

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. In addition, listed below are some other important safety instructions and precautions you should follow:

- To properly install the lighting system, you must have a good understanding of automotive systems, along with proficiency in the installation and use of safety warning equipment.
- Do not install equipment or route wiring 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 airbag deployment.
- Locate light control so the VEHICLE and CONTROL can be operated safely under all driving conditions.
- You should frequently inspect the light system to ensure that it is operating properly and that it is securely attached to the vehicle.
- When drilling into a vehicle structure, be sure that both sides of the surface are clear of anything that could be damaged.
- In order for the light to function properly, a separate ground connection must be made. If practical, it should be connected to the negative battery terminal. At a minimum, it may be attached to a solid metal body or chassis part that will provide an effective ground path as long as the light system is to be used.
- Refer to the instructions packed with related products for additional precautions and information.
- File these instructions in a safe place and refer to them when maintaining and/or reinstalling the product.
- Do not stare directly into the lights at a close range or permanent damage to your eyesight may occur.

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

Product Overview

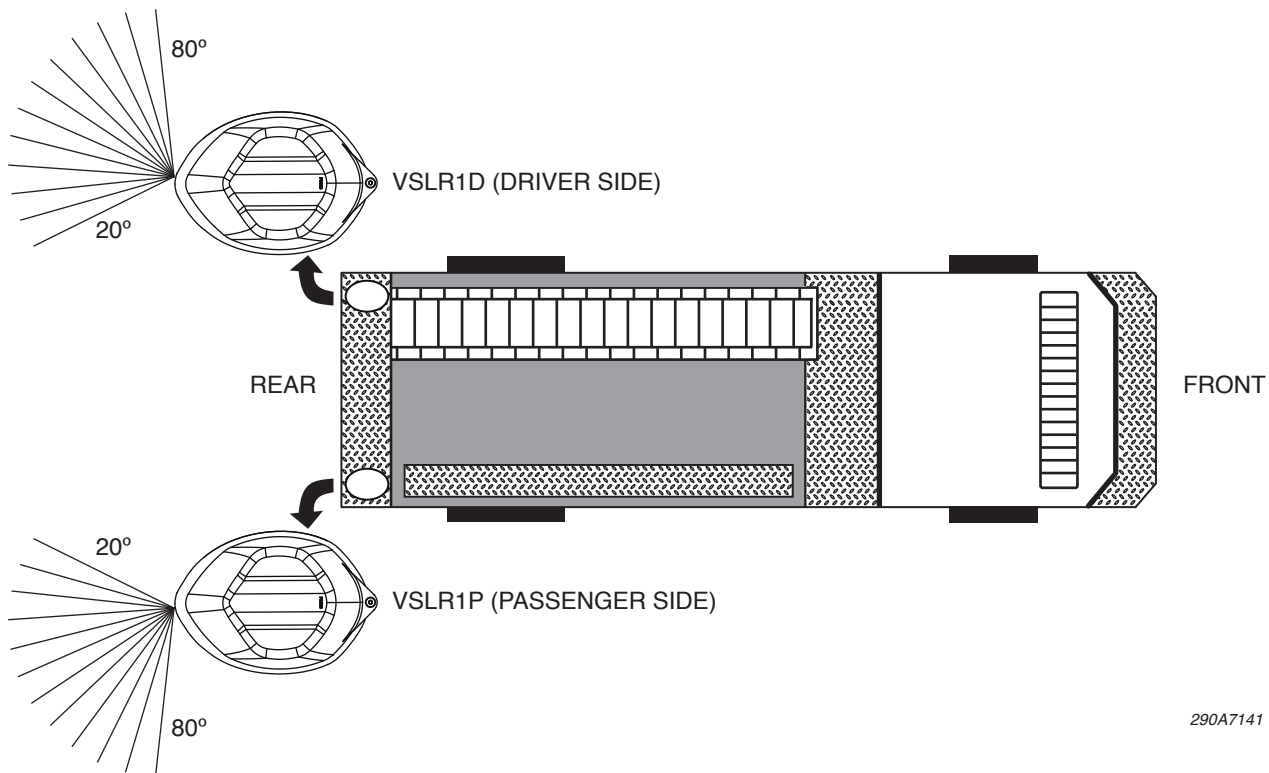
Federal Signal has combined the superior light output of a rotator with the advantages of LEDs to create the first true LED beacon in the marketplace, the IVP SLR.

Featuring the patented Solaris LED Rotator, the IVP SLR creates a burst of illumination with the benefits of a rotator to create a sweep of light unmatched by flashing lights.

The IVP VSLR is available in two styles that compliment Federal Signal's Vision SLR lightbars. The VSLR1 features red or amber LEDs and may be used as part of an NFPA lighting package. The VSLR1-IPX-RA is NFPA compliant and features a red LED rotator and an Impaxx Model IPX600 light in an attractive housing.

Driver-side (VSLR1D) and passenger-side (VSLR1P) oscillating models are also available. They are designed to be mounted on the rear of a fire apparatus. When oscillating, the lights emit light in the areas shown in Figure 1 on page 2.

Figure 1 Oscillating sweep of Model VSLR1D and VSLR1P lights



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Product Specifications

	VSLR1	VSLR1-IPX
Specifications		
Voltage	12/24 Vdc	12 Vdc
Operating Temp.	-30 °C to +65 °C	-30 °C to +65 °C
Ship Weight		
	5.5 lb (2.5 kg)	6.0 lb (2.7 kg)
Dimensions (H x L x D)		
	4.5 in x 7.3 in x 10.0 in (11.4 cm x 18.5 cm x 25.4 cm)	5.0 in x 7.3 in x 10.0 in (12.7 cm x 18.5 cm x 25.4 cm)
Amperage		
	1.8 @ 12 Vdc 1.0 @ 24 Vdc	2.8 @ 12 Vdc

Unpacking the Product

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 in the Table 1 on page 3 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 2 Mounting kit contents

Qty.	Description	Part Number
3	Nut, Elastic Stop	7058A010
6	Pad, Mounting, Rubber	8422A033
1	Grommet	8108A014

Mounting the Light

To mount the light:

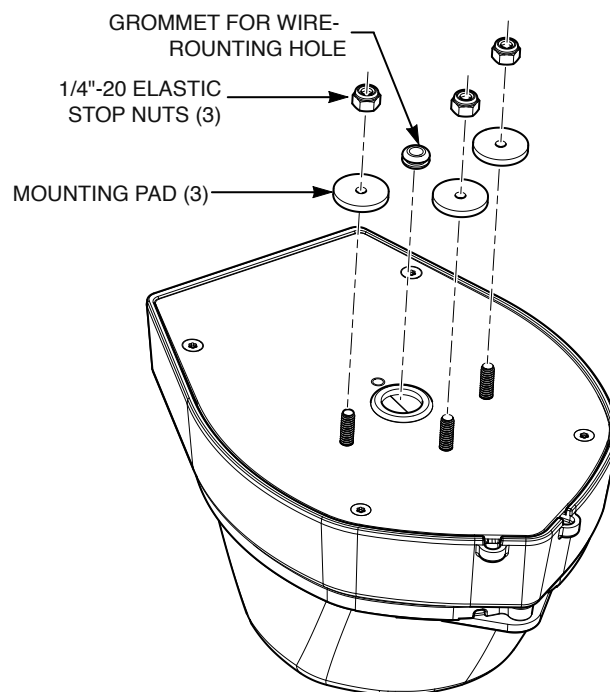
1. Select a mounting location for the light.
2. Place the unit on the mounting location.
3. Note the intended mounting position and replace the unit with the drilling template on page 12.
4. Tape the template in place, positioning it as indicated on the template. Scribe four drill-position marks on the mounting surface.

NOTICE

DRILLING PRECAUTIONS—When drilling holes, check the area into which you are drilling to be sure you do not damage vehicle components. 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.

5. Drill one 3/8" wire-routing hole at the center-drill position mark. Drill three 9/32" holes at the remaining drill-position marks on the mounting surface.
6. See Figure 2. Install the grommet in the 3/8" wire-routing hole.

Figure 2 Mounting hardware for Models VSLR1 and VSLR1-IPX



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Installation and Maintenance Instructions

7. Install one or two mounting pads over each of the three mounting studs as shown in Figure 1.
8. Position the light over the mounting holes and route the cable through the grommet. For the VSLR1-IPX, allow 10" to 18" of slack in the cable under the roof so the unit can be removed if the Impaxx is damaged and needs replacement.
9. To prevent water leakage if applicable, apply a silicone sealing compound around the cable and grommet where they pass through the mounting surface.
10. Secure the unit to the mounting surface with the three 1/4"-20 elastic stop nuts.

Wiring the Light in the Vehicle

The light is completely wired at the factory and does not require any additional internal wiring. All the conductors necessary for control of light assembly are contained in the leads. The basic light functions of the unit must be controlled by a installer-supplied control head. Before proceeding, ensure that the light assembly has been installed on the vehicle roof in accordance with the instructions

⚠ WARNING

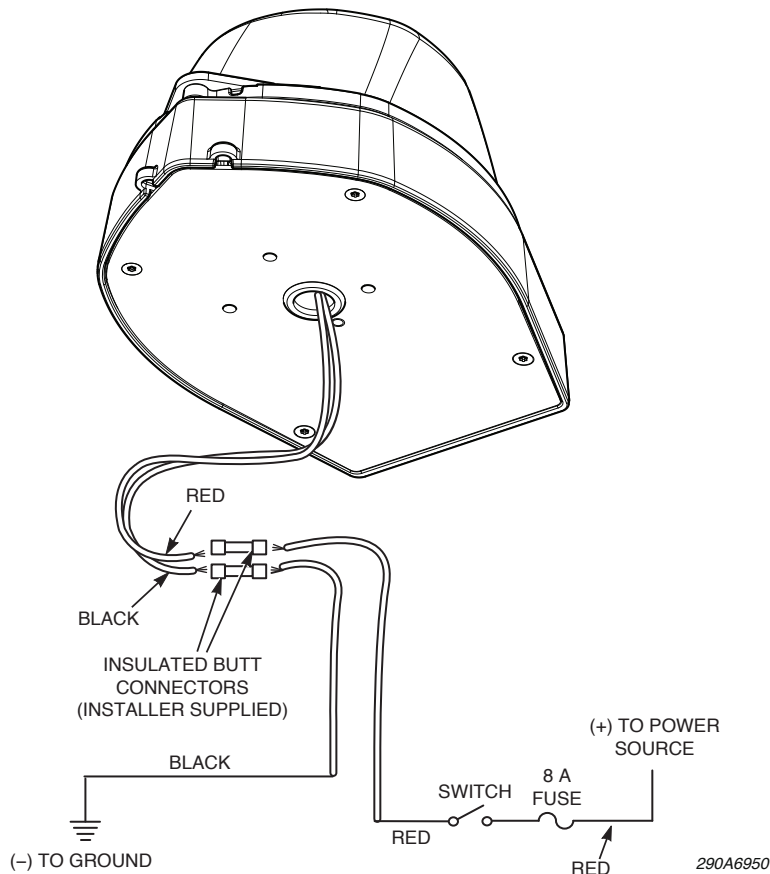
LOCATION OF LIGHT SYSTEM CONTROLS—Locate the light system controls so the VEHICLE and CONTROLS can be operated safely under all driving conditions.

To wire the light assembly:

1. Determine the length of wires needed for the installation. For lengths up to 15 ft (5 m), use minimum 18 AWG (1 mm²) wire. For lengths over 15 ft, use minimum 16 AWG (1.5 mm²) wire.

Use insulated butt connectors to splice the leads. Ensure that the connectors are securely crimped and properly insulated.
2. See Figure 3 on page 5. Connect the black lead to chassis ground (–NEG).
3. Connect the red wire (+BAT) to one terminal of an installer-supplied switch with a current capacity of at least 8 A.
4. Connect the other terminal of the switch through an installer-supplied 8 A fuseholder to the positive (+BAT) terminal of the voltage source.

Figure 3 Wiring for Models VSLR1 and VSLR1-IPX



Cleaning the Plastic Dome

⚠ WARNING

CRAZING/CLEANING SOLUTIONS—The use of other materials such as strong detergents, solvents, petroleum products, etc. can cause crazing (cracking) of the plastic domes. If crazing of domes does occur, reliability of light for emergency purposes may be reduced until domes are replaced. Failure to follow this warning can damage the domes, reducing the effectiveness of the lighting system, and may result in injury or death.

⚠ WARNING

CRAZING/CHEMICALS—Crazed, cracked or faded domes reduce the light output and the effectiveness of the lighting system. Domes or reflectors showing this type of aging must be replaced. Failure to follow this warning may result in injury or death.

To clean the dome:

1. Rinse the dome with lukewarm water to loosen dirt and debris.
2. Use a mild detergent, lukewarm water, and a soft cloth to gently clean the dome. To avoid damaging the finish, do not use heavy pressure or caustic, abrasive, or petroleum-based cleaners.
3. Rinse and dry the dome with a soft cloth to prevent water spotting.
4. To remove fine scratches and haze, use a soft cloth and a high quality automotive paste cleaner/wax that is non-abrasive or a plastic polish like Plexus®

Replacing a Dome

The pod domes filter the LED lights and protect the LED and circuitry. If a dome is damaged, it must be replaced.

Tool required:

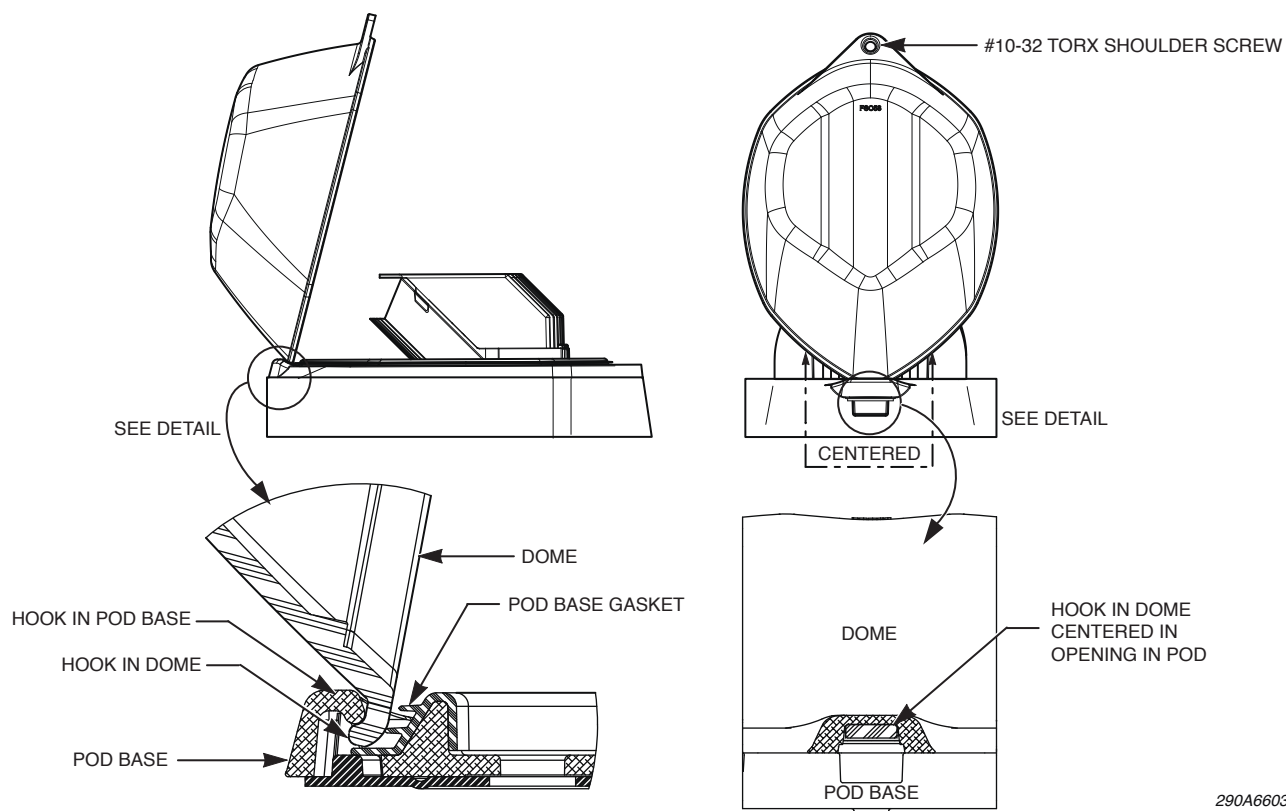
T25 Torx driver

Removing a Dome

To remove a light assembly dome:

1. Disconnect all power to the light assembly at the battery.
2. See Figure 4. Use a T25 Torx driver to remove the #10-32 Torx shoulder screw.
3. Carefully lift the dome from the back and rotate it to a vertical position to avoid damaging the pod hook and pod base gasket.
4. Inspect the gasket on the base of the pod to insure it is not torn, brittle, or damaged. Replace it, if necessary.

Figure 4 Dome removal and replacement



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Installing a Dome

To install a dome:

NOTICE

DO NOT FORCE THE DOME DOWNWARD—If there is resistance to the dome dropping into position on the base, do not force it downward. To avoid damaging the dome, ensure that the dome hook is properly centered with the mating recess in the pod base so that it drops down from the vertical position.

1. See Figure 4 on page 6. Hold the dome at an angle and insert the pod hook into the mating recess in the pod base. Ensure the dome hook is properly centered with the mating recess in the pod base. The dome drops from the vertical position when the dome hook is properly aligned.
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NOTICE

DO NOT OVERTIGHTEN SCREW—Do avoid damaging the pod, do not overtighten the #10-32 screw securing it to the pod base.

2. Insert the #10-32 Torx shoulder screw into the hole through the tip of the dome and into the pod base. To prevent cross-threading, back the screw counterclockwise until you hear the click of the threads engaging, then tighten the screw.
3. Reconnect power to the light assembly.

Replacing a Pod

The pod contains the LED light and printed circuit board. The pod is replaceable in one piece.

Tool required:

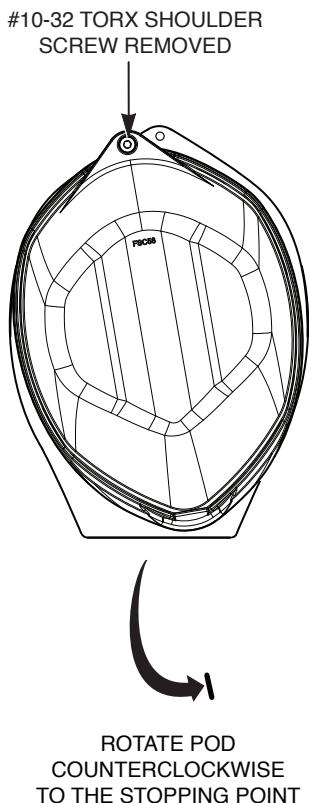
T25 Torx driver

Removing a Pod

To remove a pod:

1. Disconnect all power to the light assembly at the battery.
2. See Figure 5 on page 8. Use a T25 Torx driver to loosen the #10-32 Torx shoulder screw by 1/4 inch, just enough for the tip of the screw to clear the top plate.
3. Rotate the pod counterclockwise to the stopping point.
4. Lift the pod from the base and unplug the electrical connector from the pod.
5. Inspect the gasket on the base of the pod to insure it is not torn, brittle, or damaged. Replace it if necessary.

Figure 5 Pod rotated for removal



Installing a Pod

To install a pod:

1. Reconnect the electrical connector to the pod.
2. Place the pod atop in the correct location in the light assembly and rotate it clockwise.
3. Insert the #10-32 x 1/4" Torx shoulder screw into the hole through the tip of the dome and into the pod base. To prevent cross-threading, back the screw counterclockwise until you hear the click of the threads engaging, then tighten the screw.
4. Reconnect power to the light assembly.

Replacing the Impaxx (VSLR1-IPX only)

The Impaxx is replaceable in one piece.

Tool required:

T20 Torx driver

3/8" nut driver

7/16" socket or nut driver

Removing the Impaxx

To remove the Impaxx:

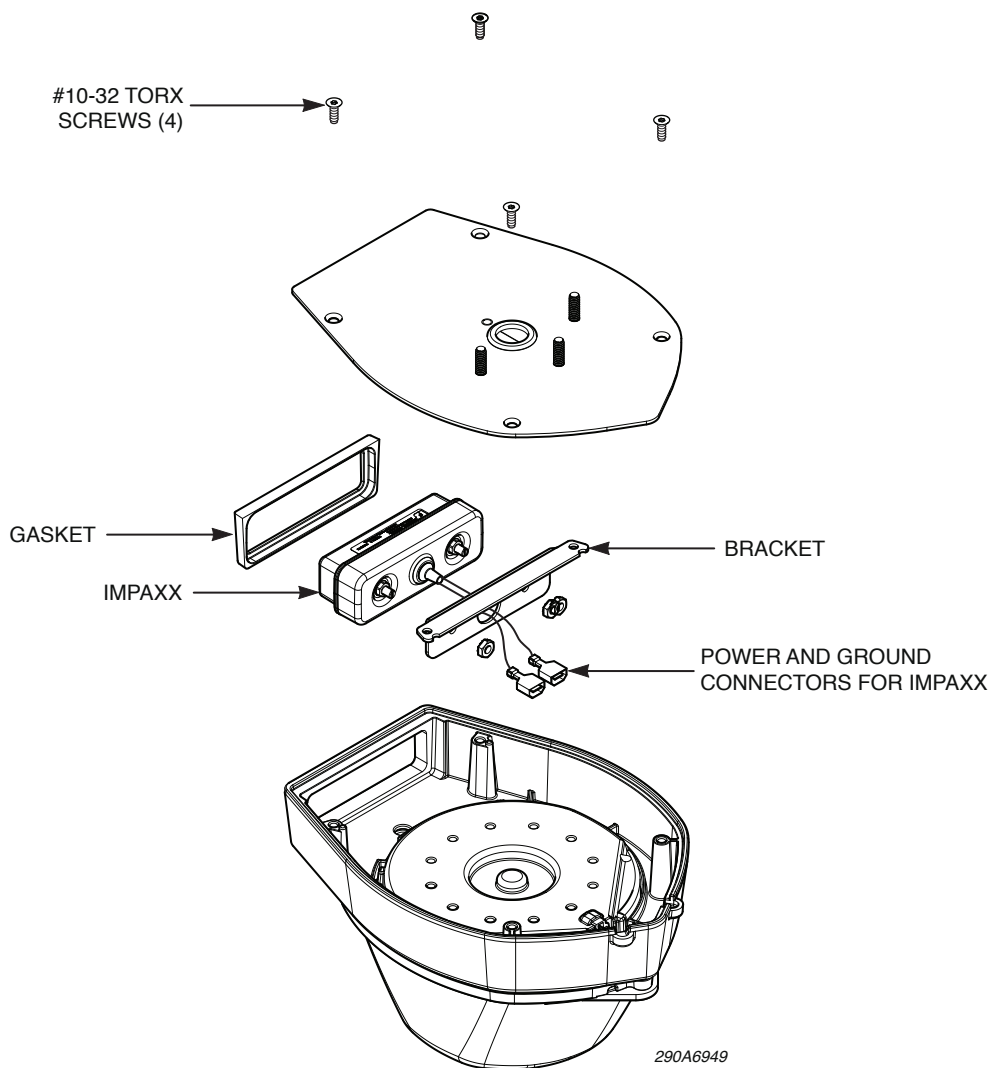
1. Disconnect all power to the light assembly at the battery.
2. See Figure 6 on page 10. Use a 7/16" socket or nut driver to remove the three 1/4"-20 elastic stop nuts securing the unit to the vehicle. Lift and invert the unit.
3. Use a T20 Torx driver to loosen the four #10-32 Torx flathead screws and remove the base plate.
4. Lift the Impaxx and bracket assembly from the unit and unplug the electrical connectors from the Impaxx.
5. With the 3/8" nut driver, remove the two #10-32 nuts securing the Impaxx to the bracket.
6. Inspect the gasket on the Impaxx to insure it is not torn, brittle, or damaged. Replace it if necessary.

Installing an Impaxx

To reinstall an Impaxx:

1. Install the gasket on the Impaxx. The wider end of the gasket goes down (touches the base plate).
2. Install the bracket and secure with the #10-32 nuts.
3. Reconnect the electrical connectors to the Impaxx (red to red, black to black).
4. Place the Impaxx assembly in the correct location in the unit and install the base plate,
5. Insert the #10-32 Torx flathead screws. To prevent cross-threading, back the screw counterclockwise until you hear the click of the threads engaging, then tighten the screw.
6. Position the light over the mounting holes and route the cable through the grommet. For the VSLR1-IPX, allow 10" to 18" of slack in the cable under the roof so the unit can be removed if the Impaxx needs replacement. To prevent water leakage, apply a silicone sealing compound around the cable and grommet where they pass through the mounting surface.
7. Secure the unit to the mounting surface with the three 1/4"-20 elastic stop nuts.
8. Reconnect power to the unit.

Figure 6 Impaxx removed from light assembly



Replacement Parts

This section contains a partial list of replacement parts. To order replacement parts, call the Federal Signal Service Department at 800-433-9132, 7 a.m. to 5 p.m., Monday through Friday (Central Time) or contact your nearest distributor.

Table 2 Replacement parts

Description	Part Number
PCB Assembly, Controller	Contact Service
Pod Assembly	Contact Service
Dome, Red	8652106-04
Seal, Pod	8652107
Gasket, Pod Base	8652108

Getting Technical Support and Service

For technical support and service, please contact:

Service Department

Federal Signal Corporation

Phone: 1-800-433-9132

Fax: 1-800-343-9706

Email: empserviceinfo@fedsig.com

Returning a Product to Federal Signal

Before returning a product to Federal Signal, call 800-264-3578 (Mobile Systems) or 800-433-9132 (Service) 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 Corporation

Public Safety Systems

2645 Federal Signal Drive

University Park, IL 60484-3167

Attn: Service Department

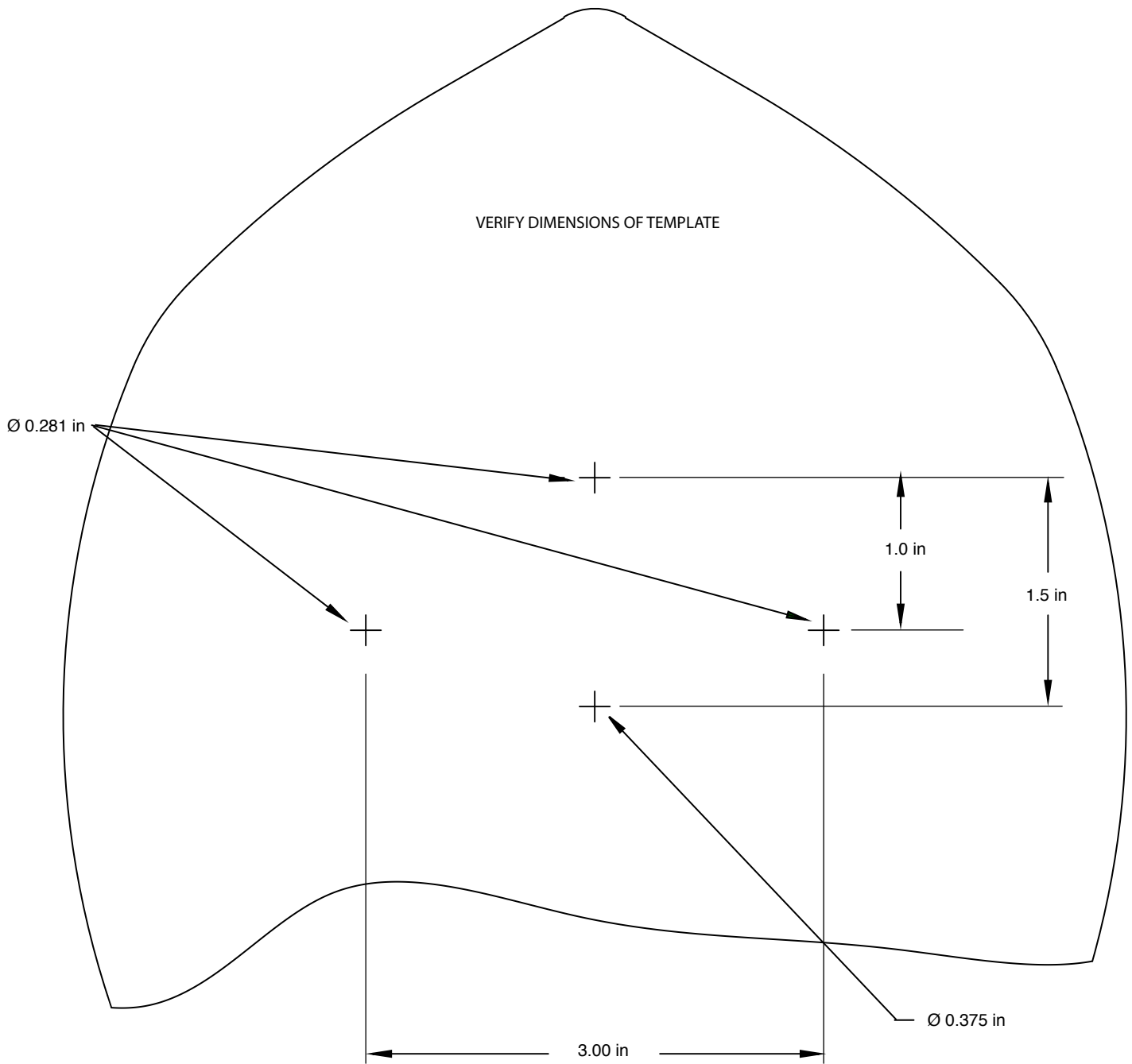
RMA: # _____

800-433-9132

800-343-9706 (fax)

www.fedsig.com

Figure 7 Drilling template



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