FEDERAL SIGNAL
Safety and Security Systems

QuadraFlare®
Warning Lights
Models QL64-BTT, QL64-TURN,
QL64-ARROW, and QL64-BACKUP

Installation and
Service Instructions

Safety Message to Installers

⚠ WARNING

The lives of people 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.

- 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 Warning Light is a self-contained, high intensity, LED light designed for mounting to the exterior of a vehicle. The Model QL64-BTT is designed for rear brake, turn, and tail light vehicle applications. Model QL64-TURN is designed for front and rear turn signal applications. Model QL64-ARROW is designed for front and rear turn signal applications. Model QL64-BACKUP is designed for rear back-up light applications. All QuadraFlare Warning Lights are designed for operation on 12 VDC.

Table 1 Current Draw

Model	Current Draw
QL64-BTT Brake/Turn	0.50 A
QL64-BTT Tail	0.05 A
QL64-Turn	0.60 A
QL64-Arrow	1.0 A
QL64 Backup	0.30 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. Carefully check all envelopes, shipping labels, and tags before removing or destroying them.

Kit Contents List

Table 2 Kit Contents List

Qty.	Description	Part No.
4	#6 x 2.0" Screw	7000A404-32
4	Rubber Rivet Nuts	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 models, 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.

⚠ 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.***

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.

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.***

Models QL64-BTT, QL64-TURN, QL64-ARROW, and QL64-BACKUP

4. The QuadraFlare warning light Models QL64-BTT, QL64-TURN, QL64-ARROW, and QL64-BACKUP have three 12-inch long wires, which exit out the back of the unit, for making electrical connections.

NOTE: The white wire is not used in Models QL64-TURN, QL64-ARROW, and QL64-BACKUP.

5. Complete the electrical connections as described in the Electrical Connections 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" screws.

Electrical Connections

To make electrical connections, proceed as follows:

1. *Model QL64-BTT.*

    The QuadraFlare warning light assembly is designed to operate on 12 VDC. Three 12-inch long lead wires are supplied for making electrical connections to the QuadraFlare warning light assembly.

    a. Using 18-gauge (minimum) wire, connect the red (+) lead to the positive power source terminal for BRAKE mode, and the white (+) lead to a different positive power source terminal for TAIL mode. The black (-) lead should be connected to the negative power source terminal.

    b. Energize the supply circuit and test the QuadraFlare warning light assembly for proper operation.

2. *Models QL64-TURN, QL64-ARROW, and QL64-BACKUP.*

   The QuadraFlare warning light assembly is designed to operate on 12 VDC. Three 12-inch long lead wires are supplied for making electrical connections to the Models QL64-TURN, QL64-ARROW, and QL64-BACKUP warning light assemblies.

   a. 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.

NOTE: **The white wire is not used in these three models.**

   b. Energize the supply circuit and test the QuadraFlare warning light assembly for proper operation.

⚠ **WARNING**

DAMAGE TO THE 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 will damage the light and void any warranty claims for the light.

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.

Maintenance

⚠ 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.
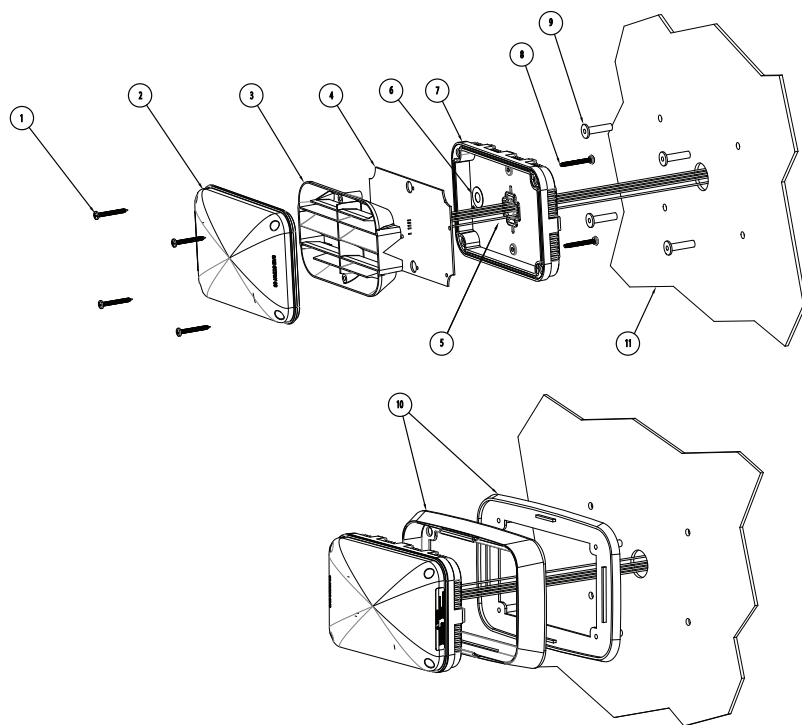
Address all communications and shipments to the following:

Federal Signal Corporation
Service Department
2645 Federal Signal Dr.
University Park, IL 60484-3167

Replacement Parts

Table 3 Replacement Parts

Description	Part Number
Mounting Screws, #6 x 2.0"	7000A404-32
Rubber Rivet Nuts	70900417
Lens, Fluted, Red	801200950
Lens, Fluted, Amber	801200950-01
Lens, Fluted, Clear	801200950-02
Lens, Smooth, Amber	801200983-01
Optional Chrome Bezel w/Gasket	QL64MC

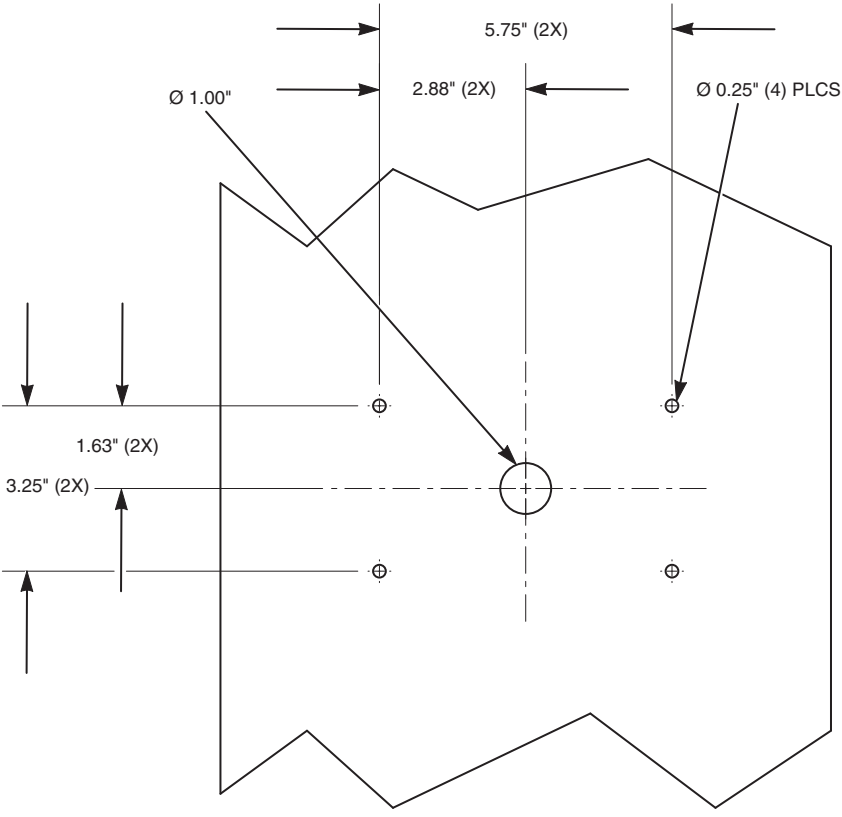## Figure 1 Exploded Assembly View

LEGEND

1. MOUNTING SCREW, #6 x 2.0, S.S.
2. LENS
3. REFLECTOR
4. LED PC BOARD ASSEMBLY
5. WIRE HARNESS
6. VENT
7. BASE
8. ASSEMBLY SCREWS (4)
9. SCREW GROMMET
10. BEZEL W/GASKET (OPTIONAL)
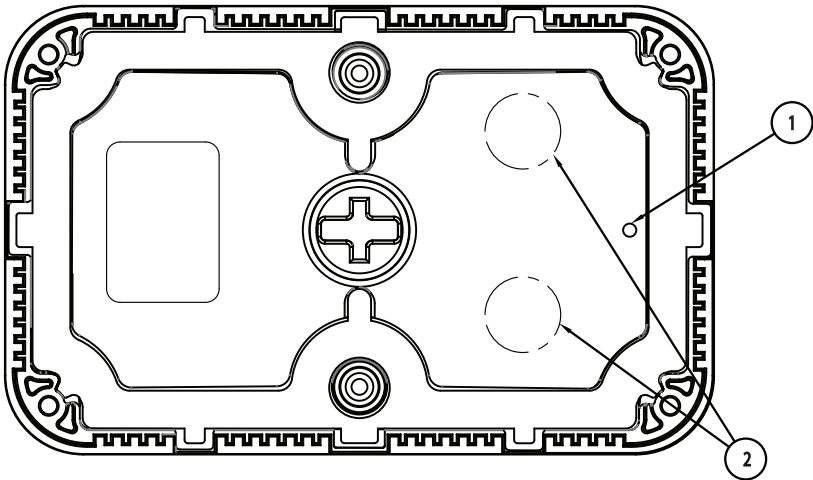11. VEHICLE BODY

LEYENDA

1. TORNILLO DE MONTAJE, #6 x 2.0 pulg., A.I.
2. LENTE
3. REFLECTOR
4. CONJUNTO DE TABLERO DE CIRCUITO IMPRESO DE LED
5. MAZO DE CABLES
6. VENTILACION
7. BASE
8. TORNILLOS DE MONTAJE (4)
9. OJAL PARA TORNILLO
10. BISEL CON EMPAQUETADURA (OPCIONAL)
11. CARROCERIA DEL VEHICULO

Figure 2 Mounting Hole Locations

5.75" (2X)

2.88" (2X)

Ø 1.00"

Ø 0.25" (4) PLCS

1.63" (2X)

3.25" (2X)

290A5511-02

Figure 3 QL64 Base

LEGEND

1.   VENT HOLE
2.   3/4" COLOR CODED STICKER DOTS TO BE APPLIED TO IDENTIFY THE CORRESPONDING PC BOARD ASSEMBLY LED COLOR ON EACH SIDE.

LEYENDA

1.   ORIFICIO DE VENTILACION
2.   LOS AUTOADHESIVOS EN FORMA DE PUNTOS CODIFICADOS POR COLRES DE 3/4 PULG. SE APLICARAN PARA IDENTIFICAR EL COLOR DEL LED CORRESPONDIENTE EN EL TABLERO DE CIRCUITO IMPRESO EN CADA LADO.

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