

**INSTRUCTION SHEET
 FOR
 FHP MIRROR/DECK STROBE SYSTEM (FORD AND LUM97)**

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:

- Consult with local codes and regulations to determine if power supply/light combination complies.
- 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 air bag.
- When drilling into a vehicle structure, be sure that both sides of the surface are clear of anything that could be damaged.
- In order for the light to function properly, a separate ground connection must be made. If practical, it should be connected to the negative battery terminal. At a minimum, it may be attached to a solid metal body or chassis part that will provide an effective ground path as long as the light system is to be used.
- Locate 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.
- You should 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.

I. SPECIFICATIONS.

Input Voltage	11VDC to 16VDC (13.6VDC nominal).
Input Current	Six amperes peak.
Fuse	10 amperes.
Flash Energy (nominal)	10.5 joules per double flash. 6.0 joules-1st flash. 4.5 joules-2nd flash.
Flash Rate (nominal)	75 double flashes per minute.

II. UNPACKING.

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. Ensure that the parts listed in the appropriate KIT CONTENTS LIST are included in the package.

III. KIT CONTENTS LIST.

DS1-FHP

Qty.	Description	Part No.
2	Screw, Hex Hd., 1/4 x 5/8	7011161-10
1	Conn., Plug, 3-pin	140A203
2	Lockwasher	7075078
2	Washer, Flat, 1/4, Black	7072230
1	Terminal, 187, QD	224A215-04
1	Terminal, 250, Female QD	224A216-04
1	Bracket, Bail	8573040B

MIRROR LIGHT-FHP

Qty.	Description	Part No.
4	Screw, Hex Hd., 1/4 x 5/8	7011165-10
2	Screw, Pan Hd., 1/4 x 5/8	7011161-10
2	Lockwasher, Ext. Tooth, 1/4	7075078
1	Bolt, Carriage, 1/4-20	7004A020-12
1	Nut, 1/4-20	7059A020
1	Lockwasher, Split, #6	7074A007
1	Washer, Flat, #6	7072A007
1	Nut, #6	7059A005
1	Screw, Pan Hd., #6	7000A400-16
1	Washer, Flat, 1/4	7072A024
2	Washer, Flat, 1/4, Black	7072230
1	Lockwasher, Split, 1/4	7074A016
2	Gasket, Rubber	8240A107-01
2	Gasket, Rubber	8240A107-03
1	Bracket, Mounting	8573091
1	Bracket, Bail	8573125
4	Terminal, 1/4" Male QD	224A217A-01
1	Adapter Harness	1461026
1	Mirror, Rear View	8573097
1	Adhesive Pad	8573199

IV. INSTALLATION.

NOTE

For maximum coverage and effectiveness, the light assembly should be mounted in a horizontal orientation.

A. *Deck Strobe (DS1-B) Mounting.*

a. See figure 1. Use the mounting bracket(s) as a template and scribe the mounting hole position marks and a cable exit hole position mark on the mounting surface.

CAUTION

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.

b. Drill mounting holes at the previously scribed position marks.

c. Secure the mounting bracket(s) to the mounting surface with user-supplied 1/4" type B screws.

d. Secure the light assembly to the mounting bracket(s) using the 1/4" x 5/8" pan head Tapite screws and lockwashers as shown in figure 1. Route the cable through the previously drilled cable hole.

B. *Power Supply Mounting.*

CAUTION

The power supply housing is NOT waterproof. It must be mounted in a location which is sheltered from falling rain, snow, standing water, etc. Also, it must be installed in an adequately ventilated area. Never install near heater ducts.

Do not mount the power supply unit under the vehicle's hood.

When selecting a mounting location for the power supply unit, it is necessary to keep in mind that the cables are 6-feet long. Plan all wiring and cable routing before performing any installation.

1. Use the power supply as a template and scribe four drill positioning marks at the selected mounting location.

CAUTION

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.

WARNING

DO NOT drill holes in ANY part of the power supply chassis or cover. Damage to the unit, serious injury or death to you or others may result.

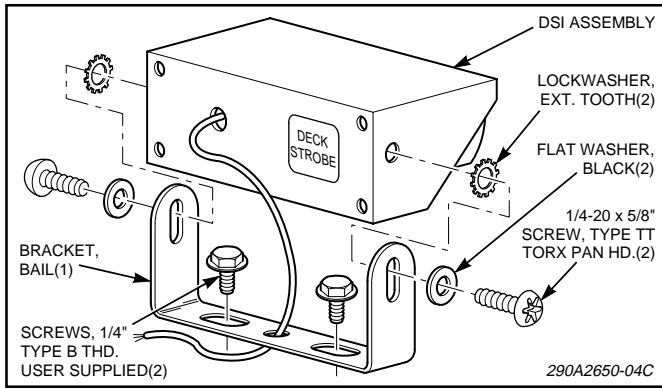


Figure 1.

2. Drill four mounting holes at the position marks.
3. Secure the power supply to the mounting surface.

C. *Mirror Light Mounting.*

WARNING

When installing equipment inside air bag equipped vehicles, the installer **MUST** ensure that the equipment is installed **ONLY** in areas recommended by the vehicle manufacturer.

Failure to observe this warning will reduce the effectiveness of the air bag, damage the air bag, or potentially damage or dislodge the equipment, causing serious injury or death to you or others.

CAUTION

Vehicle damage may result from improper removal of vehicle's interior rear view mirror. Read and follow the safety precautions and instructions contained in the vehicle's service manual(s).

1. Remove the interior rear view mirror by performing the removal instructions contained in the vehicle's service manual(s).
2. See figure 2. Locate the roof support channel(s) under the headliner. Using the mounting bracket as a template, align four mounting holes with the support channel(s) and mark four drill position marks on the mounting surface.

CAUTION

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 electrical wiring or other vital parts.

3. Drill four 0.194" mounting holes at the previously marked drill position marks.
4. See figure 3. Remove the release liner from one side of the adhesive pad and secure the pad to the mounting bracket in the location shown. Remove the release liner from the other side of the adhesive pad and secure the rear view mirror in the mounting bracket's small slot using the #6-32 x 1" pan head screw, #6 flat washer, #6 lockwasher and #6 nut.
5. Secure the mounting bracket/mirror assembly to the mounting surface using the four 1/4" x 5/8" hex head type B screws.
6. See figure 4. Assemble the bail bracket to the light assembly using the two 1/4" x 5/8" pan head screws, external tooth lockwashers, and black flat washers. Do not tighten the screws at this time. Cut the rubber gaskets to length and assemble to the sides of the light assembly as shown in figure 3.
7. See figure 4. Assemble the light assembly/bail bracket to the mounting bracket's center slot using the 1/4-20 carriage bolt, flat washer, split lockwasher, and 1/4-20 nut. Do not tighten the nut at this time.

WARNING

Do not install the light in a location which can obstruct the driver's vision. Installing the light assembly too low will obstruct the driver's vision and prevent safe vehicle operation. Ensure that the light is mounted in a position that allows maximum visibility.

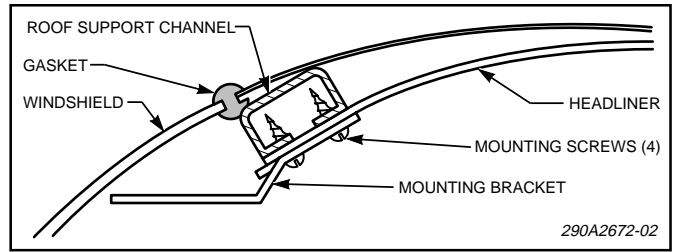


Figure 2.

CAUTION

Do not install the light assembly in the windshield's tinted area. Light output will be reduced and the light's color will change, lessening the effectiveness of the light.

8. Position a 1/8" thick cardboard spacer between the windshield and the light assembly. Adjust the light assembly housing so that it is parallel to the road surface, and is just below the tinted portion of the vehicle's windshield. Tighten all fasteners and remove the cardboard spacer.

WARNING

Blind spots will result if the interior rear view mirror is improperly installed. Position the replacement rear view mirror as close as possible to the position of the original rear view mirror.

V. **ELECTRICAL.**

WARNING

Failure to observe this **WARNING** may result in fire, burns or blindness.

If shorted to vehicle frame, high current conductors can cause hazardous sparks resulting in electrical fires or molten metal.

DO NOT connect this system to vehicle battery until **ALL** other electrical connections are made and mounting of all components is complete.

Verify that no short circuits exist, before making connection to the vehicle battery.

- A. Disconnect vehicle battery. Ensure that power is disconnected from all vehicle lighting control systems.

- B. Ensure that the power supply chassis is grounded to the vehicle chassis. If necessary, connect a wire from the power supply chassis (mounting screw) to a known good vehicle chassis ground.

IMPORTANT

Refer to figure 5 while completing the electrical connections.

- C. Crimp the 1/4" female quick-connect terminal on one end of the user-supplied #14 AWG black wire. Connect the black wire to the power supply's -/BLK terminal. Dress the wire neatly, allowing for a drain loop and maintenance. Connect the other end of the black wire to a known good vehicle chassis ground.

- D. Assemble the plastic connectors on the deck strobes' cable assemblies. Using figure 5 as a guide, ensure that the pins are located in the correct position in the plastic connector. Connect the cables to the power supply. Allow for a drain loop for power supply maintenance.

- E. Route the mirror light cable to the power supply. Crimp the four 1/4" male quick-connect terminals on the end of the mirror light cable wires. Connect the mirror light cable wires to the adapter harness wires by matching the wire colors. Using figure 5 as a guide, connect the adapter harness connectors to the power supply. Allow for a drain loop for power supply maintenance.

- F. Crimp the supplied 3/16" quick-connect terminal on one end of the user-supplied #14 AWG red wire. Install a user-supplied 8-ampere in-line fuse in the red wire. Connect the red wire to the power supply's RED/+ terminal. Dress the wire neatly, allowing for a drain loop, maintenance, and access to the fuse. Connect it to a 12 volt power source (switch, relay, or vehicle lighting controller) capable of supplying a minimum of 10-amperes.

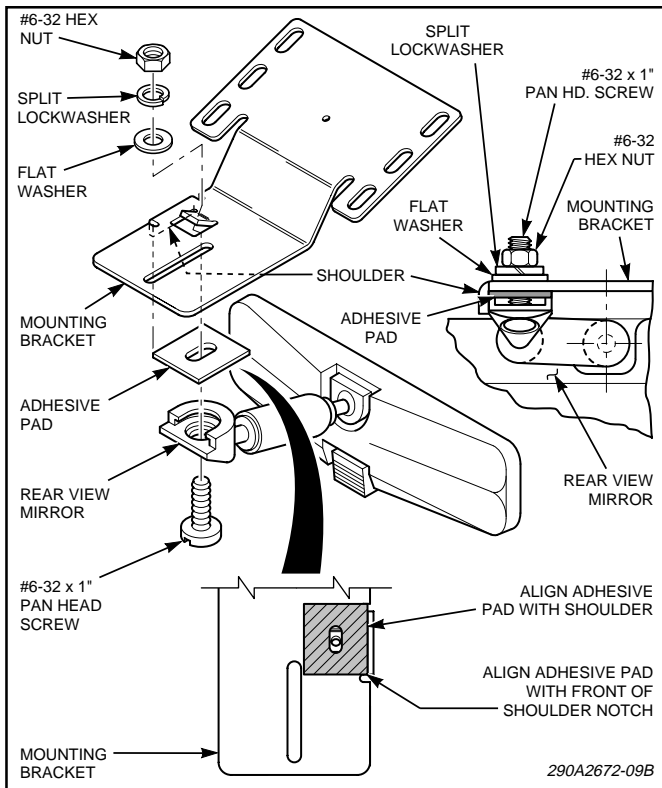


Figure 3.

G. Check all connections and wiring. Ensure that there are no short circuits and that all wires are protected from any sharp edges. Reconnect the vehicle battery. Test for proper operation of the strobe system.

VI. OPERATION.

SAFETY MESSAGE TO OPERATORS

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

- Do not attempt to activate or deactivate light control while driving in a hazardous situation.
- 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.
- At the start of your shift, you should ensure that the light is securely attached and all lamps are operating properly.
- If a selected function does not perform properly or if any of the lamps remain illuminated when the control is off, disconnect the power connector from the control unit and contact the nearest service center.

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

To activate the alternating double flash (75FPM) warning signal, operate the user-supplied switch, relay, or vehicle lighting controller.

VII. MAINTENANCE.

A. *General (Lens).*

WARNING

Crazing (cracking) of lenses will cause reduced effectiveness of the light. Do not use cleaning agents (which will cause crazing) such as strong detergents, solvents, or petroleum products. If crazing of lenses does occur, reliability of light for emergency signalling purposes may be reduced until lenses are replaced.

Ordinary cleaning of the plastic lenses can be accomplished by using mild soap and a soft rag. Should fine scratches or a haze appear on a

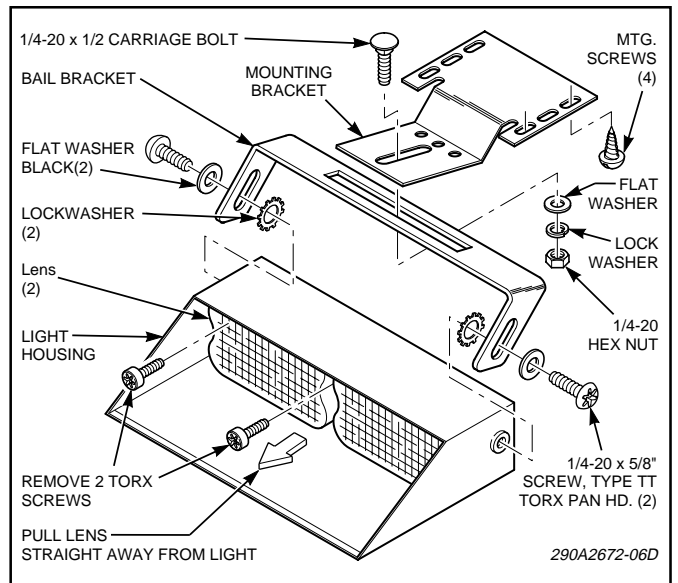


Figure 4.

lens, they can ordinarily be removed with a non-abrasive, high quality, one-step, automotive paste cleaner/wax and a soft cloth.

B. *Strobe Tube Replacement.*

WARNING

High voltages are present in a strobe light system. Wait at least five (5) minutes, after shutting off power, before servicing the unit. Failure to do so may result in property damage, serious injury, or death to you and others.

1. Disconnect all power to the strobe system power supply before performing any maintenance.
2. Remove and retain the two screws and lockwashers which secure the light assembly to the mounting bracket (see figure 1). Remove and retain the two screws which secure the lens (see figure 6), and carefully pull the lens straight away from the light assembly.
3. See figure 7. Remove and retain the screws which secure the back cover to the mounting bar.
4. Disconnect the quick connect terminals from the defective strobe tube.
5. Remove the strobe tube assembly by pulling the wires at the base of the strobe tube assembly. Pull the strobe tube straight away from the mounting bar.

CAUTION

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

6. See figure 8. SLOWLY insert the new strobe tube in the mounting bar until it is properly seated in the top slot of the strobe tube. If the strobe tube is difficult to insert, remove it and apply a high temperature grease, or Vaseline, to the rubber edge of the strobe tube and try again.
7. Reconnect the quick connect terminals. Reassemble the unit.
8. Reconnect all power connections to the power supply and test for proper operation.

WARNING

High voltages are present in a strobe light system. Wait at least five (5) minutes, after shutting off power, before servicing the unit. Failure to do so may result in property damage, serious injury, or death to you and others.

C. *Power Supply.*

Servicing should be performed by a qualified Federal Signal service center. If the power supply is not working properly, disconnect power

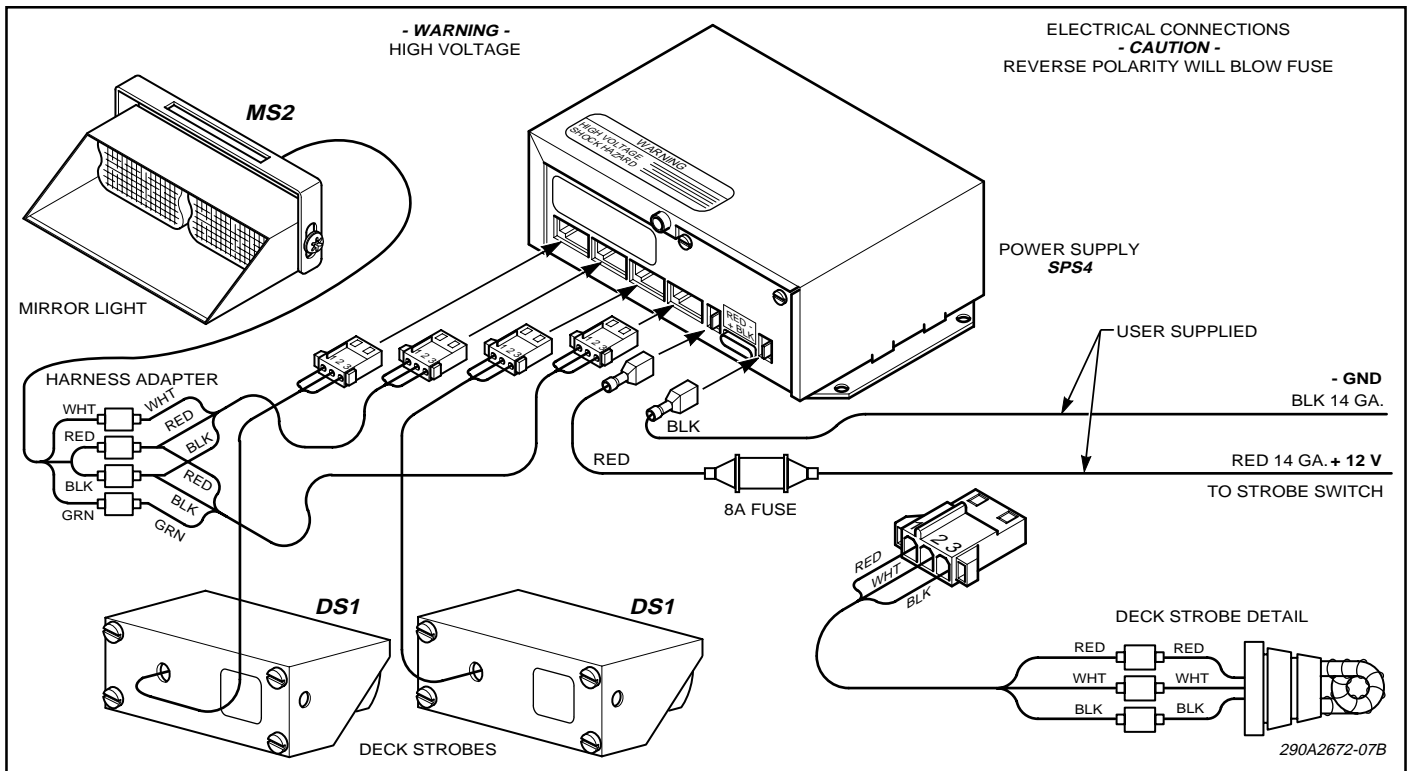


Figure 5.

and ground to the unit. Next, disconnect the electrical connections to the strobe tubes. Remove the power supply from the vehicle. Send the unit to the nearest authorized service center or to the Federal Signal service department.

Communication and shipments should be addressed to:

Service Department
Federal Signal Corporation
2645 Federal Signal Drive
University Park, IL 60466
1-800-433-9132
(In Illinois) 708-534-3400

WARNING

The fuse **MUST** be replaced with an exact replacement only.

After servicing is complete, perform a test to ensure the power supply is operating properly.

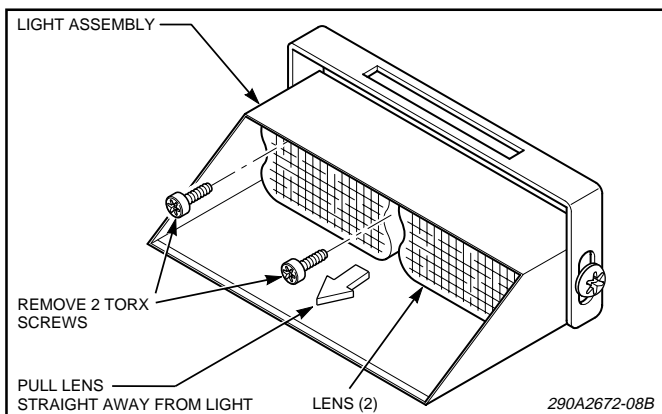


Figure 6.

VIII. REPLACEMENT PARTS.

Description	Part No.
Printed Circuit Board Assy.	2001166
Power Supply Unit	8575020
Strobe Tube Assembly	8575013
Lens, Blue	8573001-03
Fuse, 10-ampere	148A142A-05

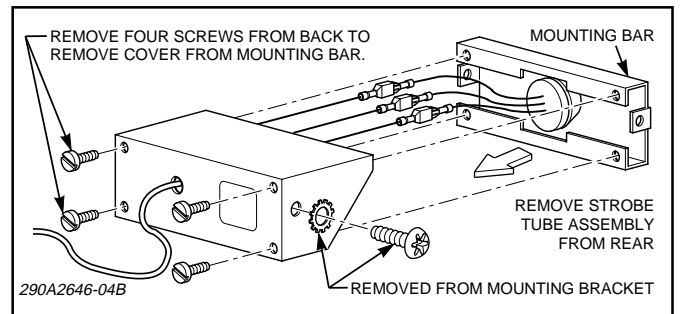


Figure 7.

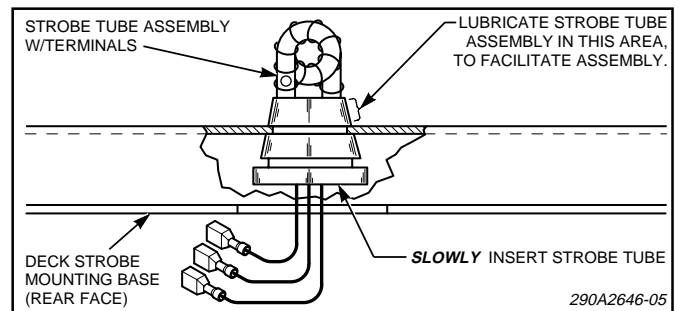


Figure 8.