



FEDERAL SIGNAL

SLR LED Rotator Beacon



Installation and Maintenance Manual

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Contents

Safety Message to Installers and Service Personnel of Warning Light Equipment.....	5
Overview of the SLR LED Rotator Beacon.....	9
Unpacking the Product	9
Preparing for the Installation.....	9
Product Specifications.....	10
Permanently Mounting the Beacon.....	10
Wiring the Permanently Mounted Beacon.....	12
Pipe-Mounting and Wiring the Beacon.....	13
Selecting a Rotation Speed	14
Maintaining the Beacon	16
Getting Technical Support	16
Getting Replacement Parts.....	16
Returning a Product to Federal Signal	17

Tables

Table 1 Replacement parts	17
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Figures

Figure 1 Permanent-mounted beacon with wiring	11
Figure 2 Overhead view of mounting holes in the base.....	12
Figure 3 Pipe-mounted beacon with wiring.....	14
Figure 4 Location of RPM jumper and pins	15
Figure 5 Template for permanent mounting	19

Safety Message to Installers and Service Personnel 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. In addition, 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.

Light Hazards

- To be an effective warning device, this product produces bright light that can be hazardous to your eyesight when viewed at a close range. Do not stare directly into this lighting product at a close range or permanent damage to your eyesight may occur.
- Do not install the light system in an area that would block, impair or blind the driver's vision. Ensure that the light system is mounted in a position that is outside of the driver's field of vision, so the driver can safely operate the vehicle.
- Federal Signal power supplies and light heads are designed to work together as a system. Combining lightheads and a power supply from different manufacturers may reduce the warning effectiveness of the lighting system and may damage the components. You should verify or test your combination to ensure the system works together and meets federal, state and local standards or guidelines.

Electrical Hazards

- Strobe systems present a shock hazard because they use high voltage to operate. Do not handle strobe cables, the power supply or bulbs or remove the lens while the equipment is connected. Strobe systems can also hold their charge even after they have been turned off. After disconnecting power to the unit, wait five minutes before handling any parts of the strobe system.
- A light system is a high current system. For the system to function properly, a separate negative (–) connection and positive (+) connection must be made. All negative connections should be connected to the negative battery terminal and a suitable fuse should be installed on the positive battery terminal connection as close to the battery as possible. Ensure that all wires and fuses are rated correctly to handle the device and system amperage requirements.
- 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 or mandated safety functions or circuits. Always check the vehicle for proper operation after installation.
- The lighting system components, especially light bulbs, strobe tubes, LEDs, and the outer housing, get hot during operation. Be sure to disconnect power to the system and allow the system to cool down before handling any components of the system.
- Do not mount a radio antenna within 18 inches (45.7 cm) of the lighting system. Placing the antenna too close to the lighting system could cause the lighting system to malfunction or be damaged by strong radio fields. Mounting the antenna too close to the lighting system may also cause the radio noise emitted from the lighting system to interfere with the reception of the radio transmitter and reduce radio reception.
- Do not attempt to wash any unsealed electrical device while it is connected to its power source.

During Installation and Service

- 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. 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 the wiring is shorted to the vehicle body or frame, high current conductors can cause hazardous sparks resulting in electrical fires or flying molten metal.
- DO NOT install equipment or route wiring (or the plug-in 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 airbag deployment.
- Before mounting any components, check the manual to be sure that the component you are installing is suitable for use in that area of the vehicle. Many components are not suitable for use in the engine compartment or other extreme environmental exposure areas.
- Before drilling into a vehicle structure, be sure that both sides of the surface are clear of anything that could be damaged. Remove all burrs from drilled holes. To prevent electrical shorts, grommet all drilled holes through which wiring passes. Also, ensure that the mounting screws do not cause electrical or mechanical damage to the vehicle.
- Refer to the manual packed with the lighting system for proper electrical connections, additional precautions and information.
- Because vehicle roof construction and driving conditions vary, do not drive a vehicle with a magnetically mounted warning light installed. The light could fly off the vehicle causing injury or dam-

SLR LED Rotating Beacon

age. Repair of damage incurred because of ignoring this warning shall be the sole responsibility of the user.

- Locate the light system controls so the VEHICLE and CONTROLS can be operated safely under all driving conditions.

After Installation or Service

- After installation, test the 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 the installation has not affected the vehicle operation or changed any vehicle safety function or circuit.
- Scratched or dull reflectors, mirrors or lenses will reduce the effectiveness of the lighting system. Avoid heavy pressure and use of caustic or petroleum based products when cleaning the lighting system. Replace any optical components that may have been scratched or crazed during system installation.
- Do not attempt to activate or de-activate the light system controls while driving in a hazardous situation.
- You should frequently inspect the light system to ensure that it is operating properly and that it is securely attached to the vehicle.
- After installation and testing are complete, provide a copy of these instructions to instructional staff and all operating personnel.
- File these instructions in a safe place and refer to them when maintaining and/or re-installing the product.

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

RETAIN AND REFER TO THIS MESSAGE

Overview of the SLR LED Rotator Beacon

The SLR LED Rotator Beacon is an LED light source to provide a reliable signal with three selectable RPM speeds. Models are available with flush or pipe mounting. The available colors are red and amber. The light can operate on a 12- or 24-volt power source.

Unpacking the Product

After unpacking the product, inspect it for damage that may have occurred in transit. If it has been damaged, 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.

Preparing for the Installation

To prepare for the beacon installation, assemble these installer-supplied materials:

- ✓ 18 AWG (1 mm²) red and black wire for lengths up to 15 ft (5 m) or minimum 16 AWG (1.5 mm²) wire for lengths greater than 15 ft (5 m). For extending wires from the installer supplied switch, 20 AWG can be used, if required.
- ✓ Fuseholder with 5 A fuse
- ✓ Two to three insulated butt connectors for the pipe-mounting option and a switch with a current capacity of at least 5 A.
- ✓ For the option of permanently mounting the beacon, three #10 pan-head thread-forming screws and a #18 drill. For extreme vibration conditions, use three #10-32 machine screws with #10 hex nuts and lockwashers for clearance holes.
- ✓ For the option of pipe-mounting the beacon, a 1-inch, threaded NPT pipe.
- ✓ An installer-supplied bushing for the wiring is optional.

Selecting a rotation speed is optional and should be done during the installation. For more information, see “Selecting a Rotation Speed” on page 14.

Product Specifications

Input Voltage	11 Vdc to 28 Vdc
Nominal	12.8 Vdc or 25.6 Vdc
Input Current, Amber (nominal)	2 A at 12.8 Vdc pulsed, 0.8 avg. 1 A at 25.6 Vdc pulsed, 0.4 avg.
Flash Rate	90 RPM is the default pattern. 75 RPM and 120 RPM patterns are available.
Dimensions	
Height	5.73 in (14.55 cm)
Diameter	7.10 in (18.0 kg)
Weight (permanent mount/ pipe mount)	3.35 lb (1.52 kg)
Approvals	SAE J1318, J845 Class 1, J845 Class 2

Permanently Mounting the Beacon

⚠ WARNING

LIGHT HAZARD—*This product contains a high-intensity LED device. To prevent permanent eye damage, DO NOT stare into the light beam at close range.*

NOTICE

DRILLING PRECAUTIONS—*Before drilling holes, check the area 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*

To permanently mount the beacon:

1. Place the supplied template on the mounting surface and scribe the locations of the three mounting holes in the base.
2. See Figure 1 on page 11 and Figure 2 on page 12. Scribe a hole for the wires at the center of the mounting location and three holes for the installer-supplied fasteners.

3. Remove the template.
4. See Figure 1. Drill a 0.375 in (9.53 mm) hole at the scribed position of the wire-routing hole. Seal the hole with RTV.
5. For the three mounting holes, select one of these options:
 - ✓ For tapped holes use a #18 drill bit to drill a 0.170 in (4.32 mm) hole at the scribed mounting hole positions. Use installer-supplied #10 pan-head thread-forming screws.
 - ✓ For extreme vibration conditions, drill a 0.200 clearance hole. Use installer-supplied #10-32 machine screws with #10 hex nuts and lockwashers.
6. Align the gasket over the drilled holes. Route the wires through the gasket and wire routing hole in the base and gasket.

Figure 1 Permanent-mounted beacon with wiring

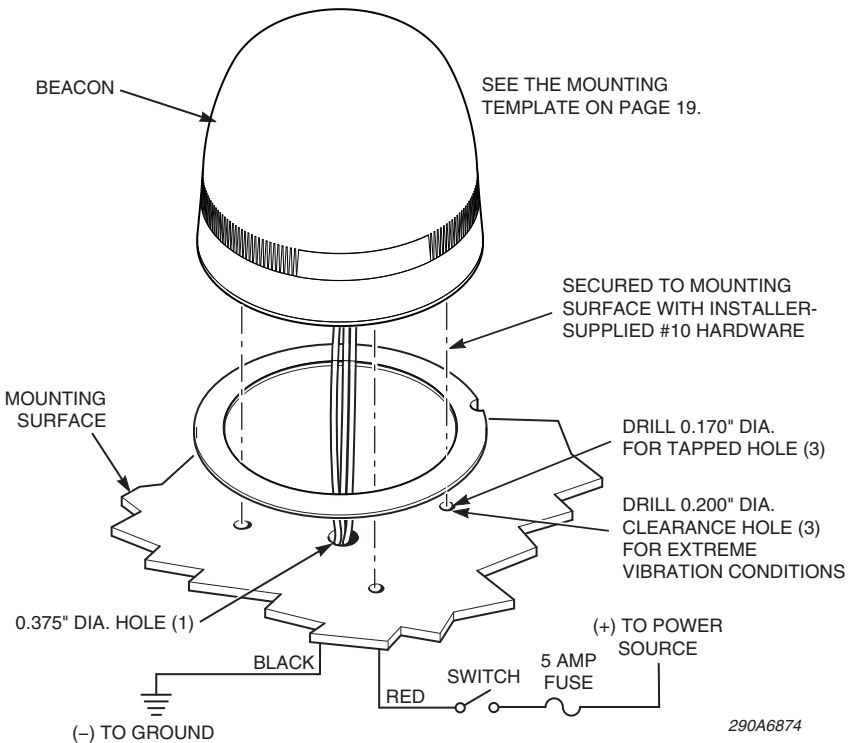
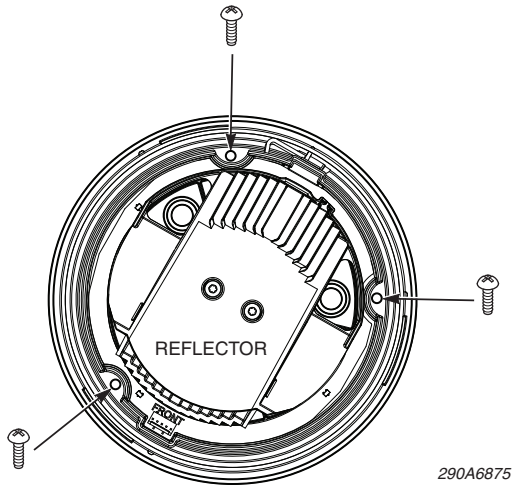


Figure 2 Overhead view of mounting holes in the base



7. Twist off the beacon dome from the base.
8. Secure the base to the mounting surface with the #10 Phillips pan-head thread-forming screws.
9. Position the dome onto the base and twist it until it locks.

Wiring the Permanently Mounted Beacon

NOTICE

ENSURE CORRECT INPUT VOLTAGE—To avoid damage to the light, ensure that the input voltage is the same as the voltage rating of the light. Ensure that correct polarity is observed. Also ensure that unit is properly fused.

To wire the beacon:

1. See Figure 1 on page 11. Connect one terminal of a installer-supplied switch, with a current capacity of at least 5 A, to the red (+) wire of the beacon. Additional 20 AWG (0.8 mm²) or larger wire may be added, if required.
2. Use 18 AWG (0.8 mm²) or larger wire to connect the remaining switch terminal to one end of the installer-supplied fuseholder and 5 A fuse.

3. Connect the other end of the fuseholder to the positive (+) terminal of the voltage source.
4. Connect the black (–) wire from the beacon to a known good vehicle ground as close to the beacon as practical.

Pipe-Mounting and Wiring the Beacon

⚠ WARNING

LIGHT HAZARD—This product contains a high-intensity LED device. To prevent permanent eye damage, DO NOT stare into the light beam at close range.

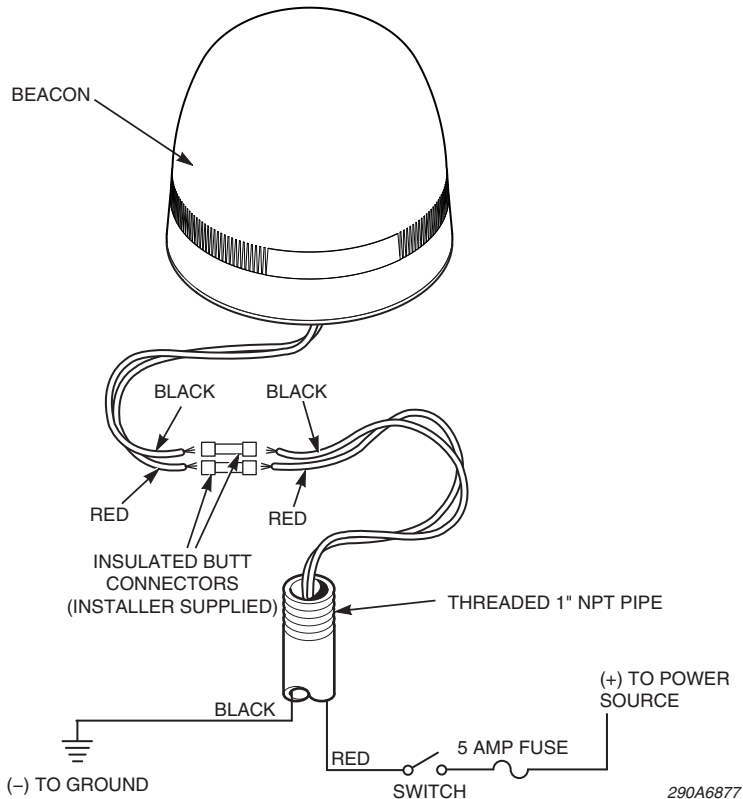
The base was designed for the optional installation onto the end of a threaded 1 inch (25.4 mm) NPT pipe (Figure 3 on page 14).

To pipe mount and wire the beacon

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.
2. Strip 1/4 inch (5 mm) of insulation from the ends of the red and black installer-supplied wires.
3. Use insulated butt connectors to connect the red and black wires to the red and black wires from the beacon. Ensure that the connectors are securely crimped and properly insulated.
4. Route the red and black wires through the pipe to the location of the installer-supplied switch with a current capacity of at least 5 A.
5. Screw the beacon onto the pipe. Ensure that the wires are not pinched inside the pipe.
6. Connect one terminal of the installer-supplied switch to the red (+) wire of the beacon.
7. Use minimum 18 AWG (1 mm²) wire to connect the remaining switch terminal to one end of the supplied fuseholder and 5 A fuse.
8. Connect the other end of the installer-supplied fuseholder to the positive (+) terminal of the voltage source.

9. Connect the black (-) wire from the beacon to a known good vehicle ground as close to the beacon as practical.

Figure 3 Pipe-mounted beacon with wiring



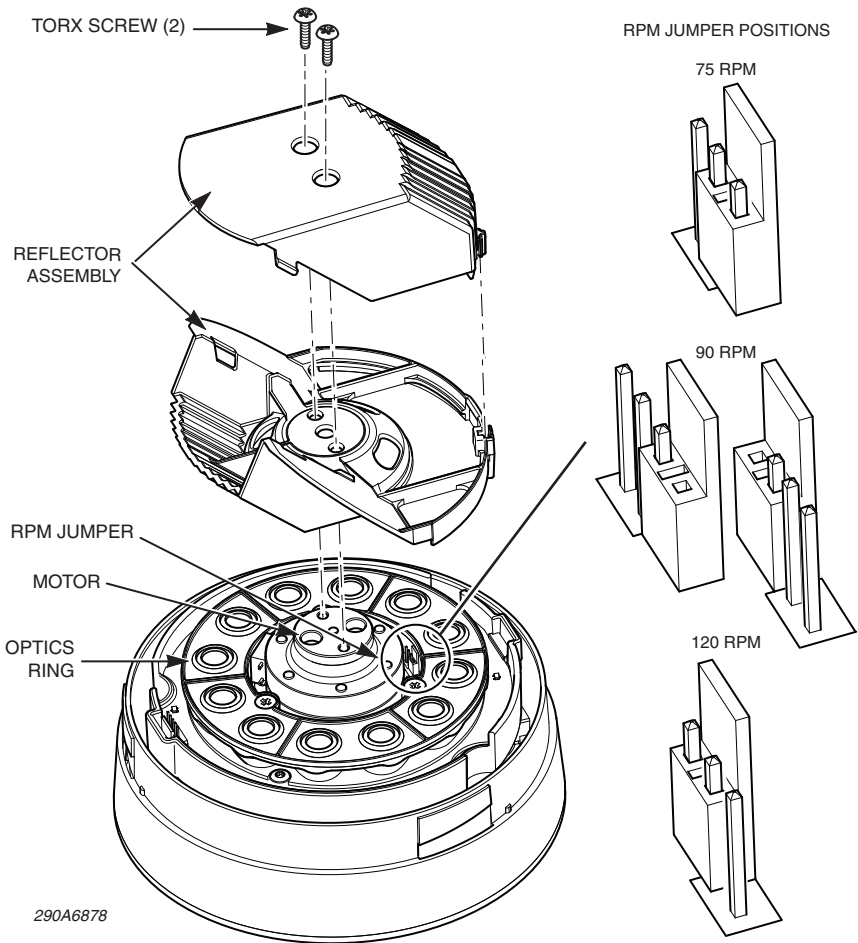
Selecting a Rotation Speed

Selecting a rotation speed is optional and should be done during installation. The jumper pins for selecting a speed are accessible by removing the dome and reflector.

To change the RPM:

1. Disconnect power to the beacon.
2. Twist off the beacon dome from the base.

Figure 4 Location of RPM jumper and pins



3. See Figure 4. Locate the two screw-access holes on top of the reflector. Remove both reflector screws with a T-20 Torx® screwdriver.
4. Lift the reflector from the beacon assembly and set it aside. The jumper pins are located between the optics ring and the motor on the connection side of the wire harness.
5. The default jumper setting of 90 RPM is a single-pin position, either the right or left pin. The settings for 75 RPM and 120 RPM are both two-pin positions.

SLR LED Rotating Beacon

- ✓ To change the rotation speed to 75 RPM, pull the jumper straight up from the pin and place it on the right two pins.
 - ✓ To change the rotation speed to 120 RPM, pull the jumper straight up from the pin and place it on the left two pins.
6. After selecting the rotation speed, position the reflector onto the beacon assembly.
 7. Secure the reflector with the two Torx screws through the screw access holes on the top of the reflector.
 8. Position the dome onto the base and twist it until it locks.

Maintaining the Beacon

Frequently inspect the beacon to ensure that it is securing attached to the vehicle and operates properly. Clean the beacon with a mild soap and a soft rag.

Getting Technical Support

For technical support, please contact:

Service Department

Federal Signal Corporation

Phone: 1-800-433-9132

Fax: 1-800-343-9706

Email: empserviceinfo@fedsig.com

Getting Replacement Parts

The beacon contains no user serviceable parts. Please contact Federal Signal at the phone number and address below for warranty repairs and the replacement parts (Table 1 on page 17).

Customer Support

Federal Signal Corporation

Phone: 1-800-264-3578

Table 1 Replacement parts

Description	Part Number
Dome, Red	8627205-04
Dome, Amber	8627205-02
Gasket, Mounting	8627319

Returning a Product to Federal Signal

Before returning a product to Federal Signal, call 800-264-3578, 800-433-9132, or 800-824-0254 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.

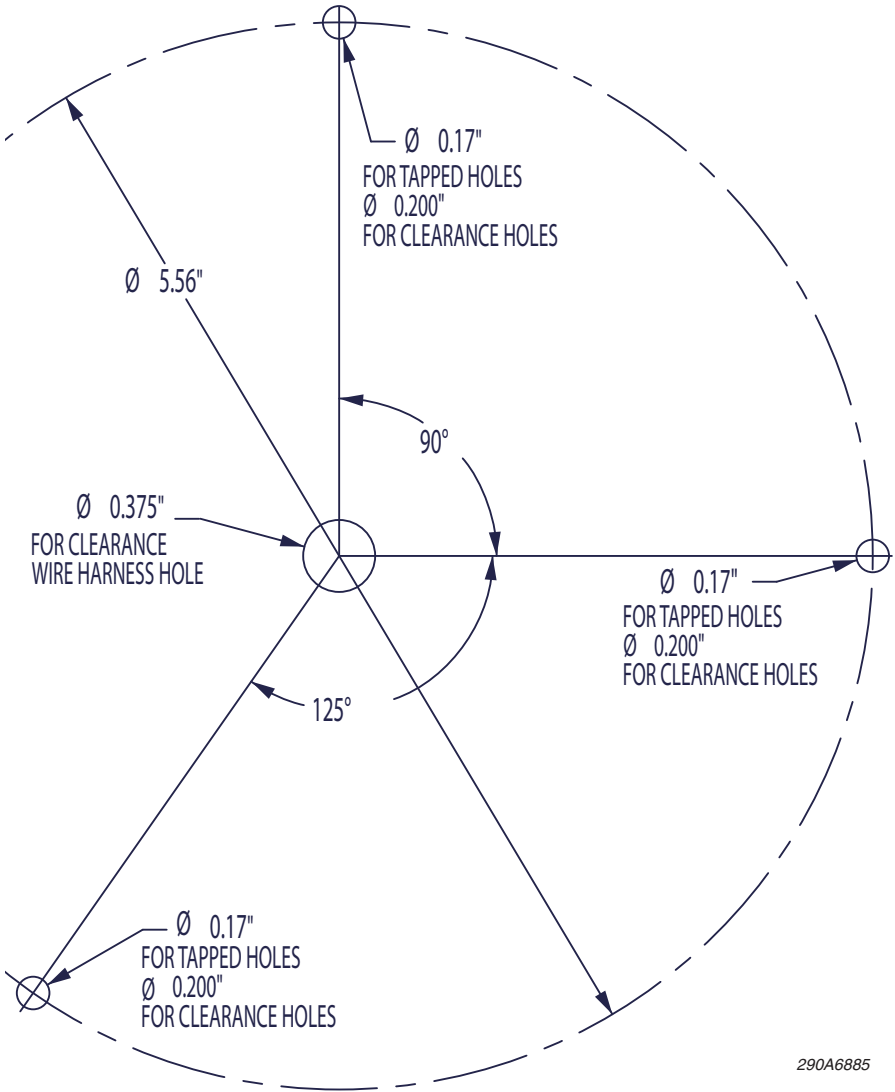
Send all material with the issued RMA Number to:

SLR LED Rotating Beacon

Federal Signal Corporation
2645 Federal Signal Drive
University Park, IL 60484-3167
Attn: Service Department
RMA: # _____

Figure 5 Template for permanent mounting

NOTE: Verify dimensions of mounting template.





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