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 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 absolutely necessary to test that all electronic equipment simultaneously to ensure 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 period of 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.

⚠️ WARNING: This product can expose you to chemicals including Methylene Chloride which is known to the State of California to cause cancer, and Bisphenol A, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

- 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 the 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 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/or 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!
IMPORTANT! The lightbar should be located a minimum of 16” from any radio antennas!

Mounting your Edge® Lightbar
Refer to the Lightbar mounting guide included with your lightbar

Routing your Edge Lightbar Cable(s)
1. To protect the headliner from damage caused by drilling the cable access hole through the vehicle roof, allow a 5” to 7” distance between roof and headliner by lowering the headliner before drilling.
2. Using a 1” hole saw, drill the cable access hole.

NOTE: There may be a roof support member that spans the distance between the driver’s and passenger’s side. DO NOT DRILL THROUGH THIS MEMBER! Adjust the location until the hole can be drilled without contacting this support member.
3. Use a round file to smooth and de-burr the edges of the hole.
4. Insert a 1” grommet (user supplied) into the cable access hole.
5. Insert the cable(s) through the cable access hole into the vehicle. Use RTV silicone to weatherproof the access hole after the cable(s) are pulled completely into the vehicle.
6. Route the cable(s) down through the B-pillar. The cable(s) must make a 90° turn to enter the B-pillar. Although routing the cable in this manner may be difficult, this has been determined to be the best procedure. It is up to the installation technicians discretion whether to route the cable(s) as recommended or use an alternative route. Pull the full length of the cable(s) out of the hole at the base of the B-pillar (Fig. 1) and route towards your switch panel. Refer to the instructions included with your switches for switch wiring information.

NOTE: 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.

CONTROL CABLE

1. RED - Apply +12 VDC to this wire for strobe functions. Fuse at 15 amps.
2. GREY - Activates rear outboard strobes. Fuse at 3 amps.
3. VIOLET - When this wire is grounded, this will initiate high power operation of all strobes. The lightbar must be turned off, then on again to restart in low power mode. Fuse at 3 amps.
4. BLACK - This is the GROUND wire for all outboard strobes.
5. WHITE/BLUE - When activated, the strobe flash pattern switches from Comet flash to double flash. Fuse at 3 amps.
6. WHITE/VIOLET - When activated, the strobe flash pattern switches from Comet flash to random flash. Fuse at 3 amps.

NOTE! Activating wires 5 and 6 simultaneously, switches the strobe flash pattern from Comet flash to Sequential Flash.
7. YELLOW - Activates passenger alley light. Fuse at 5 amps.
8. WHITE - Activates driver alley light. Fuse at 5 amps.
9. WHITE/BLACK - Activates front take down lights. Fuse at 10 amps.

Note: Wires 10 through 14 activate the 5 available options for this lightbar. Each wire’s factory default configuration is provided below. However, any one of these wires may have been factory configured, at the customer’s request, to activate any of the following:

Rear Flashers Piercer II
Pierce Alert Flashing Take Downs
Front Flashers Lighted Sign & Cruise
Flashing Alley Lights CA Steady Burn Lights

LOW PRO CABLE (optional)
The Low Pro and Traffic Advisor cables are optional and may not be present on your particular lightbar. If these cables are present, refer to the instructional manuals for these options for wiring and operating information.

1. WHITE - Connect to POSITIVE siren terminal.
2. BLACK - Connect to NEGATIVE siren terminal.

TRAFFIC ADVISOR CABLE (optional)
This cable, if present, will plug into the rear of your Traffic Advisor control head.

10. WHITE/BROWN - Activates Rear Flasher (default). Fuse at 10 amps.
11. WHITE/RED - Activates Front Flasher (default). Fuse at 10 amps.
12. WHITE/ORANGE - Activates Center Option (default). Fuse at 10 amps.
13. WHITE/YELLOW - Activates either Flashing Take-down or Steady Burn. Fuse at 10 amps.
14. WHITE/GREEN - Activates Cruise Lights and/or Lighted Sign. Fuse at 10 amps.
15. NONE - This is the RFI shield drain wire. Connect this to a solid chassis ground.
16. BLACK/BROWN - This is a GROUND wire.
17. BLACK/YELLOW - This is a GROUND wire.
18. BLACK/RED - This is a GROUND wire.
19. RED/WHITE - Apply 12VDC to this wire for outboard strobe power. Fuse at 15 amps.
20. BLACK/ORANGE - This is the GROUND wire for inboard strobes.
21. GREEN - Activates front outboard strobes. Fuse at 10 amps.
22. GREEN/WHITE - Activates front inboard strobes. Fuse at 10 amps.
23. GREY/WHITE - Activates rear outboard strobes. Fuse at 10 amps.
943 Series Edge® Lightbar

1. Positive Siren Terminal (WHITE)
2. Negative Siren Terminal (BLACK)

1. 12-Position Connector

1. +12 VDC / Outboard Strobe (RED)/Fuse@15 amps
2. Rear Outboard Strobe (GREY)/Fuse@3 amps
3. Hi Power (VIOLET)/Ground to initiate Hi Power
4. Ground / Outboard Strobe (BLACK)

5. Double Flash (WHITE/BLUE)/Fuse@3 amps
6. Random Flash (WHITE/VIOLET)/Fuse@3 amps

7. Passenger Alley* (YELLOW)/Fuse@5 amps
8. Driver Alley* (WHITE)/Fuse@5 amps
9. Front Take Down (WHITE/BLACK)/Fuse@10 amps
10. Rear Flasher* (WHITE/BROWN)/Fuse@10 amps
11. Front Flasher* (WHITE/RED)/Fuse@10 amps
12. Center Option* (WHITE/ORANGE)/Fuse@10 amps
13. Flashing Take-Down* (WHITE/BLUE)/Fuse@10 amps
14. Cruise Lights* (WHITE/YELLOW)/Fuse@10 amps
15. RFI Shield Drain (NONE)
16. Ground (BLACK/WHITE)
17. Ground (BLACK/YELLOW)
18. Ground (BLACK/GREEN)
19. +12 VDC/Inboard Strobes (RED/WHITE)/Fuse@15 amps
20. Ground / Inboard Strobes (BLACK/ORANGE)
21. Front Outboard Strobes (GREEN)/Fuse@10 amps
22. Front Inboard Strobes (GREEN/WHITE)/Fuse@10 amps
23. Rear Inboard Strobes (GREY/WHITE)/Fuse@10 amps

* = Optional equipment - May not be present on all lightbars.

Cable

Input

Lo-Pro Cable (Optional)

Traffic Advisor Cable (Optional)