

## INSTALLATION AND MAINTENANCE INSTRUCTIONS FOR 3-POD VECTOR® SOLARIS™ SERIES LIGHT BAR

### SAFETY MESSAGE TO INSTALLERS OF FEDERAL SIGNAL LIGHT SYSTEMS

#### WARNING

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.
- This product contains high intensity LED devices. To prevent permanent eye damage, DO NOT stare into the light beam at close range.
- 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 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. UNPACKING.

After unpacking the unit, inspect it for damage that may have occurred in transit. If the unit has been dam-

aged, 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.

#### II. INSTALLATION.

The light bar is completely wired at the factory and does not require any additional internal wiring. All the conductors necessary for control of any and all basic and optional functions are contained in the cable(s).

The basic light functions of the unit must be controlled by a user-supplied control head.

Before proceeding, ensure that the light bar has been installed on the vehicle roof in accordance with the instructions packed with the mounting kit. Route the light bar cable as described below.

#### WARNING

**Light system controls must be located so that VEHICLE and CONTROLS can be operated safely under all driving conditions.**

A. Route the control cables into the vehicle and under the dash, near the eventual location of the user-supplied control head.

#### WARNING

**To prevent personal injury and/or damage to vehicle components, in the event of a short circuit in the power cable, install a fuse in each incoming cable conductor.**

B. For proper light operation, the light assembly control cables must be properly terminated inside the user-supplied control head. Using figure 1 as a guide, make the appropriate electrical connections. Ensure that the lines are adequately fused as shown in figure 1.

#### CAUTION

If control lines are combined for activation, calculate the total current requirement using the values shown in figure 1.

After determining the control line switching configuration, it is the installer's responsibility to use suitable fuses, wire, and switches/relays for the installation.

C. Connect the black lead to chassis ground.

D. Connect the other side of the fused wires to the +12VDC supply.

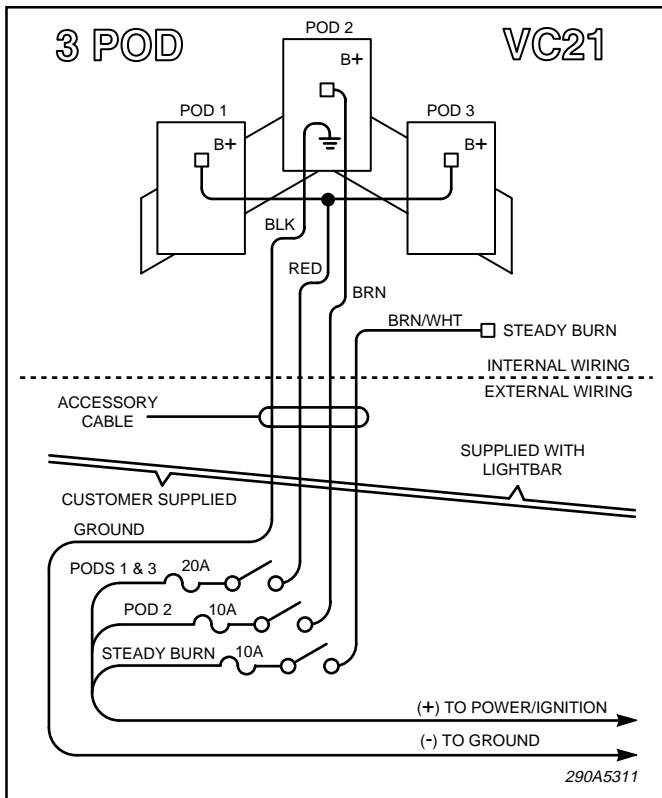


Figure 1.

**NOTE**

Any of the light assembly functions can be activated by applying 12VDC to the appropriate control line. The heavy black lead (-) must be connected to vehicle ground, to perform a function check.

E. Programming High-Side flasher.

**WARNING**

**DO NOT connect flasher to brake light circuit of ANY vehicle.**

**DO NOT connect flasher to the headlight circuit of any vehicle.**

**Connection of aftermarket electrical equipment into this circuit may interfere with the brake shift interlock.**

**This could cause the vehicle to unexpectedly move forward causing possible property damage, injury or death to the vehicle operator or others.**

The flasher will provide the end user with a preselected flash pattern. The preselected flash pattern is to be chosen from the nine factory programmed patterns

provided with each flasher. It is recommended that the preselected flash pattern be determined and programmed during installation.

The red/green LED in each flasher will be illuminated green when an SAE approved flash pattern is selected. When an unapproved SAE flash pattern is selected, the LED will be illuminated red. The red/green LED may alternate between red and green for several flash patterns.

The following procedure demonstrates the programming and operating features of the flasher:

Turn on the flasher in Mode 1. Short across the programming pins until the desired pattern is running. Allow the pattern to run for 15-seconds and it is now programmed.

**III. BASIC MAINTENANCE.**

A. *Cleaning the Plastic Domes.*

Ordinary cleaning of the plastic domes can be accomplished by using mild soap and a soft rag. Should fine scratches or a haze appear on the domes, they can ordinarily be removed with a non-abrasive, high quality, one-step automotive paste cleaner/wax and a soft cloth.

**WARNING**

**The use of other materials such as strong detergents, solvents, petroleum products, etc. can cause crazing (cracking) of the plastic domes. If crazing of domes does occur, reliability of light for emergency purposes may be reduced until domes are replaced.**

B. *LED Assembly Replacement (Solaris 6 LED Gen 3).*

**WARNING**

**A serious injury may result if LED assembly is touched when hot. Always allow LED assembly to cool before removing.**

See figure 2. Refer to table 1 and replace the defective LED assembly with an exact replacement only.

C. *Lamp Replacement.*

**WARNING**

**A serious injury may result if lamp is touched when hot. Always allow lamp to cool before removing. Halogen lamps are pressurized and if broken can result in flying glass. Always wear gloves and eye protection when handling the lamps.**

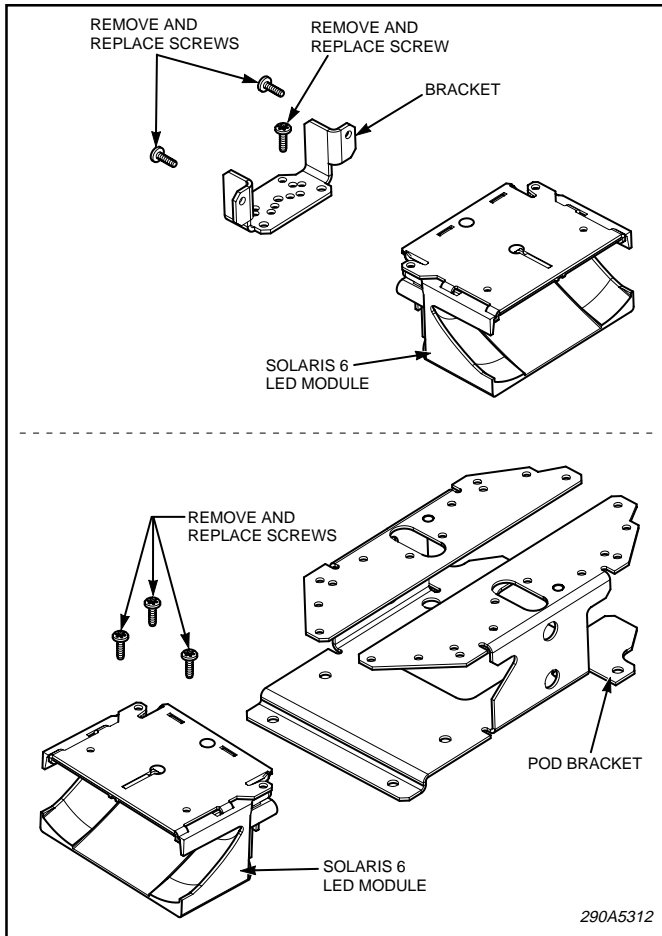


Figure 2.

**CAUTION**

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

1. Stationary Lamps.

See figure 3. To replace the lamp, Twist to unlock and then pull the defective lamp out of the socket. Install a new lamp of the same type in the socket.

2. Rotating or Oscillating Lamps.

**CAUTION**

Forced rotation of the light mechanism will cause damage to the worm gear. ALWAYS rotate the light mechanism by rotating the motor shaft.

a. Rotate the reflector until the C-clip (located at the base of the lamp) can be removed, and remove the C-clip by sliding it away from the reflector.

Table 1.

FUNCTION	REPLACEMENT LAMP
Solaris 6 LED Gen-3	Replacement Module Amber-Part No. 8654167-02 Blue-Part No. 8654167-03 Red-Part No. 8654167-04 White-Part No. 8654167-05

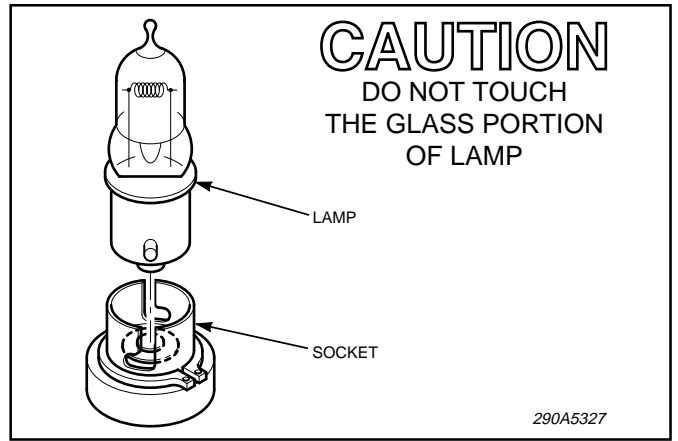


Figure 3.

b. See figure 4. Note the lamp's orientation and replace the lamp (Federal Part No. 8440A265) with the straight edge of the lamp's base toward the reflector.

c. Reassemble the light.

D. *Cleaning Reflectors and Mirrors.*

Use a soft tissue to clean the reflector and mirrors. Avoid heavy pressure and the use of caustic or petroleum base solvents which will scratch or dull the surface.

**IV. OPTIONAL MAGNETIC MOUNTING KIT.**

The optional Model VC21MK mounting kit includes the parts necessary for magnetic mounting of the Vector series VC21 light bar. The supplied cigar lighter plug and wiring have a maximum current limit of 15-amperes. Using the current requirements shown in table 1, calculate the total current requirement with the currently installed options. If the current requirement exceeds 15-amperes, DO NOT use the cigar lighter plug and wire.

**WARNING**

**Warning light failure will occur if the current requirement exceeds 15-amperes. Never use the cigar lighter plug and wiring if the total current requirement exceeds 15-amperes.**

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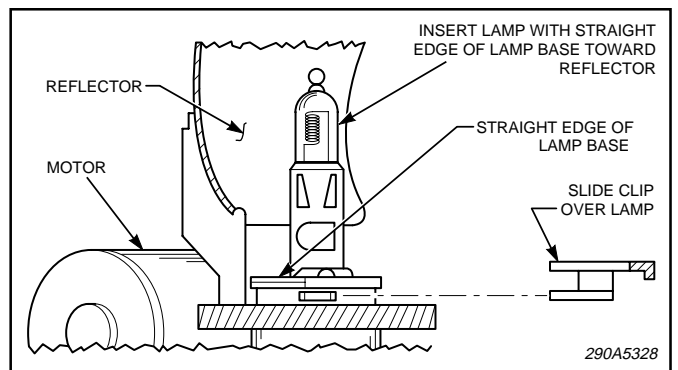


Figure 4.