

**INSTALLATION INSTRUCTIONS
FOR
MODEL 22 SERIES AERODYNIC® LIGHT ASSEMBLY**

**SAFETY MESSAGE TO INSTALLERS AND USERS
OF
FEDERAL SIGNAL LIGHT/SOUND SYSTEMS**

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 a light/sound system, you must have a good understanding of automotive electrical procedures and systems.
- When drilling into a vehicle structure, be sure that both sides of the surface are clear of anything that could be damaged.
- Refer to instruction sheet packed with light system for proper electrical connections.
- Avoid dimpling (denting) of roof. Place light bar mounting feet as close to gutter as possible.
- Roof damage can occur if hook adjustment bolts are overtightened. Tighten adjustment bolt just enough to prevent the light from sliding front-to-back when pulling on the mounting bracket.
- You should frequently inspect the light system to ensure 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. PERMANENT MOUNT (MODEL 22PK).

To install on the vehicle roof, proceed as follows:

A. Remove the two screws, located at the identification plate, at one end of the dome assembly. Slide the dome assembly out about 4 to 5 inches along the slots in the extrusion as shown in figure 1.

B. Carefully turn light assembly upside down.

C. Slide the two mounting plates into the slot in the extrusion as shown in figure 2. (One mounting plate for each mounting bracket.) Secure the bracket about 1-inch from the end of the extrusion.

D. Place the Light Assembly on the vehicle roof at desired location. Usually the unit should be installed approximately over the driver's head. Ensure that the light ends are equidistant from the roof gutters. Also, the distance from the windshield to each of the units should be the same (see figure 3).

E. Using the mounting brackets as templates, scribe two drill hole positions on each side of the light.

F. Prior to drilling, move the unit out of the way, Drill four 1/2-inch diameter holes at the hole center line marks, previously scribed.

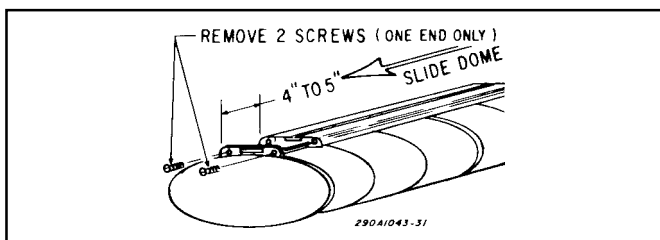


Figure 1.

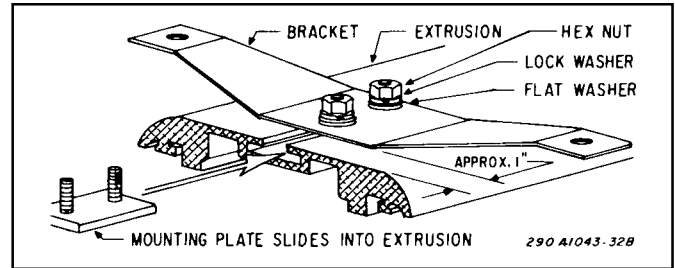


Figure 2.

Ensure that the holes are drilled through the sheet metal only and not through the upholstery .

G. Insert a toggle bolt into each hole, then place a rubber bumper over each toggle bolt (see figure 4) . Next, place the permanent mounting brackets down over the ends of the toggle bolts and screw-on jam nuts. Tighten the jam nuts. Saw-off the toggle bolts 3/16-inch above the jam nuts and screw-on the cap nuts. The unit should now be solidly anchored to the roof. Reinstall dome.

II. GUTTERLESS MOUNT (MODEL 22HK).

A. Installation of Mounting Bar to Light.

1. Remove the two screws, located at the identification plate, at one end of the dome assembly. Slide the dome assembly out about 4 or 5 inches, along the slots in the extrusion as shown in figure 1.

2. Carefully turn the Light Assembly upside down.

3. Slide the two mounting bolts 8542A222 into the extrusion.

4. Reinstall dome.

5. Place two spacer bars and tubular spacers over the mounting bolts as shown in figure 5.

6. Align the mounting bolts with the appropriate holes in the mounting bar. Guide the cable assembly through both holes in the mounting bar or through the top hole, into the mounting base, and out the center slot at either end. Route it to where it will enter the vehicle .

7. Place the mounting bar down so that the mounting bolts protrude through the mounting bar holes. Secure with flat washer, split lockwasher, and hex nut as shown in figure 5.

8. Assemble a mounting adapter to each mounting bracket with two (each) 5/16-18 x 3/4" square neck carriage bolts, 5/16 flat washers, and 5/16-18 hex nuts as shown in figure 6.

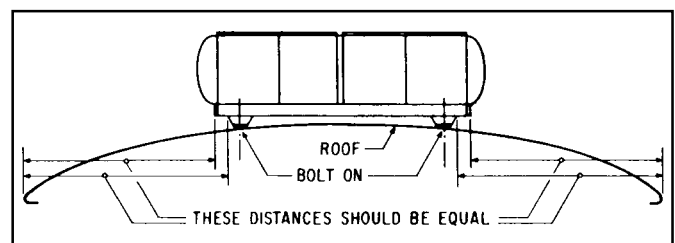


Figure 3.

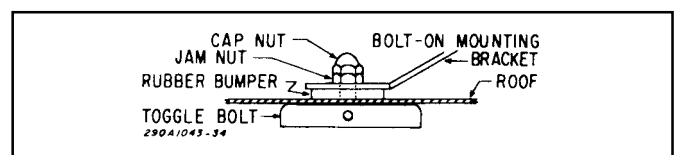


Figure 4.

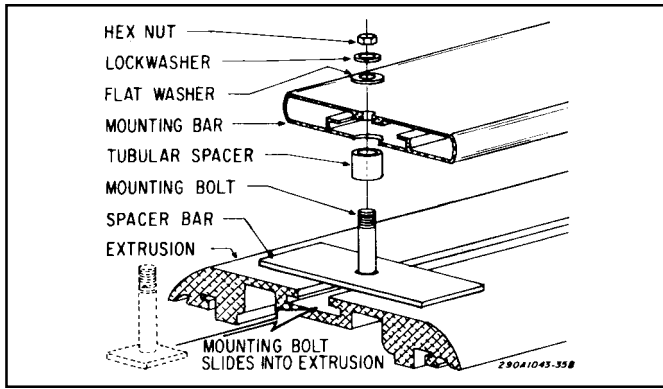


Figure 5.

NOTE

When assembling, insure that the square is at the bottom of the slot in the mounting adaptor.

9. Insert the four (4) rubber bumpers in the mounting bracket as shown in figure 6.

10. Assemble the clamp block and spacers to each mounting adaptor with 5/16-18 hex nuts and split lockwashers as shown in figure 7.

NOTE

Do not tighten the hex nuts at this time.

11. Slide the clamp block of a mounting bracket assembly into the slot in the mounting bar as shown in figure 7. Slide the clamp block of the other mounting bracket assembly into the same extrusion slot from the other end.

12. Insert two U-type speed nuts into each end cap (see figure 7). Insert end cap in end of mounting bar. Use two #6-32 oval head screws to secure end cap to mounting bar.

B. Installation on Vehicle Roof.

1. Place the Light Assembly on the vehicle roof at the desired location. Usually the unit should be installed approximately over the driver's head.

2. Adjust both mounting bracket assemblies in or out until the rubber bumpers rest near the edge of the roof or gutter where the roof is most rigid (see figure 8).

3. Center the unit so that the end of the light and edge of the roof are equidistant on each side of the vehicle. Tighten the 5/16-18 hex nuts (two on each mounting adaptor) installed in step II.A.10.

4. See figure 8. Insert the hook into the opening in the center of the mounting bracket. Install the 1-3/4" or 2-5/8" stainless steel adjusting bolt (finger-tight). Repeat step on other side of Light Assembly.

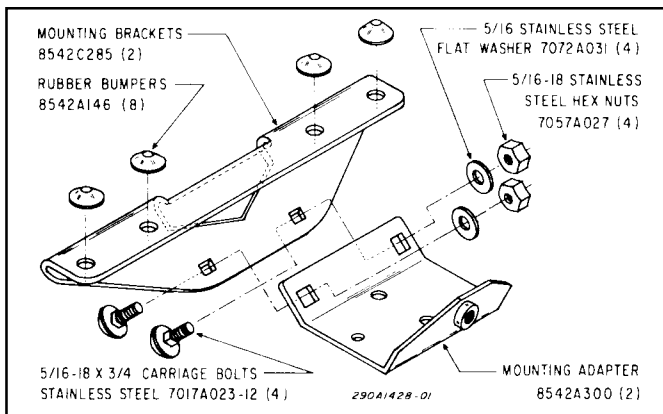


Figure 6.

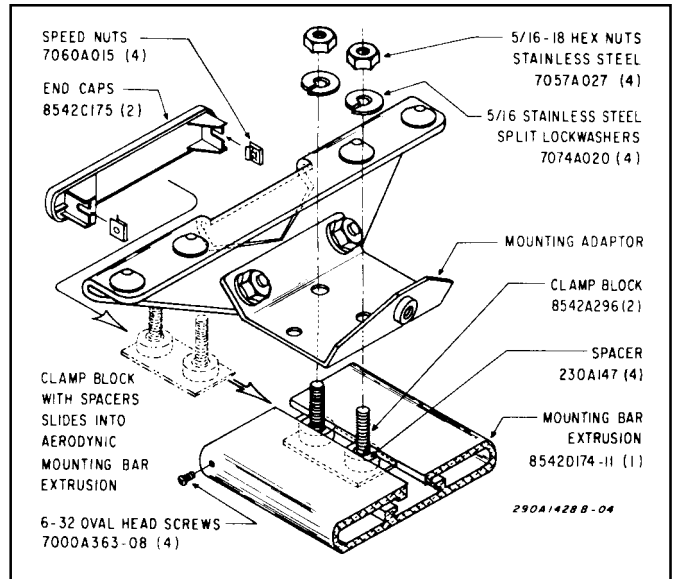


Figure 7.

NOTE

1-3/4" and 2-5/8" long bolts (2 each) are supplied. Use the length that best fits your vehicle. Ensure that the hook does not interfere with the door gasket or glass.

5. Check to ensure that the Light Assembly is level front-to-back. If the light is not level (pointing up or down), it can be adjusted by loosening the carriage bolts on the side of the mounting bracket assembly (see figure 9) and "rocking" the light up or down until it is level. Tighten the carriage bolts after adjustment.

6. Check to ensure that the Light Assembly is centralized on the vehicle. Tighten the stainless steel bolts alternately, a few turns at a time, until the hook presses securely against the edge of the roof.

NOTE

The hook should be tightened just enough to prevent the light from sliding front to back when pulling on the mounting bracket.

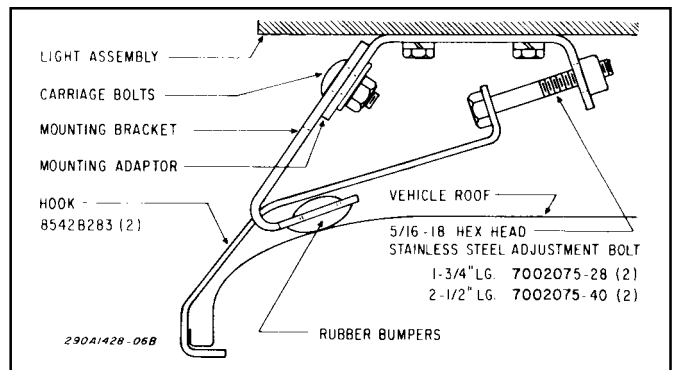


Figure 8.

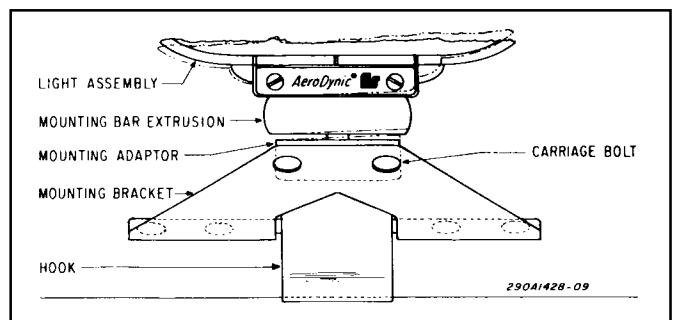


Figure 9.