

## INSTRUCTION SHEET FOR ULTRASTAR™ QUADFLASH™

### SAFETY MESSAGE TO INSTALLERS

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. In addition, listed below are some other important safety instructions and precautions you should follow:

- To properly install this warning 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.
- When drilling into a vehicle structure, be sure that both sides of the surface are clear of anything that could be damaged.
- DO NOT install equipment or route wiring or cord in the deployment path of an air bag.
- You should frequently inspect the light to ensure that it is operating properly and securely attached.

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

### A. GENERAL.

The UltraStar Quadflash is a high-quality, 14-Joule, strobe beacon which produces 80 quadruple flashes per minute. It can operate on 12 or 24-volts. An optional clear dust cover and a branch guard are available to protect the dome.

### B. UNPACKING.

After unpacking the unit, inspect it for damage that may have occurred in transit. If the unit 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. Ensure that the parts listed in the KIT CONTENTS LIST are in the package.

### C. KIT CONTENTS LIST (PERMANENT AND PIPE MOUNT).

Qty.	Description	Part No.
1	Template, Mounting	2561258A
1	Bushing, Hole Plug, 1/2"	231176A
3	Screw, Pan Head, Phillips, S. S.	7011182A-12
1	Gasket, Mounting, Flat	8444294A
1	Shield, Dome, Black	8444313A

### D. INSTALLATION

#### WARNING

High voltages generated by light's power supply may cause property damage, serious injury or death to you or others. Ensure that power to light is disconnected and wait at least 5 minutes before working on the light.

#### 1. *Permanent Mount.*

a. Using the supplied template, scribe the location of the three base mounting holes and the wire routing hole.

#### CAUTION

To avoid damage when drilling, ensure that both sides of mounting surface are clear of any parts or wires.

b. Drill one 0.375" hole at the previously scribed position of the wire routing hole. Drill three 0.147" (#26 drill) holes at the previously scribed base mounting holes positions. Remove all burrs and sharp edges from the holes.

c. Align the gasket over the four previously drilled holes. Route the red and black wires through the gasket and wire routing hole as shown in figure 1.

d. Secure the base to the mounting surface with the #10 pan head phillips thread-forming screws (see figure 1).

#### CAUTION

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.

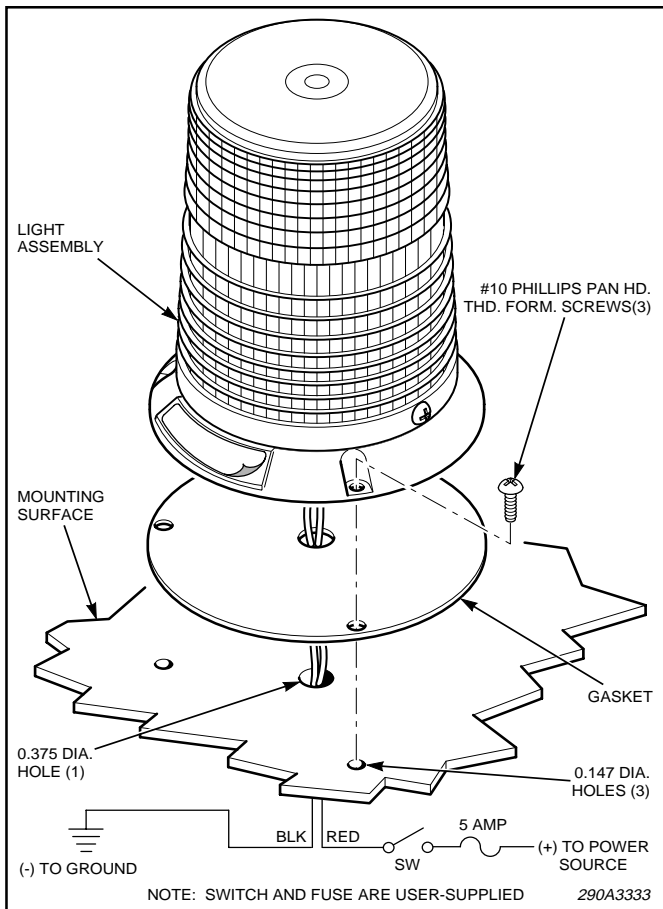


Figure 1.

e. Connect one terminal of a user-supplied switch (current capacity of at least 8- amperes) to the red (+) wire of the light. Additional 18 gauge or larger wire may be added if required.

f. Using 18 gauge or larger wire, connect the remaining switch terminal to one end of a user-supplied fuseholder and 5-ampere fuse.

g. Connect the other end of the fuseholder to the positive (+) terminal of the voltage source.

h. Connect the black (-) wire from the light assembly to a known good vehicle ground as close to light as practical.

2. Pipe Mount (see figure 2).

**WARNING**

High voltage generated by light's power supply may cause property damage, serious injury or death to you or others. Ensure that power to light is disconnected and wait at least 5 minutes before working on the light.

**CAUTION**

Service life of strobe tube will be shortened if glass portion is touched. If glass has been handled, clean carefully with a grease solvent.

a. The base is designed to be installed on

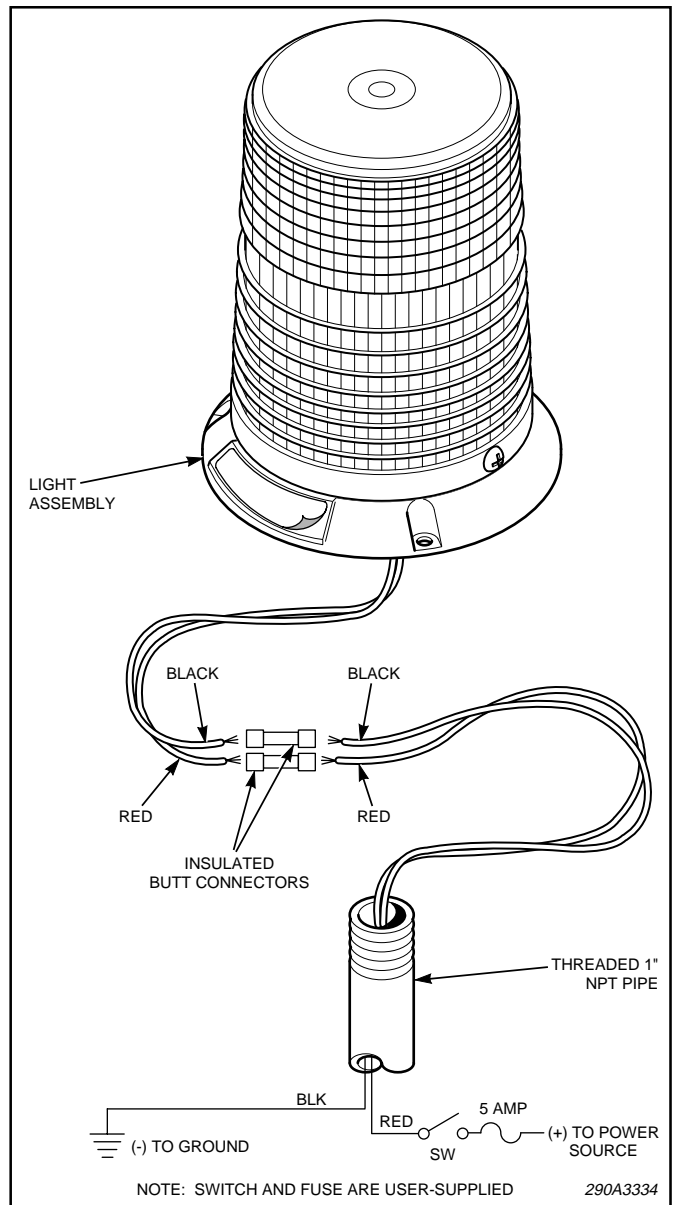


Figure 2.

the end of a threaded 1" NPT pipe.

b. Determine the length of wires needed for the installation. For lengths up to 15-feet, use 18 gauge wire; for lengths over 15-feet, use 16 gauge wire.

c. Strip 1/4" of insulation from the end of appropriate length, and gauge, of red and black user-supplied wires.

d. Using user-supplied insulated butt connectors, connect the red and black wires to the light's red and black wires. Ensure that the connectors are securely crimped and properly insulated.

e. Route the wires through the pipe to the location of the user-supplied switch.

f. Screw the light assembly onto the pipe. Ensure that the wires are not pinched inside the pipe.

g. Connect one terminal of the user-supplied

switch (current capacity of at least 8- amperes) to the red (+) wire of the light.

h. Using 18 gauge or larger wire, connect the remaining switch terminal to one end of a user-supplied fuseholder and 5-ampere fuse.

i. Connect the other end of the fuseholder to the positive (+) terminal of the voltage source.

j. Connect the black (-) wire from the light assembly to a known good vehicle ground as close to light as practical.

### 3. *Magnetic Mount.*

#### **WARNING**

Because vehicle roof construction and driving conditions vary, Federal does not recommend driving a vehicle with a magnetically mounted warning light installed. The light could fly off the vehicle causing injury and damage. Repair of damage incurred because of ignoring this warning shall be the sole responsibility of the user.

Holding power of magnetic mounting systems is dependent upon surface finish, surface flatness, and thickness of the steel mounting surface. Therefore, to promote proper magnetic mounting:

- Mounting surface and magnets must be kept clean, dry, and free of foreign particles that prevent good surface contact.
- Ensure that mounting surface is flat.
- To prevent sliding of light assembly on mounting surface, quick acceleration and hard stops should be avoided.
- If the light is to be held directly to the roof by the magnet, ensure that the power cable is not under the magnet.

Place the light on a level steel surface.

### E. MAINTENANCE.

#### **WARNING**

High voltage generated by light's power supply may cause property damage, serious injury or death to you or others. Ensure that power to light is disconnected and wait at least 5 minutes before working on the light.

The flash tube is the only user serviceable component. Do not attempt to repair any other component. To replace the flash tube, proceed as follows:

#### **CAUTION**

Service life of strobe tube will be shortened if glass portion is touched. If glass has been handled, clean carefully with a grease solvent.

1. See figure 3. Remove and retain the two screws which secure the dome to the base.

2. Remove and retain the dome and the gasket.

3. See figures 3 and 4. Using a long nose pliers, disconnect the strobe tube's red, white, and black wires at the edge of the PCB.

4. See figure 4. Gently push the silicone rubber base of the strobe tube down toward the PC board, and then carefully slide it out through the slot in the metal bracket.

5. See figure 4. Slide the new tube through the slot into the round center of the bracket, and then push the tube up into its position by pressing the rubber base from the bottom.

6. Connect the red, white, and black wires to the appropriate terminals on the PCB. Ensure that the wires are looped to the left as shown in figure 4.

7. Inspect the gasket and replace if defective. Install the gasket; install the dome and secure with the previously removed screws.

### F. DUST COVER INSTALLATION (OPTIONAL).

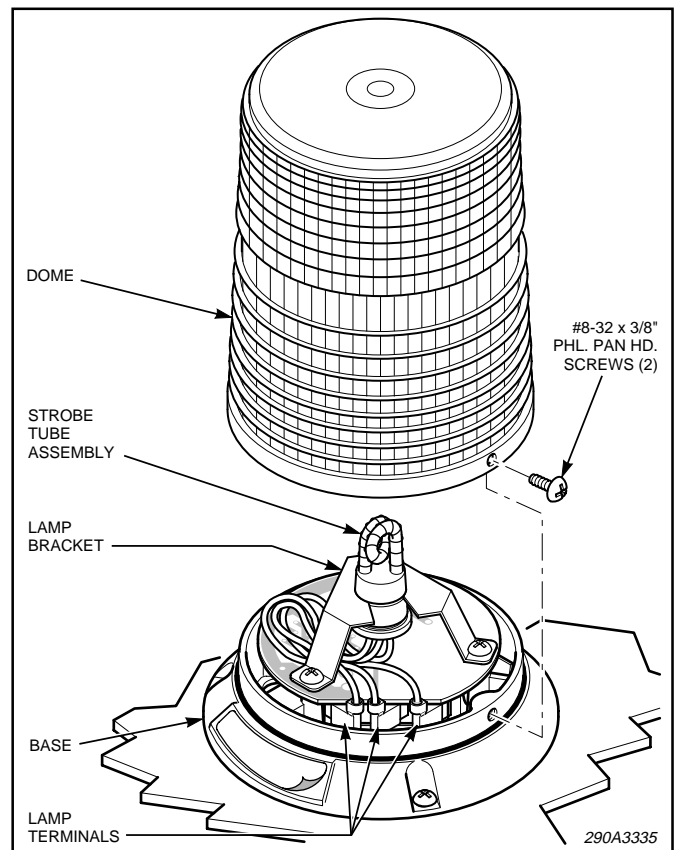


Figure 3.

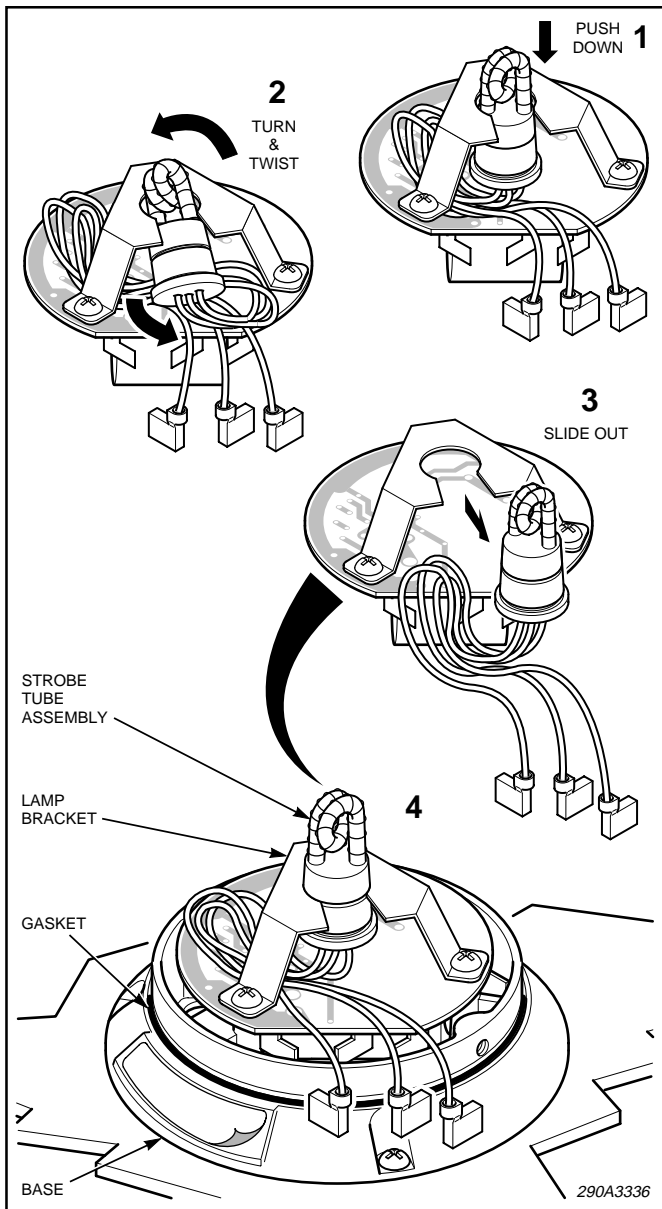


Figure 4.

See figure 5. To install the optional dust cover, proceed as follows:

1. Loosen the two screws which secure the dome to the base. It is not necessary to remove the screws.
2. Place the dust cover over the dome and align the slots in the dome with the dome screws.
3. Tighten the dome cover screws.

**G. BRANCH GUARD INSTALLATION.**

Refer to the instructions supplied with the

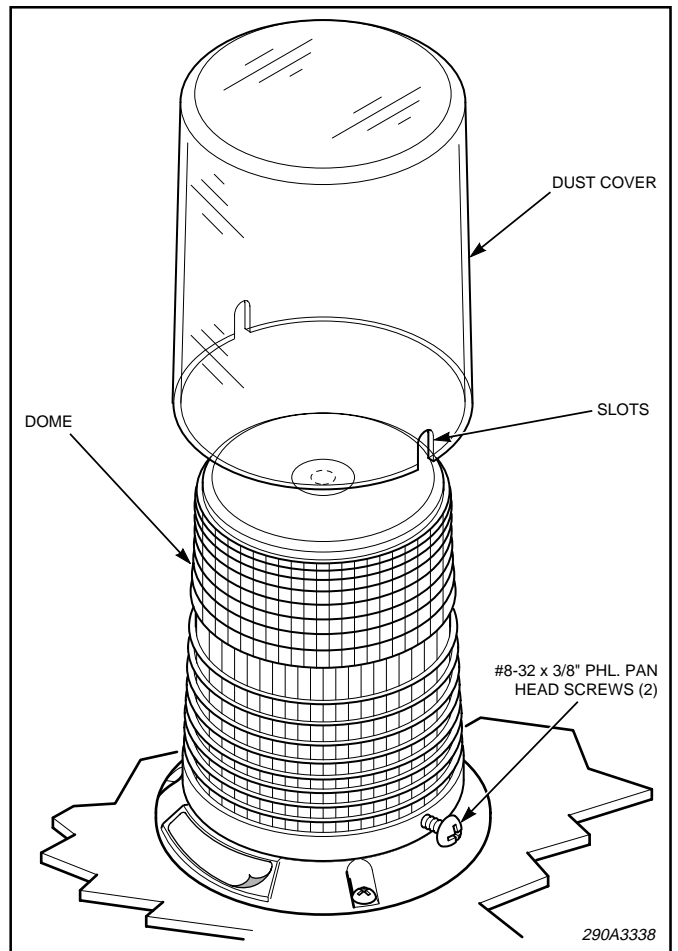


Figure 5.

branch guard.

**H. REPLACEMENT PARTS.**

Description	Part No.
Kit, Accessory	8444300
Dome, Amber, Short	8263073
Dome, Blue, Short	8263073-01
Dome, Red, Short	8263073-02
Dome, Clear, Short	8263073-03
Dome, Green, Short	8263073-04
Dome, Clear, Tall	8422B428
Dome, Amber, Tall	8422B428-01
Dome, Blue, Tall	8422B428-02
Dome, Green, Tall	8422B428-03
Dome, Red, Tall	8422B428-04
Gasket, O-ring	8444295
Strobe Tube Assembly	8444308
Dust Cover, Clear	SFTDC
Branch Guard	MZBGK