**Automotive: Lightbars**

**Warnings to Installers**

Whelen’s emergency vehicle warning devices must be properly mounted and wired in order to be effective and safe. Read and follow all of Whelen’s written instructions when installing or using this device. Emergency vehicles are often operated under high speed stressful conditions which must be accounted for when installing all emergency warning devices. Controls should be placed within convenient reach of the operator so that they can operate the system without taking their eyes off the roadway. Emergency warning devices can require high electrical voltages and/or currents. Properly protect and use caution around live electrical connections. Grounding or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or vehicle damage, including fire. Many electronic devices used in emergency vehicles can create or be affected by electromagnetic interference. Therefore, after installation of any electronic device it is necessary to test all electronic equipment simultaneously to insure that they operate free of interference from other components within the vehicle. Never power emergency warning equipment from the same circuit or share the same grounding circuit with radio communication equipment. All devices should be mounted in accordance with the manufacturer’s instructions and securely fastened to vehicle elements of sufficient strength to withstand the forces applied to the device. Driver and/or passenger air bags (SRS) will affect the way equipment should be mounted. This device should be mounted by permanent installation and within the zones specified by the vehicle manufacturer, if any. Any device mounted in the deployment area of an air bag will damage or reduce the effectiveness of the air bag and may damage or dislodge the device. Installer must be sure that this device, its mounting hardware and electrical supply wiring does not interfere with the air bag or the SRS wiring or sensors. Mounting the unit inside the vehicle by a method other than permanent installation is not recommended as unit may become dislodged during swerving; sudden braking or collision. Failure to follow instructions can result in personal injury. Whelen assumes no liability for any loss resulting from the use of this warning device. PROPER INSTALLATION COMBINED WITH OPERATOR TRAINING IN THE PROPER USE OF EMERGENCY WARNING DEVICES IS ESSENTIAL TO INSURE THE SAFETY OF EMERGENCY PERSONNEL AND THE PUBLIC.

**Warnings to Users**

Whelen’s emergency vehicle warning devices are intended to alert other operators and pedestrians to the presence and operation of emergency vehicles and personnel. However, the use of this or any other Whelen emergency warning device does not guarantee that you will have the right-of-way or that other drivers and pedestrians will properly heed an emergency warning signal. Never assume you have the right-of-way. It is your responsibility to proceed safely before entering an intersection, driving against traffic, responding at a high rate of speed, or walking on or around traffic lanes. Emergency vehicle warning devices should be tested on a daily basis to ensure that they operate properly. When in actual use, the operator must ensure that both visual and audible warnings are not blocked by vehicle components (i.e.: open trunks or compartment doors), people, vehicles, or other obstructions. It is the user’s responsibility to understand and obey all laws regarding emergency warning devices. The user should be familiar with all applicable laws and regulations prior to the use of any emergency vehicle warning device. Whelen’s audible warning devices are designed to project sound in a forward direction away from the vehicle occupants. However, because sustained periodic exposure to loud sounds can cause hearing loss, all audible warning devices should be installed and operated in accordance with the standards established by the National Fire Protection Association.

**Safety First**

This document provides all the necessary information to allow your Whelen product to be properly and safely installed. Before beginning the installation and/or operation of your new product, the installation technician and operator must read this manual completely. Important information is contained herein that could prevent serious injury or damage.

- **Proper installation of this product requires the installer to have a good understanding of automotive electronics, systems and procedures.**
- **Whelen Engineering requires the use of waterproof butt splices and/or connectors if that connector could be exposed to moisture.**
- **Any holes, either created or utilized by this product, should be made both air- and watertight using a sealant recommended by your vehicle manufacturer.**
- **Failure to use specified installation parts and/or hardware will void the product warranty.**
- **If mounting this product requires drilling holes, the installer MUST be sure that no vehicle components or other vital parts could be damaged by the drilling process. Check both sides of the mounting surface before drilling begins. Also de-burr the holes and remove any metal shards or remnants. Install grommets into all wire passage holes.**
- **If this manual states that this product may be mounted with suction cups, magnets, tape or Velcro®, clean the mounting surface with a 50/50 mix of isopropyl alcohol and water and dry thoroughly.**
- **Do not install this product or route any wires in the deployment area of your air bag. Equipment mounted or located in the air bag deployment area will damage or reduce the effectiveness of the air bag, or become a projectile that could cause serious personal injury or death. Refer to your vehicle owner’s manual for the air bag deployment area. The User/Installer assumes full responsibility to determine proper mounting location, based on providing ultimate safety to all passengers inside the vehicle.**
- **For this product to operate at optimum efficiency, a good electrical connection to chassis ground must be made. The recommended procedure requires the product ground wire to be connected directly to the NEGATIVE (-) battery post (this does not include products that use cigar power cords).**
- **If this product uses a remote device for activation or control, make sure that this device is located in an area that allows both the vehicle and the device to be operated safely in any driving condition.**
- **Do not attempt to activate or control this device in a hazardous driving situation.**
- **This product contains either strobe light(s), halogen light(s), high-intensity LEDs or a combination of these lights. Do not stare directly into these lights. Momentary blindness and eye damage could result.**
- **Use only soap and water to clean the outer lens. Use of other chemicals could result in premature lens cracking (crazing) and discoloration. Lenses in this condition have significantly reduced effectiveness and should be replaced immediately. Inspect and operate this product regularly to confirm its proper operation and mounting condition. Do not use a pressure washer to clean this product.**
- **It is recommended that these instructions be stored in a safe place and referred to when performing maintenance and/or reinstallation of this product.**
- **FAILURE TO FOLLOW THESE SAFETY PRECAUTIONS AND INSTRUCTIONS COULD RESULT IN DAMAGE TO THE PRODUCT OR VEHICLE AND/OR SERIOUS INJURY TO YOU AND YOUR PASSENGERS!**

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For warranty information regarding this product, visit www.whelen.com/warranty
Disassembly of Lightbar:

1. Remove the two Torx head screws that secure end cap to the base and slide the lens sections off the end of the base and remove the dividers so you may gain access to the lightbar base. (Figs. 1 & 2) Be sure to note the order in which the lenses were installed on the lightbar.

IMPORTANT NOTE: You will notice that the lenses are seated very tightly into the lens divider gaskets to prevent leaks. You will need to insert a screwdriver at each corner (between the black endcap and aluminum base) and gently pry the lens out to break it free from the dividers. Pry each side out just a little at a time, alternating from one side to the other until the lens slides out easily. Before reassembling, apply a very small amount of liquid dish detergent to the sides of the rubber gaskets to help them slide in easier and obtain a better seal.

Installing the Strobe Power Supply:

Your lower level strobes can be mounted in several areas of the lightbar. (see below) The power supply will mount between two of the “V” mirrors, however you may mount it in any location within the lightbar as long as it doesn’t obstruct any light output or rotating mechanism. The power supply bracket will use the same screw holes the mirror uses.

NOTE: You must use the long screws that come with the power supply.

1. First remove the 2 diamond mirrors by removing the 4 mounting screws.
2. Take the power supply (with bracket attached) and place it on the lightbar base extrusion as shown in the illustration below. Place the “V” mirror bases on top of the power supply mounting bracket and secure the mirrors and power supply using the 4 power supply mounting screws.
3. Install the 2 strobes using the 4 mounting screws as shown below. Now you are ready to wire the strobes (see Wiring Diagram).

IMPORTANT: The outer surfaces of this product may be cleaned with mild soap and water. Use of any other chemicals may void product warranty. Do not use a pressure washer.
**WIRING DIAGRAM**

**IMPORTANT!** Neatly dress and place wires under cable clamps into cable trough to avoid interference with other lighting options.

**CHASSIS GROUND**

**STROBE POWER SUPPLY MODEL RPS220**

1. **Cable Installation Kit**
2. **Ty-Rap / 3" / Black**
3. **#8 X 1/4" PHEXWASHERHD SS TYPE B**
4. **#8 X 3/8" PHEXWASHERHD SS TYPE B**
5. **RPS220 STROBE POWER SUPPLY ASSEMBLY**
6. **#10-24 WHIZ LOCKNUT**
7. **MALE FASTON 18GA. INS.**
8. **#8 RING TERM. 18GA. NON INS.**
9. **STROBE HARNESS ASSEMBLY / 18" LONG**
10. **CABLE INSTALLATION KIT**
11. **WIRE / VIOLET / 54" STROBE INPUT**
12. **STROBE HARNESS ASSEMBLY / 59" LONG**
13. **#8 X 1/4" PHEXWASHERHD SS TYPE B**
14. **STROBE ASSEMBLY / 59" LONG HARNESS 46-0963049-05**
15. **17 SERIES STROBE / AMBER ASSEMBLY**
16. **17 SERIES STROBE / CLEAR ASSEMBLY**
17. **17 SERIES STROBE / GREEN ASSEMBLY**
18. **17 SERIES STROBE / RED ASSEMBLY**

**Wiring:**

1. Crimp the GROUND LUG (11) to the BLACK wire of the power supply and secure it to the lightbar base with the supplied screw (16).
2. Crimp a male (larger) faston connector (10) to the RED wire on the power supply.
3. Find the 18" STROBE HARNESS (12). Plug the AMP SOCKET CONNECTOR into the strobe nearest to the power supply, then run the wire harness to the power supply and plug it into the P2 outlet. **NOTE:** Wrap and tie any excess wire to keep it out of the way of any other lighting options. Between the "V" mirrors is a good location that will be out of the way.
4. Next find the 59" STROBE HARNESS (15) with the AMP SOCKET CONNECTOR attached to one end. Plug the SOCKET CONNECTOR into the other strobe, then run the harness wire to the power supply. After you make sure you have left enough wire, cut off the excess wire and attach an AMP PIN CONNECTOR (supplied) to the cut end of the harness as shown then plug it into the P1 AMP SOCKET CONNECTOR of your power supply.
5. Find the VIOLET 54" STROBE INPUT WIRE (14) with the female (smaller) faston connector on one end and plug it into the RED wire of the power supply. Run the wire to the lightbar harness and after you make sure you have left enough wire, cut off the excess, crimp the male faston connector on and plug it into the VIOLET wire of the lightbar harness. **NOTE:** Violet wire must be fused (See diagram above). After making sure all wires are secured out of the way of any other lighting options, Reassemble the lightbar.