



FEDERAL SIGNAL
Safety and Security Systems

Model QuadraFlare® DOT

Warning Lights



Installation and Service Instructions

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Safety Message to Installers

⚠ WARNING

People's lives depend on your proper installation of our products. It is important to read, understand and follow all instructions shipped with the products. In addition, listed below are some other important safety instructions and precautions you should follow:

- To properly install this light, you must have a good understanding of automotive electrical procedures and systems, along with proficiency in the installation and use of safety warning equipment.
- 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 airbag deployment.
- When drilling into a vehicle structure, be sure that both sides of the surface are clear of anything that could be damaged.
- Locate the light control so the VEHICLE and CONTROL can be operated safely under all driving conditions.
- Do not attempt to activate or deactivate light control while driving in a hazardous situation.
- This product contains high intensity LED devices. To prevent eye damage, DO NOT stare into the light beam at close range.
- Frequently inspect the light to ensure that it is operating properly and that it is securely attached to the vehicle.
- File these instructions in a safe place and refer to them when maintaining and/or reinstalling the product.

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

Overview of the QuadraFlare

The Federal Signal QuadraFlare DOT Warning Light is a self-contained, high intensity, LED light designed for mounting to the exterior of a vehicle. All models are available in a variety of colors and are to be driven by an external flasher. All units are designed to work with Federal Signal flashers. Refer to the particular flasher instructions for proper wiring. Model QuadraFlare DOT Warning Light is designed for operation on 12 Vdc at 2.0 A. The QuadraFlare DOT Warning light may be available in dual color models.

NOTE: All warning light units should NOT be considered for steady burn applications.

Table 1 Wire Functions

Models	Red	White
Warning	Color 1	Color 2
BTT	Brake/Turn	Tail
Reverse	Reverse	N/A

Unpacking the QuadraFlare

After unpacking the light, inspect it for damage that may have occurred in transit. If the unit has been damaged, do not attempt to install or operate it. File a claim immediately with the carrier, stating the extent of damage.

Kit Contents List

Table 2 Kit Contents List

Qty.	Description	Part No.
4	#6 x 2.0" Screw, S.S	7000A404-32
4	Rivet nut, Rubber, #6-32	70900417

Installing the QuadraFlare

WARNING

INSTALL IN RECOMMENDED AREAS: When installing equipment inside airbag equipped vehicles, the installer **MUST** ensure that the equipment is installed **ONLY** in areas recommended by the vehicle manufacturer.

Failure to observe this warning reduces the effectiveness of the airbag, damage the airbag, or potentially damage or dislodge the equipment, causing serious injury or death to you or others.

NOTE: For maximum coverage and effectiveness, mount the light assembly in a horizontal orientation (see Figure 1).

Before proceeding with installation, determine the approximate location of the light assembly and plan all cable/wire routing.

To install the QuadraFlare, proceed as follows:

1. See Figure 1. Position the QuadraFlare Warning Light assembly on the desired mounting surface. Ensure that the unit is level side to side. Using the dimensions provided in Figure 2, scribe the four mounting hole locations and a wiring routing hole location on the mounting surface.

NOTICE

DAMAGE TO LIGHT: When installing the QuadraFlare light on a vehicle, you **MUST** use the manufacturer's supplied screws and screw grommets. Do not use an impact drill or an electric screw gun when installing the light. Torque the mounting screws to the manufacturer's recommended specification of 12 in-lb +/-10 percent.

Failure to observe these precautions damages the light and void any warranty claims for the light.

WARNING

DRILLING PRECAUTIONS: Before drilling holes in **ANY** part of a vehicle, be sure that both sides of the mounting surface are clear of parts that could be damaged; such as brake lines, fuel lines, electrical wiring or other vital parts.

Installation and Maintenance Instructions

2. Drill four 1/4" (0.250") mounting holes and a wire routing hole 1" (1.00") at the previously scribed locations.
3. Install the four supplied rubber rivet nuts into the four 1/4" mounting holes.

NOTE: When removing the QuadraFlare Warning Lights, inspect the mounting grommets for wear and replace them as needed.

NOTICE

DRILLING PRECAUTIONS: All drilled holes should be free of burrs and sharp edges. Grommet (user supplied) all wire routing holes and/or sealed to avoid wire and/or vehicle damage.

4. The QuadraFlare Warning Light assembly has two or three 12" long lead wires, which exit out the back of the unit, for making electrical connections.
5. Complete the electrical connections as described in the Wiring the QuadraFlare section.
6. See Figure 1. Align the QuadraFlare Warning Light assembly with the previously inserted rubber rivet nuts and secure with the provided #6 x 2.0" S.S. screws.

NOTE: QuadraFlare models have identifiable color-coded sticker dots located on the backside of the light assembly. The color-coded sticker dots correspond to the LED colors on the PC board.

The first letter in the model number extension “_XX” is the color that activated by the red wire. The second is activated by the white wire.

⚠ WARNING

Never apply power to both red and white wires. Both colors will illuminate incorrectly.

Wiring the QuadraFlare

The Model QuadraFlare Warning Light assembly operates on 12 Vdc. Five 12-inch long lead wires are supplied for making electrical connections to the QuadraFlare Warning Light assembly.

Ensure that all wires are properly connected and insulated appropriately.

To make electrical connections, proceed as follows:

1. Using 18-gauge (minimum) wire, connect the red (+) lead to the positive power source terminal and the black (-) lead to the negative power source terminal at the flasher.
2. For pre-terminated models, plug connector to the cable.

Safety Message to Operators

WARNING

Peoples' lives depend on your safe use of our products. Listed below are some important safety instructions and precautions you should follow:

- ***Although your warning system is operating properly, it may not be completely effective. People may not see or heed your warning signal. You must recognize this fact and continue driving cautiously.***
- ***Also, situations may occur which obstruct your warning signal when natural or man-made objects are between your vehicle and others, such as: raising your hood or trunk lid. If these situations occur, be especially careful.***
- ***This product contains high intensity LED devices. To prevent eye damage, DO NOT stare into the light beam at close range.***
- ***At the start of your shift, you should ensure that the light is securely attached and operating properly.***

Failure to follow these safety precautions may result in property damage, serious injury, or death to you, to passengers, or to others.

Retain and refer to this message.

Cleaning the QuadraFlare

⚠ WARNING

CLEANING POLYCARBONATE DOMES AND LENSES: **Crazing (fine cracks) of lenses causes reduced effectiveness of the light. Do not use cleaning agents (which causes crazing) such as strong detergents, solvents, or petroleum products. If crazing of lenses does occur, reliability of light for emergency signaling purposes may be reduced until lenses are replaced.**

NOTICE

CLEANING POLYCARBONATE DOMES AND LENSES: **To extend the life of this device, periodic cleaning is necessary. Clean the lens/dome with a mild, non-abrasive, neutral-pH cleaning agent and a soft, clean cloth. Rinse the device thoroughly to ensure that no cleaning agent residue remains. To avoid water spots, dry the device with a soft clean cloth.**

Failure to follow this precaution can cause crazing or cracking of the lens/dome and voids the warranty claims for the light.

NOTE: Scratched or dull reflector, mirrors or lenses reduces the effectiveness of the lighting system. Use a mild, non-abrasive, neutral-pH cleaning agent and a soft, clean cloth, when cleaning the lighting system. Replace any optical components that may have been scratched or crazed during system installation. The use of strong, non-neutral-pH cleaners voids the warranty.

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 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 Dr.
University Park, IL 60484-3167

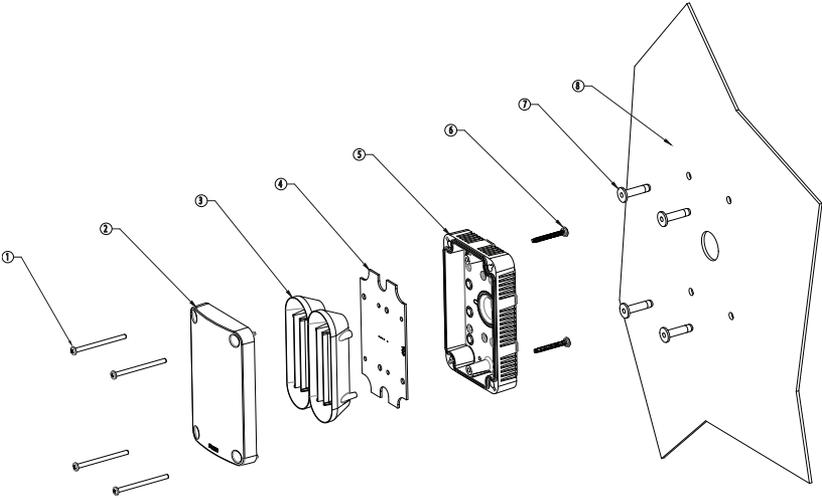
Replacement Parts

Table 3 Replacement Parts

Description	QL43	QL73
Mounting Screws, #6 x 1-1/2"	7000A404-26	7000A404-26
Rubber Rivet Nut, #6-32	70900417	70900417
Lens, Fluted, Red	801201253	801201545
Lens, Fluted, Amber	801201253-01	801201545-01
Lens, Fluted, Clear	801201253-02	801201545-02
Lens, Fluted, Blue	801201253-03	801201545-03
Lens, Fluted, Green	801201253-04	801201545-04
Lens, Fluted, Red DOT	801201252	801201544
Lens, Fluted, Amber DOT	801201252-01	801201544-01
Lens, Fluted, Clear DOT	801201252-02	801201544-02
Lens, Fluted, Blue DOT	801201252-03	801201544-03
Lens, Fluted, Green DOT	801201252-04	801201544-04
Lens, Smooth, Red	N/A	N/A
Lens, Smooth, Amber	N/A	N/A
Lens, Smooth, Clear	N/A	N/A
Lens, Smooth, Blue	N/A	N/A
Lens, Smooth, Green	N/A	N/A
Optional Chrome Bezel w/ Gasket	QL43MC	QL73MC

N/A indicates not available.

Figure 1 Exploded Assembly View



LEGEND

- 1. MOUNTING SCREW, #6 X 2.0", S.S.
- 2. LENS
- 3. REFLECTOR
- 4. LED PC BOARD ASSEMBLY
- 5. BASE
- 6. ASSEMBLY SCREWS (4)
- 7. SCREW GROMMET
- 8. VEHICLE BODY

Figure 2 Mounting Hole Locations

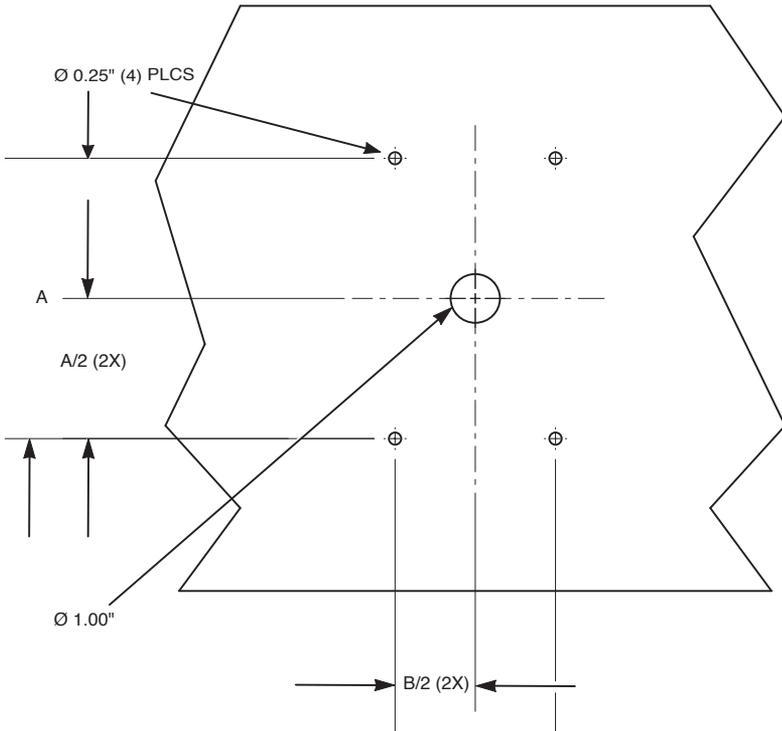


Table 4 Hole Patterns

Nominal size	A	A/2	B	B/2
4 x 3	4.200	2.100	2.375	1.188
6 x 4	5.750	2.875	3.250	1.625
7 x 3	6.562	3.281	2.375	1.188
9 x 7	7.250	3.625	5.250	2.625



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