

INSTALLATION INSTRUCTIONS FOR Model 24 Series, and Model 25 AeroDync® LIGHT ASSEMBLIES

SAFETY MESSAGE TO INSTALLERS OF FEDERAL SIGNAL LIGHT 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 assembly: 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.
- A light system is a high current device. In order for it 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 system controls so the VEHICLE and CONTROLS can be operated safely under all driving conditions.
- You should frequently inspect the light system 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 re-installing the product.

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

I. GENERAL.

This instruction sheet provides directions for installation of Model 24 series and Model 25, AeroDync Light Assemblies. Instructions are provided for the synchronized rotator (single motor) and non-synchronized rotator (independent-multiple motors) Light Assemblies.

A. *Speaker Installation.*

If your AeroDync is to be equipped with a loud-speaker, it should be installed prior to mounting the light on the vehicle. To gain access to the speaker compartment, proceed as follows (see figure 1):

1. Remove the three screws at the top of the speaker compartment. Remove the clamp plate.
2. Turn the unit over and remove three screws from both the front and rear of the speaker compartment. Remove both clamp plates.
3. Remove the front and rear grille sections by lifting each section from the bottom and slipping it out of the groove at the top.
4. Refer to the Instruction Sheet packed with the speaker for further installation instructions.

B. *Installation of Options.*

If your AeroDync is to be equipped with any options (traffic clearing light, etc.), it (they) should be installed prior to mounting the light on the vehicle. Refer to the instructions packed with the option kit(s) for installation instructions.

C. If the gutterless mounting method is used, establish whether the Light Assembly is a synchronized or non-synchronized version. Look through the domes and determine the number of motors installed. If only one motor is visible, proceed to paragraph II.A. If at least two motors are visible, proceed to paragraph II.B. If the permanent mounting method is used, proceed to paragraph III.

II. GUTTERLESS MOUNT.

A. *Synchronized (One Motor) Installation.*

1. Installation of Mounting Bracket to Light.
 - a. Remove the two screws, located at the identification plate, at one end of a dome assembly. Slide

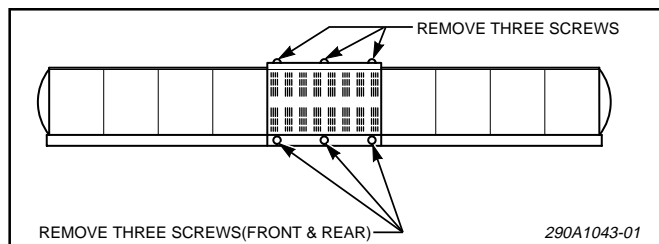


Figure 1.

the dome assembly out about 4 or 5 inches, along the slots in the extrusion as shown in figure 2.

b. Carefully turn the light assembly upside down so that it rests on the center (speaker) compartment and dome assemblies.

c. Assemble a mounting adaptor 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 3.

NOTE

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

d. Insert the four (4) rubber bumpers in the mounting bracket as shown in figure 3.

e. Assemble the two large 5/16-18 hex nuts (8542A134) to each mounting adaptor with 5/16-18 x 1/2" hex head bolts and split lockwashers as shown in figure 4.

NOTE

Do not tighten the bolts at this time.

f. Slide the two hex nuts of a mounting bracket assembly into the slot in the extrusion as shown in figure 4. Slide the two hex nuts of the other mounting bracket assembly into the same extrusion slot.

g. Reinstall dome.

2. Installation on Vehicle Roof.

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

b. 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 5).

c. 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 x 1/2" hex head bolts (two on each mounting adaptor) installed in step II.A.1.e.

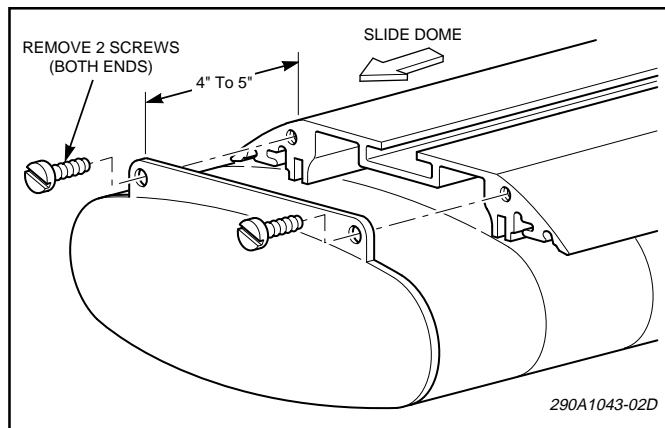


Figure 2.

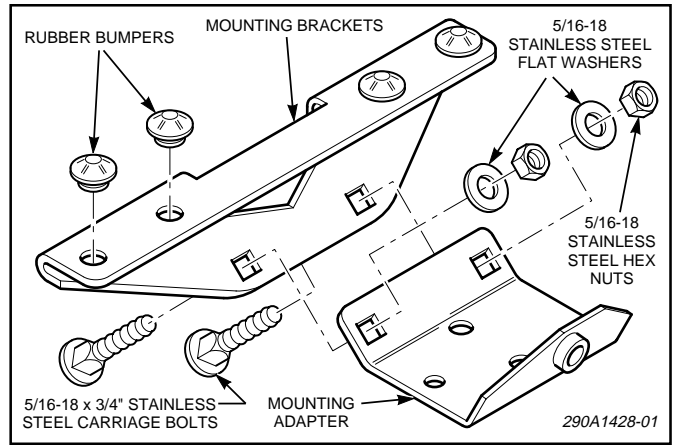


Figure 3.

d. See figure 5. 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 on the other side of the Light Assembly.

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.

e. Check to ensure that the light 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 6) and "rocking" the light up or down until it is level. Tighten the carriage bolts after adjustment.

f. Check to ensure that the Light Assembly is centralized on the vehicle. Tighten the stainless steel adjusting bolts alternately, a few turns at a time, until the hook presses securely against the edge of the roof. The hook should be tightened just enough to prevent the light from sliding front-to-back when pulling on the mounting bracket.

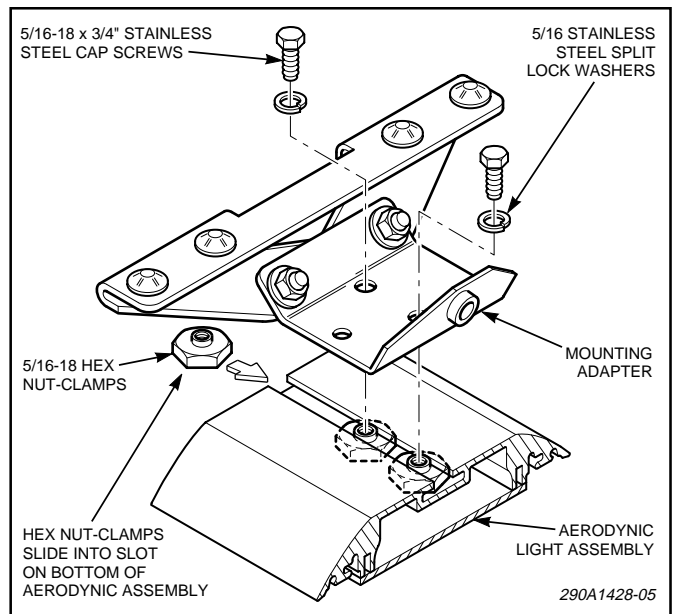


Figure 4.

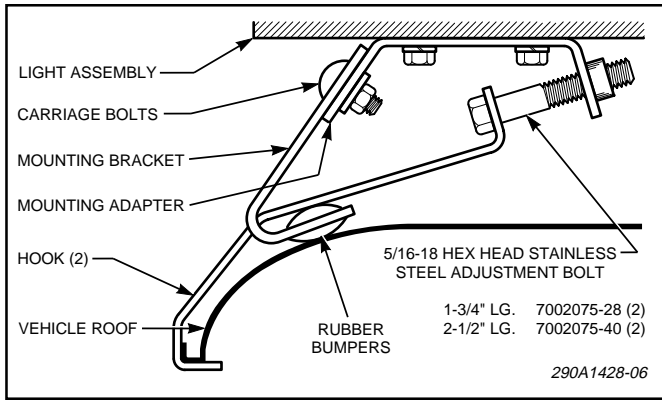


Figure 5.

B. Non-Synchronized (Multiple Motor) Installation.

1. Installation of Mounting Bracket to Light.

a. Remove the two screws, located at the identification plate, at one end of a dome assembly. Slide the dome assembly out about 4 or 5 inches, along the slots in the extrusion as shown in figure 2.

b. Carefully turn the light assembly upside down so that it rests on the center (speaker) compartment and dome assemblies.

c. Assemble a mounting adaptor 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 3.

NOTE

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

d. Insert the four (4) rubber bumpers in the mounting bracket as shown in figure 3.

e. Assemble a clamp block (8552A280) to each mounting adaptor with 5/16-18 hex nuts and split lockwashers as shown in figure 7.

NOTE

Do not tighten the bolts at this time.

f. Slide the clamp block of a mounting bracket assembly into the slot in the extrusion as shown in

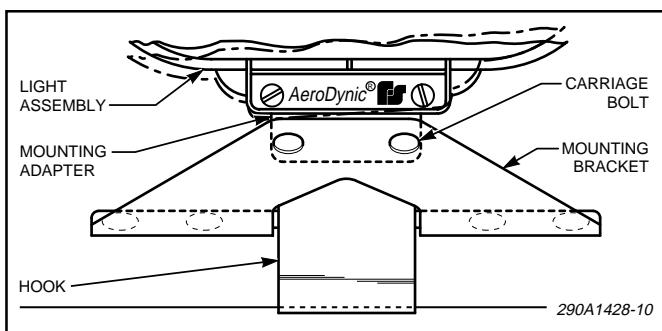


Figure 6.

figure 7. Slide the clamp block of the other mounting bracket assembly into the same extrusion slot.

g. Reinstall dome.

2. Installation on Vehicle Roof.

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

b. 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).

c. 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.B.1.e.

d. 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 on the other side of the Light Assembly.

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.

e. Check to ensure that the light 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 6) and "rocking" the light up or down until it is level. Tighten the carriage bolts after adjustment.

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

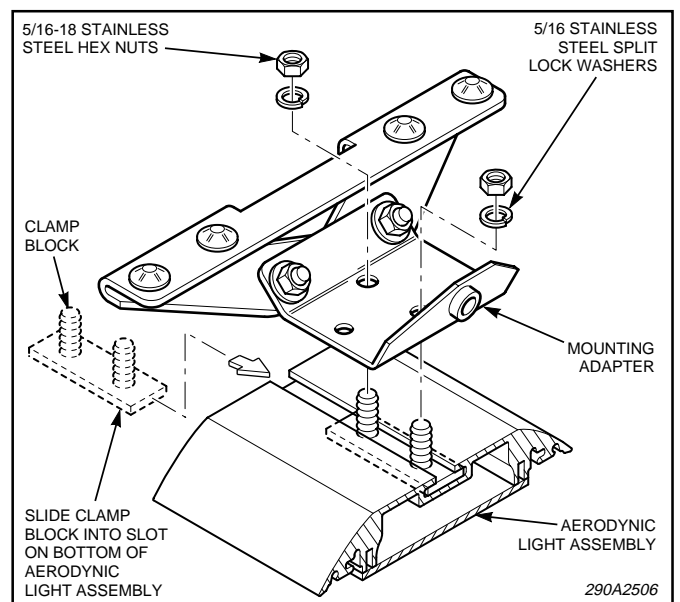


Figure 7.

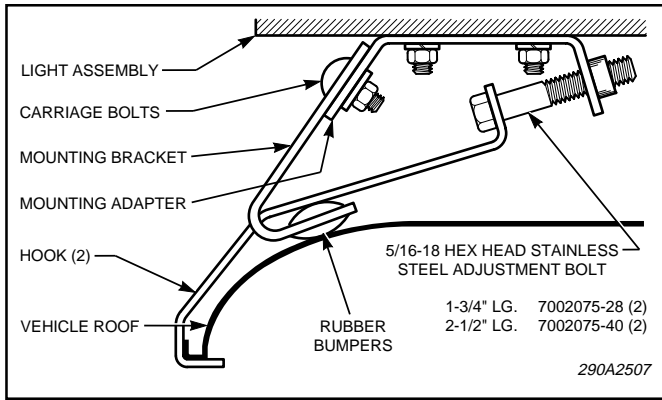


Figure 8.

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

III. PERMANENT MOUNT.

A. Installation of Mounting Bar to Light.

1. Perform steps II.A.1.a. and b. Slide both mounting plate assemblies into the slot in the extrusion.
2. Place the bottom half of the mounting bracket clamp over the two mounting plate assembly studs (see figure 9). Place the mounting bar into position on the bottom half of the mounting clamp.
3. Place the top half of the mounting bracket clamp over the studs. Place a 3/8-inch split lockwasher and 3/8-16 hex nut over each stud as shown in figure 9.

IMPORTANT

Ensure that the mounting bracket clamps are at least 3/8-inch from the end of the extrusion.

4. Repeat the previous steps on the other side of the light assembly.

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. Position the mounting bars so that the contact surfaces are tangent to the roof. Both mounting assemblies should be located in the base of the light (extrusion) so that the roof-to-light clearance (at vehicle center) is at least one-inch (see figure 10). Ensure that the bar ends are equidis-

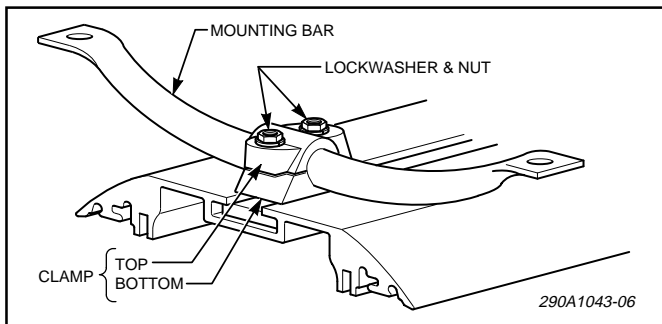


Figure 9.

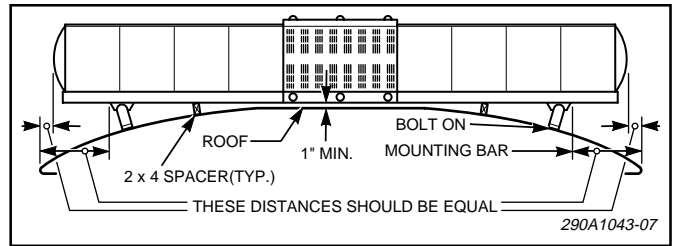


Figure 10.

tant from the roof gutters. Also, the distance from the windshield to each end of the unit should be the same.

3. Ensure that the unit is level, side-to-side and front-to-rear. Tighten the 3/8-16 hex nuts (on the mounting plate assembly studs).
4. Using the mounting bars as templates, scribe two drill position marks on each side of the light.

CAUTION

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

Also, when drilling any holes, ensure that holes are drilled only through sheet metal and not through upholstery.

5. Prior to drilling, move the unit out of the way. Drill four 1/2-inch diameter holes at the previously scribed drill position marks.

6. Insert a toggle bolt into each hole, then place a rubber mounting pad over each toggle hole (see figure 11). 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.

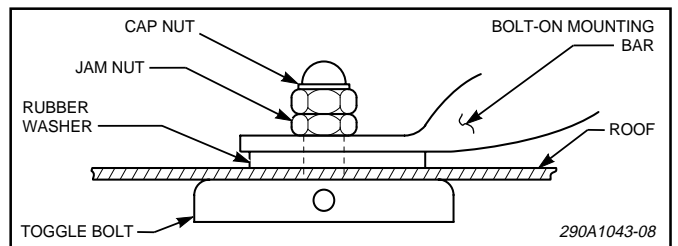


Figure 11.