

INSTRUCTIONS FOR VIPER® S2 MODELS MODELS 329000 AND 329001 LED DECK/DASH LIGHT

SAFETY MESSAGE TO INSTALLERS AND USERS

⚠ 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 this light, you must have a good understanding of automotive systems, along with proficiency in the installation and use of safety warning equipment.
- DO NOT install equipment or route wiring in the deployment path of an airbag.
- If a vehicle seat is temporarily removed, verify with the vehicle manufacturer if the seat needs to be recalibrated for proper airbag deployment.
- 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 the system to function properly, a separate negative (-) connection and positive (+) connection must be made. All negative connections should be connected to the negative battery terminal and a suitable fuse should be installed on the positive battery terminal as close to the battery as possible. Ensure that all wires and fuses are rated correctly to handle the device and system amperage requirements.
- 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.
- This product contains high intensity LED devices. To prevent eye permanent eye damage, DO NOT stare into the light beam at close range.
- 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.

I. GENERAL

The VIPER S2 Series 329000 and 329001 LED Deck/Dash lights utilize Solaris™ technology to create a highly effective secondary warning signal. The 329000 Series VIPER S2 is controlled with a factory attached accessory plug and cable with a convenient on/off switch and power indicator. The 329001 Series VIPER S2 uses a four-conductor cable that allows several light heads to be synchronized together. Additionally, all synchronized units can be controlled using a user selectable "controlling" light head, a feature unique to VIPER S2. Patterns for both the 329000 and 329001 series are selected by a user accessible push button. Another unique feature for VIPER S2 are the

inclusion of floating-sync pattern sets. When two separate heads are set at the two floating-sync patterns, they will appear to wander in and out of synchronization.

All VIPER S2 models are designed for use in conjunction with all Federal Signal switch controllers. Both the 329000 and 329001 series are available in single and double head configurations. The VIPER S2 is supplied with mounting hardware for both deck and dash mounting. This unit has an operating temperature of -30 °C to +65 °C (-22 °F to +149 °F). The VIPER S2 is an interior only light head intended for mounting in the horizontal position.

II. INSTALLATION

⚠ WARNING

SUPPLEMENTAL WARNING USE ONLY
This product is intended for supplemental warning and for use in conjunction with an approved primary warning light system. Consult local codes and regulations to determine if this product complies with the horizontal or vertical mount positioning desired in your application.

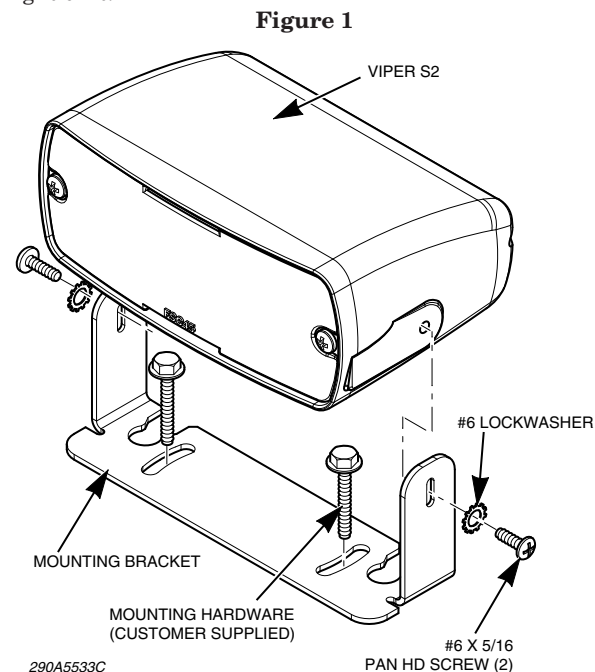
⚠ WARNING

AIRBAG DEPLOYMENT
Do not install equipment in the deployment path of an airbag. Failure to observe this warning will reduce the effectiveness of the airbag or potentially dislodge the equipment, causing serious injury or death.

The light can be installed using the supplied bracket, screws, or suction cups. Determine the mounting position appropriate for the installation, and then select the applicable mounting method.

A. Deck Mounting with Bracket

- See Figure 1. Determine the desired mounting position for the light unit.



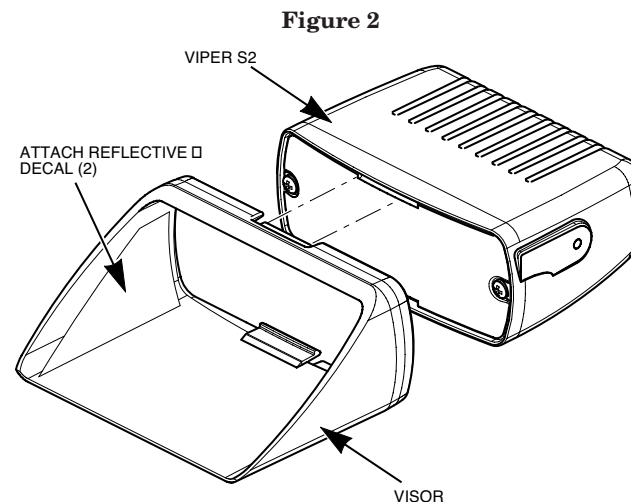
- Attach the bracket to the vehicle using the appropriate user supplied hardware.
- Attach the light head to the bracket using the supplied #6 pan head screws, and lockwashers.

B. Dash Mounting with Suction Cups

⚠ CAUTION

SUCTION CUP ARE FOR TEMPORARY USE ONLY
Suction cup mounting is for temporary applications only. This unit should be removed from the vehicle and stored securely when not in use. Temperature changes and sunlight can cause suction cups to lose holding power. Periodically check the unit to be sure the suction cups have a firm grip on the mounting surface. An improperly secured light could fall off the windshield, causing injury and damage.

- See Figure 2. Attach the adhesive reflector decals to the visor as shown.



- Attach the visor to the light head. Align the tabs molded into the visor with the slots molded into the lens. Press firmly to snap into place.
- See Figure 3. Attach the suction cups (2 for single-head models, 3 for dual-head models) to the bracket as shown.
- See Figure 4. Attach the bracket to the light head using the supplied #6 pan head screws, and lockwashers.
- Apply the suction cups to the windshield.

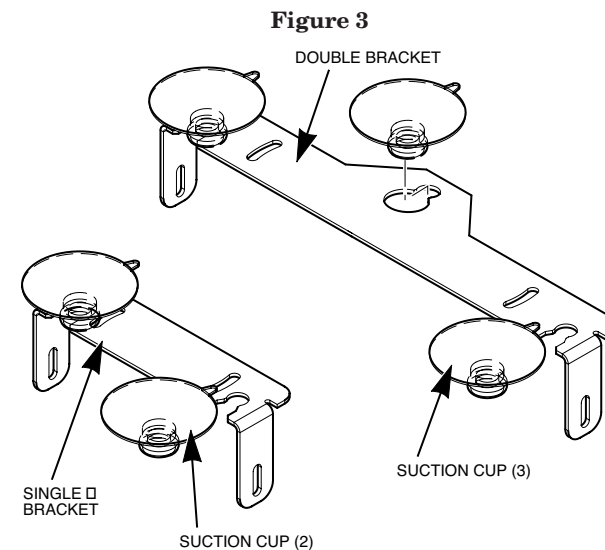
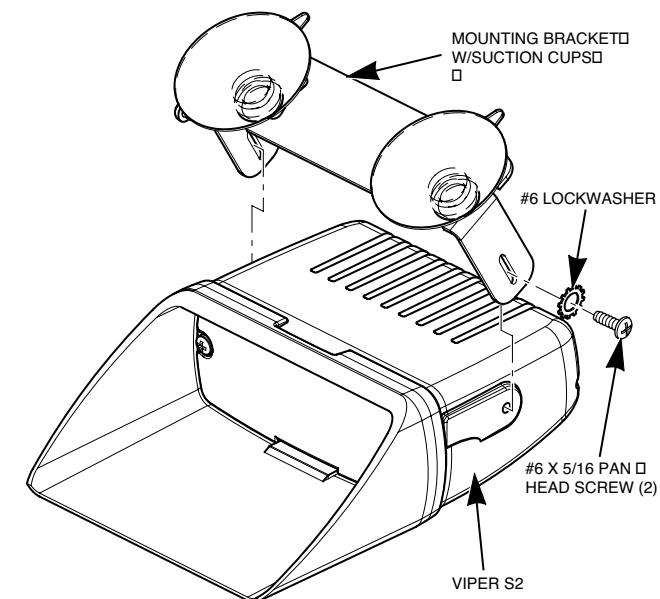


Figure 4



III. ELECTRICAL

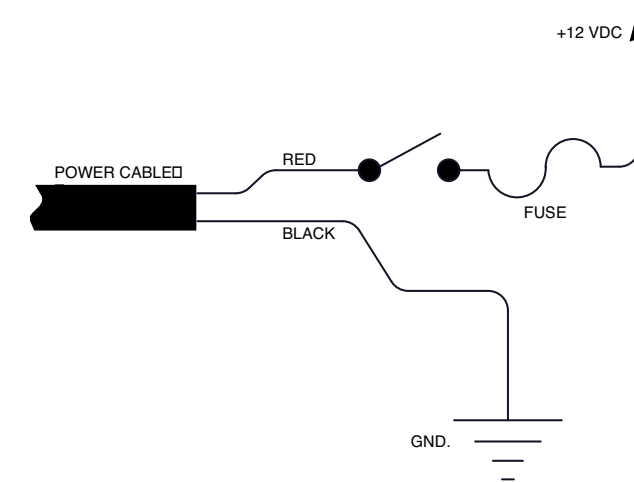
A. 329000 Series

NOTE

The 329000 Series VIPER S2 is provided with a standard accessory plug for power connection and no further wiring is necessary. If a more permanent connection is desired, the installer must place a 5 amp fuse in line with the power connection.

- For permanent connection, remove the accessory plug and strip enough cable for the necessary connections.
- See Figure 5. Make the electrical connections as shown.

Figure 5



B. 329001 Series

With the 329001 Series VIPER S2, several light heads can be controlled through the pattern selection of a single light head.

NOTE

All 329001 Series VIPER S2 are pre-set at the factory to be in control mode.

1. Determine which light head will be the control unit and which light head(s) will be follower units.

2. To convert a light head from control mode to follower mode, depress the pattern selection button on the rear of the unit for approximately 3 seconds with the unit powered until the light head flashes then goes into a low-power steady burn mode. This low-power mode will continue until the unit is connected to a controlling unit. The patterns for this light are now ready to be controlled by another unit.

3. See Figures 6 and 7. Make the appropriate wiring connections as shown.

NOTICE

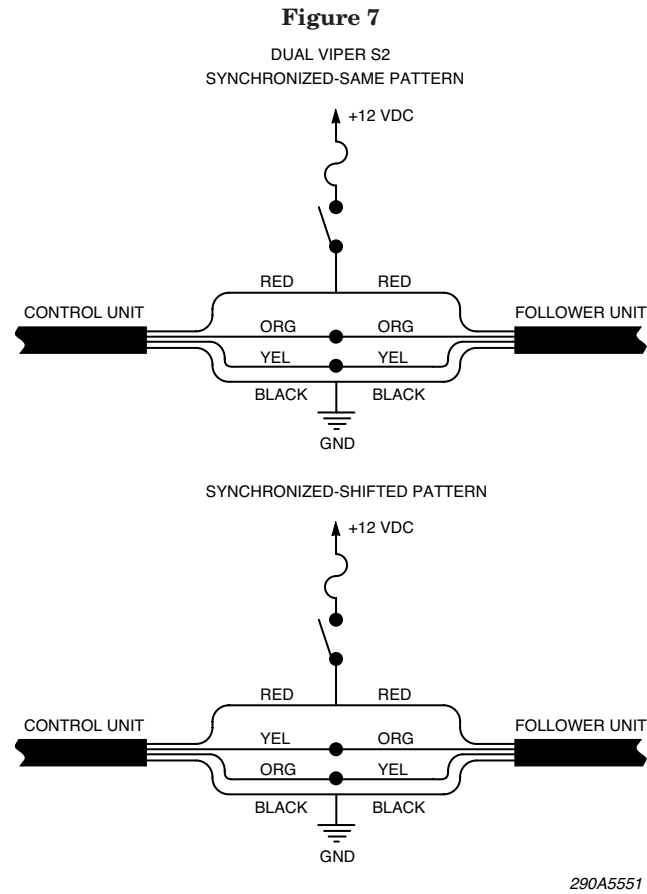
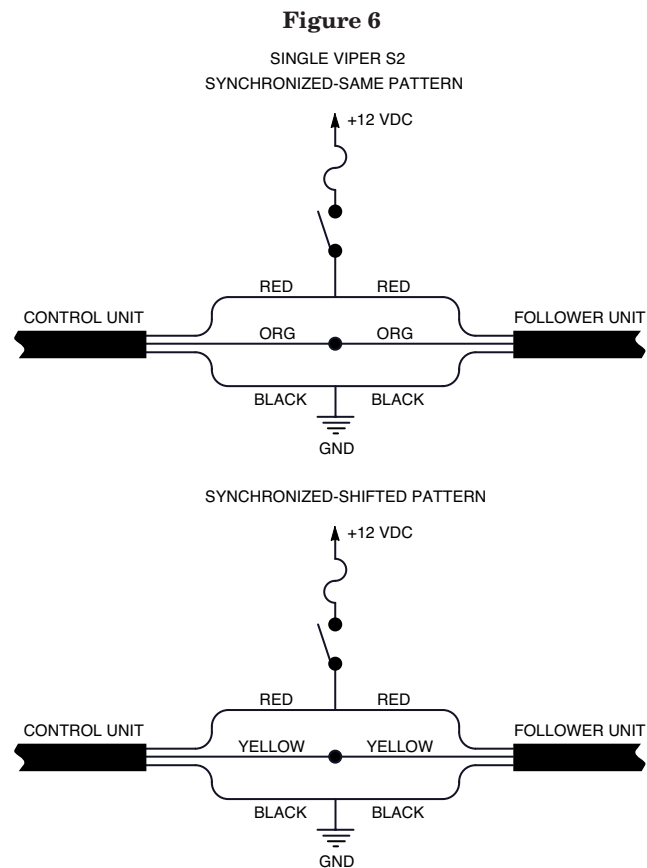
CONFIGURE ONLY ONE LIGHT AS CONTROL
When putting together systems of lights using the 329001 Series, take care to ensure that there is only one light head configured to be in control mode. Having more than one light head in a system set to control mode will cause the follower units in the system to not function properly.

NOTICE

WIRING PRECAUTION
For single units, never attach both the orange wire AND the yellow wire from the CONTROL head to the same FOLLOWER head. Connecting both signal wires to the same FOLLOWER will cause the units to not function properly.

NOTICE

FUSE THE POWER CONNECTION
The installer must place a fuse in line with the power connection. For systems up to four single light heads, a 5 amp fuse must be used. For systems up to 8 single light heads, a 10 amp fuse must be used. A double light head constitutes 2 light heads.



V. OPERATION

SAFETY MESSAGE TO OPERATORS



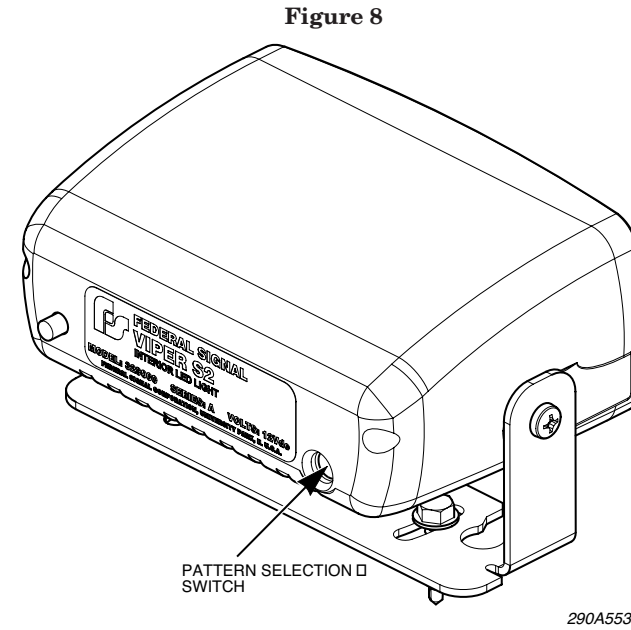
People's lives depend on your safe use of our products. Listed below are some important safety instructions and precautions you should follow:

- Because vehicle driving conditions vary and the possibility of emergency vehicle accidents always exists, Federal Signal does not recommend driving a vehicle with a suction cup mounted light installed. Under certain violent circumstances, the light could detach from the glass mounting surface causing injury or damage.
- 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 manmade objects are between your vehicle and others, such as: raising your hood or trunk lid. If these situations occur, be especially careful.
- This product contains high intensity LED devices. To prevent permanent eye damage, DO NOT stare into the light beam at close range.
- At the start of your shift, you should ensure that the light is securely attached and operating properly.

Failure to follow these safety precautions may result in property damage, serious injury, or death.

Pattern Selection

A. See Figure 8. Refer to Tables 1 and 2 for available patterns. Depress the pattern selection switch located to the rear of the unit to select the desired pattern. For the 329001 series, this switch is also used to control the patterns for the follower units.



B. To step to the next pattern, depress the switch for less than one second. To revert to the previous pattern, depress the switch for slightly longer than one second.

C. To revert back to the first pattern, depress the switch while powering-up the unit.

- T1. Null
- 79 FPM Power Quad
 - 150 FPM Single
 - 151 FPM Single
 - 74 FPM Single
 - 75 FPM Single
 - 240 FPM Single
 - 241 FPM Single
 - 240 FPM Double
 - 241 FPM Double
 - 150 FPM Double
 - 74 FPM Double
 - 75 FPM Double
 - 150 FPM Triple
 - 75 FPM Triple
 - 5 Single @ 680 FPM
4 Single @ 216 FPM
 - 4 Single @ 570 FPM
3 Single @ 246 FPM
 - 3 Single @ 460 FPM
2 Quad @ 75 FPM
 - Progressive
 - 4 Single @ 154 FPM
2 Quad @ 75 FPM
 - Random
 - Steady Burn

- Null
- Alternating 150 FPM Single
- Alternating 240 FPM Single
- Alternating 75 FPM Single
- Alternating 150 FPM Triple
- Alternating 75 FPM Triple
- Precise Flip-Flop 63 FPM
- Overlap 71 FPM Quad
- Alt. Overlap 50 FPM Power Quad
- Alt Overlap 40 FPM Power Quad
- Alt Overlap 100 FPM Double
- Alternating Progressive
- Alt. 2 Quad @ 70 FPM
4 Single @ 150 FPM
- Alt. 5 Single @ 320 FPM
1 Power Quint @ 90 FPM
- Alt. 2 Quad @ 83 FPM
4 Single @ 272 FPM
- Overlap 3 Single @ 180 FPM
4 Single @ 706 FPM
3 Single @ 390 FPM
6 Single @ 660 FPM
- Overlap Power Quad 75 FPM
- Random
- Steady / 166 FPM Single
- Steady / 103 FPM Burst
- Steady / 4 Single @ 700 FPM
2 Single @ 230 FPM
- 166 FPM Single / Steady
- 103 FPM Burst / Steady
- 4 Single @ 700 FPM / Steady
2 Single @ 720 FPM / Steady
- Steady Burn

V. MAINTENANCE



CRAZING/CLEANING SOLUTIONS

The use of cleaning solutions, such as strong detergents, solvents, and petroleum products, can cause crazing (cracking) of the domes and reflectors. Failure to follow this warning, can damage the domes and reflectors, reducing the effectiveness of the lighting system, and may result in bodily injury or death.

Replacement Parts

| Description | Part No. |
|----------------------------|------------|
| Wire Harness, 4 Conductor | 1751356 |
| Wire Harness, Accy. Plug | 1751362 |
| VIPER S2 PCBA, Single | 20000025 |
| VIPER S2 PCBA, Double | 20000024 |
| VIPER S2 Lens, Single | 8613116 |
| VIPER S2 Lens, Double | 8613116-01 |
| Suction Cup | 8613121 |
| VIPER S2 Mtg. Bkt. Single | 8613127 |
| VIPER S2 Mtg. Bkt. Double | 8613128 |
| VIPER S2 Reflective Decals | 8613129 |

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