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Commander® Strobe Warning Light Model 371ST-250



Installation and Maintenance Manual

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REV. E 811
Printed in U.S.A.



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Contents

Safety Messages to Installers	5
An Overview of Model 371ST-250.....	6
Unpacking the Light	6
Mounting the Light	7
Pipe Mounting the Light	8
Surface Mounting the Light	8
Wiring the Light	9
Safety Messages to Maintenance Personnel	11
Replacing the Flash Tube.....	12
Cleaning the Dome	14
Getting Service, Assistance, and Parts	14
Repair Service	14
Technical Assistance.....	14
Accessories and Replacement Parts	15

Tables

Table 1 Electrical and environmental ratings.....	7
Table 2 Dimensions.....	7
Table 3 Replacement parts	15
Table 4 Accessories	15

Figures

Figure 1 Mounting options8

Figure 2 Dome and lens assembly removed 10

Figure 3 Flash tube replacement 13

Safety Messages to Installers

⚠ WARNING

It is important to follow all instructions shipped with this product. This device is to be installed by a trained electrician who is thoroughly familiar with the National Electrical Code and/or Canadian Electrical Code and will follow the NEC and/or CEC Guidelines as well as all local codes. This light should be considered a part of the warning system and not the entire warning system.

The selection of the mounting location for the light, its controls and the routing of the wiring are to be accomplished under the direction of the facilities engineer and the safety engineer. In addition, listed below are some other important safety instructions and precautions you should follow:

- Read and understand all instructions before installing or operating this light.
- Do not connect this light to the system when power is on.
- After installation, make sure that all set screws and threaded joints are properly tightened.
- After installation, test the light to make sure that it is operating properly.
- After testing is complete; provide a copy of this instruction booklet to all personnel.
- Establish a procedure to routinely check the light for proper activation and operation.

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

An Overview of Model 371ST-250

The Federal Signal Model 371ST is a single-flash strobe housed in a Type 4X enclosure. At 60 flashes per minute and 275 effective candela, the Commander® is the largest strobe signal in the Federal Signal product line.

The 371ST-250 features a heat resistant glass dome available in three colors: amber, blue, and red. The letter (A, B, or R) after the model number 371ST-250 represents the dome color. The dome-and-ring assembly screws on for easy access to the strobe tube and printed circuit board assembly.

The base of the Commander features textured black powder paint for greater corrosion resistance. Wiring can be routed through the pipe-mount opening in the bottom of the light or the side knockouts can be used for side entry wiring. Installation can be surface or 1-inch NPT pipe mount. Optional wall and corner mount brackets are available for the 371ST. The Commander is rated Type 4X, IP66 (watertight, dust tight, corrosion resistant).

The LWMB2 wall-mount bracket and the LCMB2 corner-mount bracket can be used to mount the Model 271ST-250. For surface mounting on solid substrates, the separately purchased Model 371BRCKT three-point surface-mount bracket is available.

Unpacking the Light

After unpacking the Model 371ST-250, examine it for damage that may have occurred in transit. If the light has been damaged, do not attempt to install or operate it. File a claim immediately with the carrier, stating the extent of the damage. Carefully check all envelopes, shipping labels, and tags before removing or discarding them. Disposal of all shipping materials must be carried out in accordance with national and local codes and standards. If any parts are missing, please call Federal Signal Customer Support at 708-534-4756.

Table 1 Electrical and environmental ratings

Operating Voltage:	225 Vdc to 300 Vdc
Operating Current:	0.25 A
Energy Output:	10.0 J
Flash Rate:	60 FPM
Candela, Peak ¹ :	625,000
ECP ² :	275
Lamp Life:	10,000 Hours
Light Source:	Strobe Tube
Operating Temperature:	–31 °F to 150 °F (–35 °C to 66 °C)
Environmental Ratings:	Type 4X, IP66

¹ Peak candela is the maximum light intensity generated by a flashing light during its light pulse.

² ECP (Effective Candela) is the intensity that would appear to an observer if the light were burning steadily.

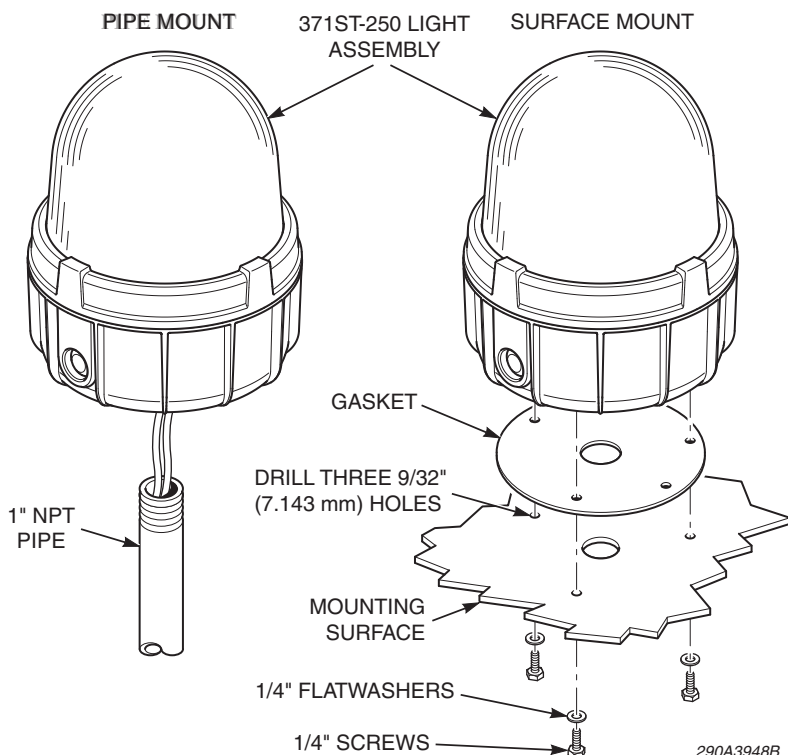
Table 2 Dimensions

Height:	11.38 in (289.0 mm)
Diameter:	9.13 in (231.9 mm)
Net Weight:	10.0 lb (4.54 kg)
Shipping Weight:	(12.4 lb) 5.62 kg

Mounting the Light

The Model 371ST-250 light is designed for mounting on a flat horizontal surface or on a 1" NPT pipe. If conduit side-entries are to be used, disassemble the light as described in “Wiring the Light” on page 9 and remove one or more knockouts with a blunt tool before mounting the light. Use a file to remove excess flash around the knockout.

Figure 1 Mounting options



Pipe Mounting the Light

Attach the light to the 1-inch NPT pipe by threading the light clockwise on the pipe (Figure 1). For information on making the electrical connections, see “Wiring the Light on page 9.”

Surface Mounting the Light

To mount the light on a flat surface:

1. Using the gasket as a template, scribe four drill-position marks on the mounting surface (Figure 1).
2. Drill a 9/32" (7.1 mm) diameter hole at each of the outside drill position marks for mounting.
3. Drill or punch a 1-3/8" (34.9 mm) diameter hole at the center drill-position mark for the wire entry.

4. Attach 1" NPT conduit or a suitable user-supplied 1" NPT hub or connector to the conduit entrance in the bottom of the light.
5. Set the light on the gasket and attach it to the mounting surface with the provided 1/4" screws and washers.
6. For information on making the electrical connections, see the next section.

Wiring the Light

⚠ WARNING

SHOCK HAZARD

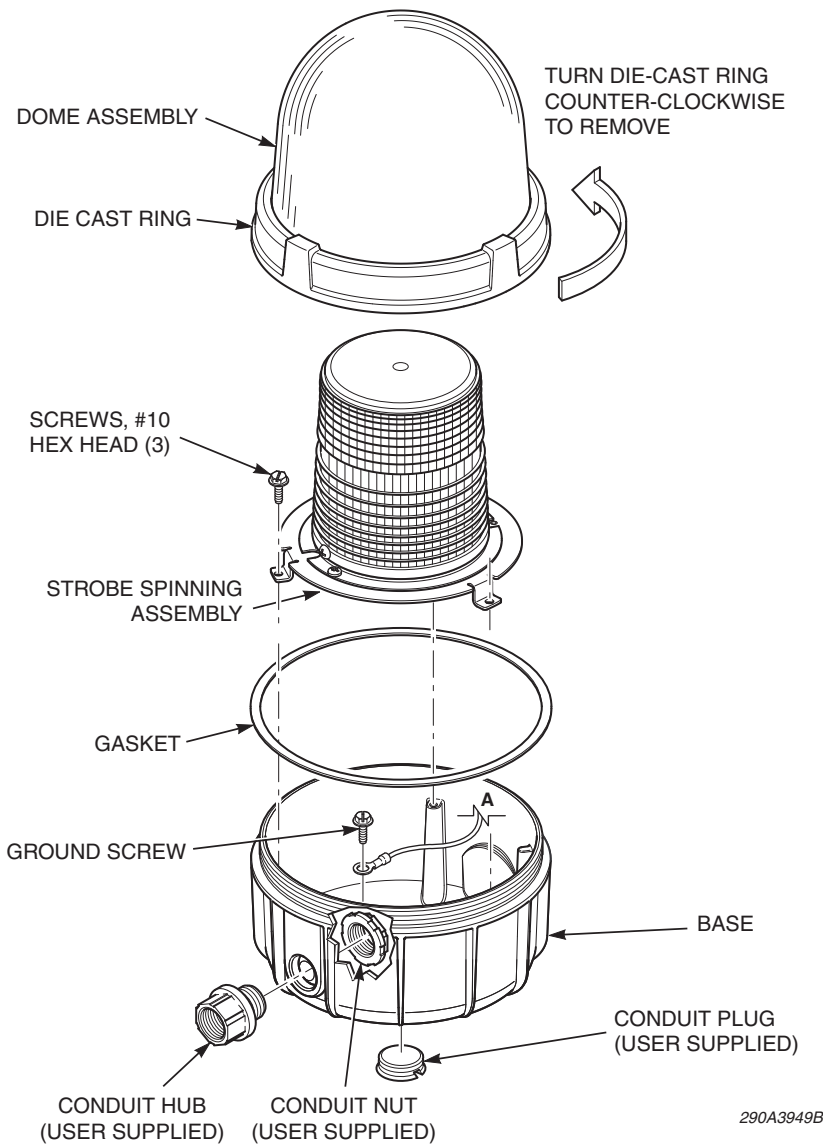
To avoid electrical shock hazards, do not connect wires while power is applied.

The Model 371ST-250 comes assembled from the factory. Models are supplied with two power leads for wiring to the supply circuit. If you are using conduit side entries or if you are using the housing as a junction box, perform the following steps:

1. Disassemble the light:
 - a) Remove the dome assembly by grasping the die-cast ring attached to the dome and turning it counter-clockwise.
 - b) Remove the three #10 hex-head screws that secure the strobe-spinning assembly to the housing.
 - c) Remove the strobe-spinning assembly.
2. If you are using conduit side-entries, attach a Myers® STTTB-2 or a T&B® H075TBH 3/4-inch NPT conduit hub with a 3/4-inch NPT close nipple (both user-supplied) to the housing and tighten the hub securely. When side entries are used, the bottom 1-inch NPT conduit entry must be plugged with a threaded plug (user-supplied). (See Table 4: Accessories on page 15).

NOTE: Polarity MUST be observed for proper operation.

Figure 2 Dome and lens assembly removed



3. Route the supply wires (12 AWG to 16 AWG) into housing. Connect the red (+) lead to the positive power source.
4. Connect the black (–) lead to the negative power source.
5. Re-assemble the light and test it for proper operation.

Safety Messages to Maintenance Personnel

Listed below are some important safety instructions and precautions you should follow:

- Read and understand all instructions before operating this system.
- Any maintenance to the light system must be done with the power turned off.
- Any maintenance to the light system must be performed by a trained electrician in accordance with NEC/CEC Guidelines and local codes.
- Never alter the unit in any manner. Safety may be endangered if additional openings or other alterations are made to units.
- The nameplate, which contains cautionary or other information of importance to maintenance personnel, should not be obscured.
- If the dome is damaged in any way, the complete dome assembly **MUST** be replaced.
- After performing any maintenance, test the light system to ensure that it is operating properly.

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

Replacing the Flash Tube

WARNING

SHOCK HAZARD

Strobe and HID light systems generate high voltages. Disconnect power from the strobe system and wait at least 5 minutes before opening the unit. Do not apply power to the unit while the unit is open. Failure to follow this warning could result in serious injury or death.

After extended operation, occasionally check for flash tube degradation. Should the flash tube misfire, have a noticeable decrease in light output, glow continuously or darken, replace it.

To replace the strobe tube:

1. Disconnect power to the light and wait at least 5 minutes to allow the lamp to cool and the internal high voltages to discharge.
2. Remove the dome assembly by grasping the die-cast ring attached to the dome and turning it counter-clockwise.

NOTE: If the dome assembly is difficult to remove, place a screwdriver blade against one of the four bosses on the die-cast ring attached to the dome. Gently tap the screwdriver handle to loosen the dome assembly from the housing.

WARNING

MAINTAIN WATERTIGHTNESS

To maintain the watertight enclosure, do not damage dome or threads while disassembling or reassembling the unit. Lubricated threaded joints exposed for long periods of time may attract small particles of dirt or other foreign materials. Re-assemble joint immediately after performing maintenance.

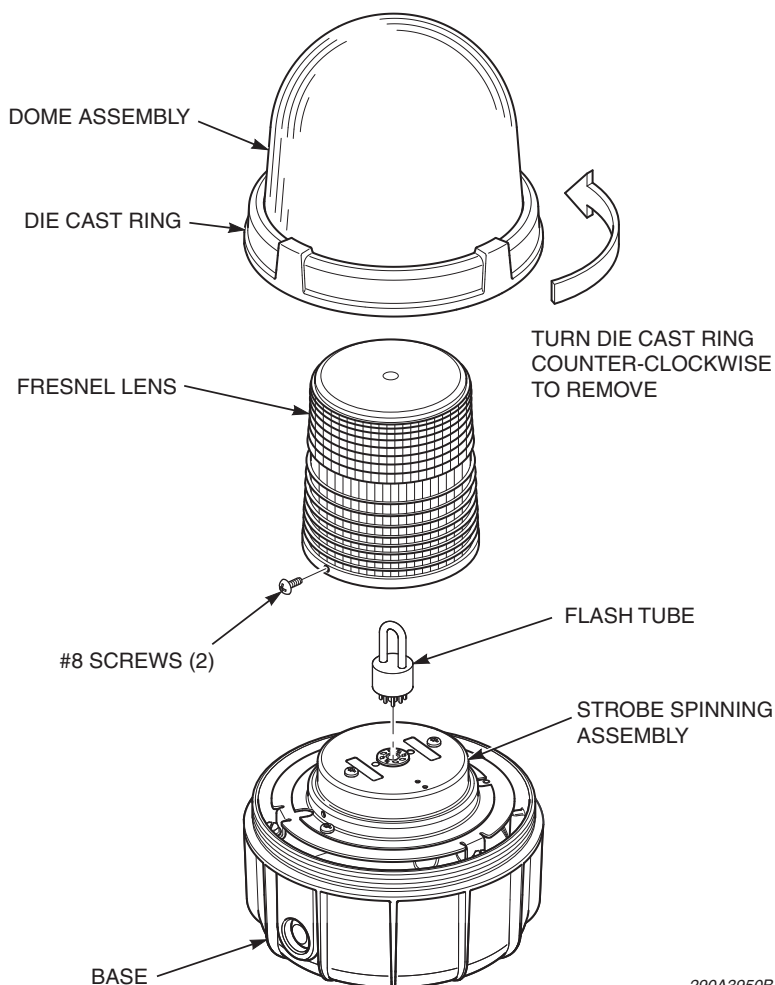
3. Remove the two #8 screws retaining the Fresnel dome to its mounting base and lift the dome off the strobe spinning assembly (Figure 3 on page 13).

⚠ CAUTION

HANDLE STROBE AND HALOGEN LAMPS CAREFULLY

Strobe and halogen lamps get hot enough to burn you. Always allow these devices to cool before handling them. Halogen and strobe lamps are also pressurized and if broken can result in flying glass. Always wear gloves and eye protection when handling these devices. Failure to follow this caution may result in personal injury.

Figure 3 Flash tube replacement



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4. Carefully remove the flash tube from its socket by grasping the connector and lifting upwards using a slight rocking motion.

⚠ CAUTION

DO NOT TOUCH LAMPS WITH BARE HANDS

Oil deposits on the glass portion of a strobe or halogen lamp can cause the glass to fracture during use. If you are unsure whether the glass portion has been handled without gloves, clean the glass using a soft cloth and isopropyl alcohol before installing the lamp.

5. Install a new flash tube by fully seating it into the socket.
6. Reassemble the light.
7. Test the light to ensure it operates properly.

Cleaning the Dome

NOTE: Maintenance procedures sometimes require fixtures to be hosed down for good housekeeping. The electrical circuit should be turned off prior to hosing down the light.

Clean the dome periodically to maintain maximum light output. Use only mild, non-abrasive cleaning agents.

Getting Service, Assistance, and Parts

Federal Signal will service your product and provide technical assistance and support. Please call the phone numbers listed below. For instruction manuals and information about related products, please go to <http://www.federal-signal-indust.com>.

Repair Service

Products returned for repair require a Return Authorization form. To obtain service for the product, please contact the Federal Signal Service Department at 708-534-4858.

Technical Assistance

For technical assistance, please call Technical Support at 708-534-3424, extension 5823.

Accessories and Replacement Parts

To order accessories and replacement parts, please call Federal Signal Customer Support at 708-534-4756.

Table 3 Replacement parts

Description	Part Number
Glass Dome Assembly, Amber	K8459126
Glass Dome Assembly, Blue	K8459126-01
Glass Dome Assembly, Red	K8459126-02
Fresnel Lens, Clear	K8422B428
Gasket, Dome Ring	K8459123
Gasket, Surface Mount	K8459127
Flash Tube	K149122
Printed Circuit Board Assembly, 250 Vdc	K2001070

Table 4 Accessories

Description	Part Number
Wall Mount Bracket	LWMB2
Corner-Mount Bracket	LCMB2
Mounting Bracket, Surface	371BRCKT
Conduit Hub Kit, 3/4" NPT	K8459138
Close-Up Plug, 1" NPT	K8459130

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