seat needs to be recalibrated for proper airbag deployment. Failure to follow this warning could cause serious injury or death.

Install the user-supplied momentary switch in a location that will allow the vehicles and controls to be operated safely in all driving conditions. See Figure 3 on page 5.

Safety Messages to Operators of Federal Signal Sound/Light Systems

⚠ WARNING

People's lives depend on your safe operation of Federal Signal products. It is important to read and follow all instructions shipped with the products. Listed below are some other important safety instructions and precautions you should follow.

Qualifications

- To properly use an electronic siren, 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 and wear hearing protection. Do not sound the siren indoors or in enclosed areas where you and others will be exposed to the sound.

Installing the Q2B-SWKIT Q-Siren Solenoid and Foot Switch Kit

Sound Limitations

- Before using the vehicle, check to see if the siren is concealed from view. If the siren is not in clear view on the front of the vehicle, use extra caution when operating the vehicle. A concealed siren is less effective at warning others.
- 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.
- Frequently inspect the siren 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 siren and actions are REQUESTING the right of way.
- Although your warning system is operating properly, it may not be completely effective. People may not see, hear, or heed your warning signal. You must recognize this fact and continue to drive cautiously.
- Situations may occur that obstruct your warning signal when natural and man-made objects are between your vehicle and others, such as raising your hood or trunk lid. If these situations occur, be especially careful.

Driving Limitations

- At the start of your shift, ensure that the siren is securely attached to the vehicle and functioning properly.
- If the unique combination of emergency equipment installed on 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 THE CONTROLS ONLY WHILE THE VEHICLE IS STOPPED.
- Do not attempt to activate or deactivate the controls of the emergency warning system while driving in a hazardous situation.

Continuing Education

- 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.

RETAIN AND REFER TO THESE MESSAGES

Operating the Siren

⚠ CAUTION

DO NOT PRESS FOOT SWITCH AND BRAKE SIMULTANEOUSLY: Pressing the foot switch and brake switch at the same time will result in premature brake failure. The siren is activated by pressing the foot switch. When the siren's sound has peaked, release the foot switch and allow it to coast down. Before the siren stops, press the foot switch again. This produces a "wailing" sound that provides maximum signaling effectiveness and optimum siren life.

Installing the Q2B-SWKIT Q-Siren Solenoid and Foot Switch Kit

NOTICE

SOLENOID DAMAGE: Actuation of the brake switch for more than 30 seconds can damage the brake solenoid. If it becomes necessary to stop the siren rapidly, press the brake switch. The siren will stop in approximately 10-20 seconds.

Press the foot switch to activate the siren. When the siren sound peaks, release the foot switch and allow the siren to coast down. Before the siren stops, press the foot switch again. This produces a wailing sound that provides maximum signalling effectiveness and optimum siren life.

Getting Technical Support

For technical support, please contact:

Federal Signal Corporation

Service Department

Phone: 1-800-433-9132

Fax: 1-800-343-9706

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 an 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 to the following address.

Federal Signal Corporation

Service Department

2645 Federal Signal Drive

University Park IL 60484-3167



FEDERAL SIGNAL
Safety and Security Systems

2645 Federal Signal Drive
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www.fedsig.com

Customer Support

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