



FEDERAL SIGNAL
Safety and Security Systems

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



***Installation and
Maintenance Instructions***

Limited Warranty

This product is subject to and covered by a limited warranty, a copy of which can be found at www.fedsig.com/SSG-Warranty. A copy of this limited warranty can also be obtained by written request to Federal Signal Corporation, 2645 Federal Signal Drive, University Park, IL 60484, email to info@fedsig.com or call +1 708-534-3400.

This limited warranty is in lieu of all other warranties, express or implied, contractual or statutory, including, but not limited to the warranty of merchantability, warranty of fitness for a particular purpose and any warranty against failure of its essential purpose.



FEDERAL SIGNAL

Safety and Security Systems

2645 Federal Signal Drive
University Park, Illinois 60484

www.fedsig.com

Customer Support

Police/Fire-EMS: 800-264-3578 • +1 708 534-3400

Work Truck: 800-824-0254 • +1 708 534-3400

Technical Support 800-433-9132 • +1 708 534-3400

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Safety Messages to Installers

⚠ WARNING

People's lives depend on your safe installation of our products. It is important to read, understand, and follow all instructions shipped with the products. 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, ensure 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 at close range.
- After testing is complete, provide a copy of these instructions to the instructional staff and all operating personnel.
- 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.

Overview of the Light

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 QL-BTT is designed for rear brake, turn, and tail light vehicle applications. Model QL-TURN is designed for front and rear turn signal applications. Model QL-ARROW is designed for front and rear turn signal applications. Model QL-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				Wire Used	
	QL43	QL64	QL73	QL97	Red	White
BTT Brake/Turn	0.25 A	0.50 A	0.25 A	0.20 A	X	
BTT Tail	0.02 A	0.05 A	0.02 A	0.02 A		X
Turn	0.28 A	0.60 A	N/A	0.27 A	X	N/A
Arrow	N/A	1.0 A	0.56 A	0.53 A	X	N/A
Backup	0.14 A	0.30 A	0.25 A	0.10 A	X	N/A

Unpacking the Light

After unpacking the light, 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 listed in Table 2 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 Kit contents

Qty.	Description	Part Number
4	#6 x 2-inch Stainless Steel Screw	7000A404-32
4	Rubber Rivet Nuts	70900417

Installing the Light

Installing the Light

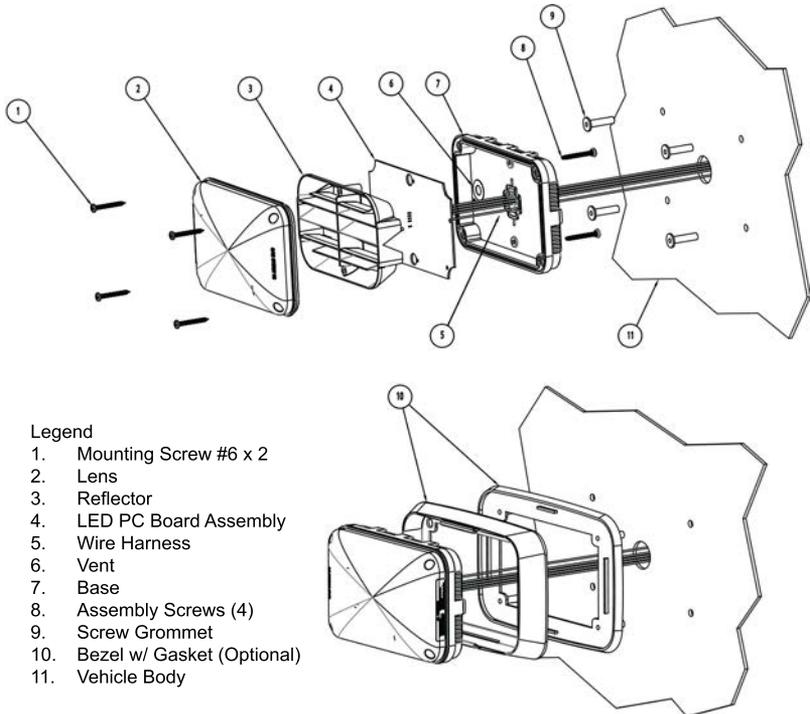
⚠ WARNING

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).

Figure 1 Exploded view



Legend

1. Mounting Screw #6 x 2
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

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

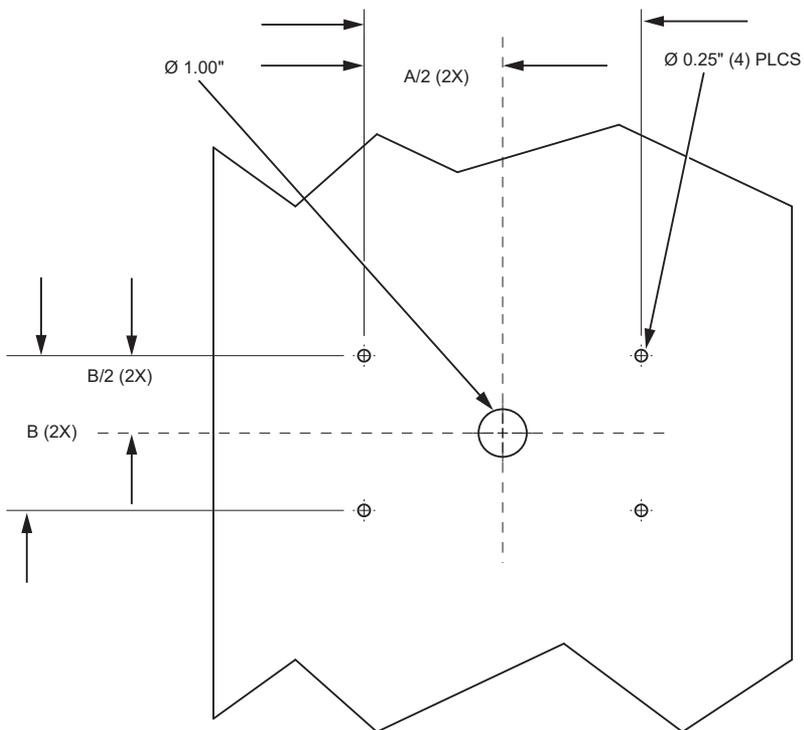
⚠ WARNING

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.

To install the QuadraFlare models:

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. See Figure 1.

Figure 2 Mounting hole locations



290A5511-02

Installing the Light

Table 3 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

NOTICE

DRILLING PRECAUTIONS: *When drilling holes, check the area you are drilling into to ensure that you do not damage vehicle components while drilling. 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.*

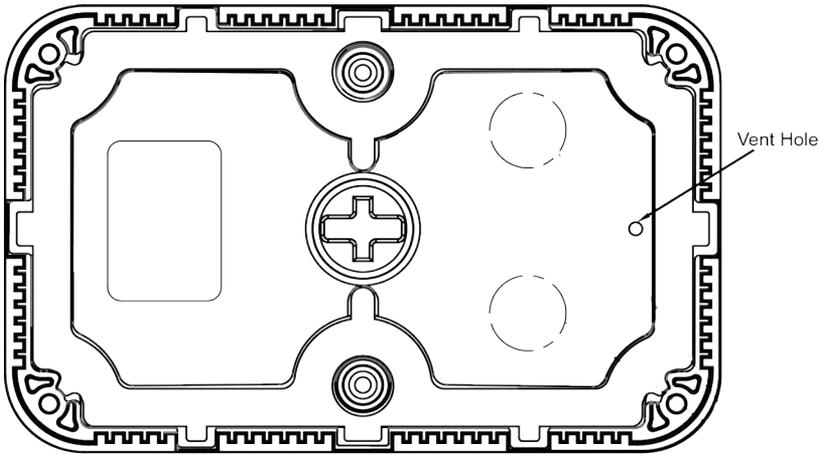
2. Drill four 1/4-inch mounting holes and a wire routing hole 1 inch at the previously scribed locations.

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%.*

3. Install the four supplied rubber rivet nuts into the four 1/4-inch mounting holes.
4. The QuadraFlare warning light Models QL-BTT, QL-TURN, QL-ARROW, and QL-BACKUP have three 12-inch long wires, which exit out the back of the unit, for making electrical connections.

Figure 3 QL64 base



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

5. Complete the electrical connections as described in the Electrical Connections section.
6. Align the QuadraFlare warning light assembly with the previously inserted rubber rivet nuts and secure with the provided #6 by 2.0-inch screws. See Figure 1 on page 6.

Making Electrical Connections

Making Electrical Connections

To make electrical connections:

Model QL-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.

1. 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.
2. Energize the supply circuit and test the QuadraFlare warning light assembly for proper operation.

Models QL-TURN, QL-ARROW, and QL-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 QL-TURN, QL-ARROW, and QL-BACKUP warning light assemblies.

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.

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

2. 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.

Cleaning the Lenses

⚠ WARNING

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

NOTICE

CLEANING the POLYCARBONATE LENSES: *To extend the life of this device, periodic cleaning is necessary. Clean the lens 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.*

Scratched or dull reflector, mirrors or lenses reduce 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.

Safety Message to Operators

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 to drive cautiously.
- Situations may occur that 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, 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.

Getting Technical Support and Service

For technical support and service, please contact:

Service Department

Federal Signal Corporation

Phone: 1-800-433-9132

Email: empserviceinfo@fedsig.com

www.fedsig.com

Getting Technical Support and Service

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 Drive
University Park, IL 60484-3167

Ordering Replacement Parts

To order replacement parts, call Customer Support at 1-800-264-3578, 7 a.m. to 5 p.m., Monday through Friday (CT) or contact your nearest distributor.

Table 4 Replacement parts

	QL43	QL64	QL73	QL97
Description	Part No.	Part No.	Part No.	Part No.
#6 X 2-in Mounting Screws	7000A404-32	7000A404-32	7000A404-32	7000A404-32
Rubber Rivet Nuts	70900417	70900417	70900417	70900417
Fluted Red Lens	801201253	801200950	801201545	801201443
Fluted Amber Lens	801201253-01	801200950-01	801201545-01	801201443-01
Fluted Clear Lens	801201253-02	801200950-02	801201545-02	801201443-02
Smooth Red Lens	N/A	801200983	N/A	801201444
Smooth Amber Lens	N/A	801200983-01	801201920-01 (Arrow only)	801201444-01
Smooth Clear Lens	N/A	801200983-02	801201920-02 (Arrow only)	801201444-02
Optional Chrome Bezel w/ Gasket	QL43MC	QL64MC	QL73MC	QL97MC



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