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 devices are often operated under high stress 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 may require high electrical voltages and 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 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 bag (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 vehicle 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.

![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 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 lights, 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!

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For warranty information regarding this product, visit www.whelen.com/warranty
IMPORTANT! The lightbar should be a minimum of 16" from radio antennas!

Installation:
1. First, place the lightbar onto the mounting location. The trimmed edge of the lightbar should be flush with the bottom edge and each outer edge of the "D" Pillar (Fig. 1).
2. Mark off and drill a 3/4" wire entry hole into the "D" pillar using the measurements shown (Fig. 2). Be very careful not to damage any components behind the "D" Pillar. Measure 2-1/4" from the leading edge and 4" from the bottom edge of the "D" Pillar. The wire entry hole will be located beneath the bottom pod of the lightbar.
3. Remove the 2 screws holding on the taillight (which overlaps the "D" Pillar) and pull the taillight out.
4. Install the wiring and make all the wiring connections (See wiring diagrams) then reinstall the taillight.

Mounting the housings:
1. Place the lightbar onto its mounting location on the vehicle to be sure the lightheads have a sufficient service life for lightweight replacement or service. Once mounted, the housing is not easily removed.
2. Using isopropyl alcohol (70%), clean the vehicle where it will come in contact with the mounting tape then prime those areas with the supplied 3M Keel Primer. Ready the leaders on the pre applied tape. Be sure the leaders are protruding from under the housing so that you can pull the tape backing off if necessary, such as a high-pressure car wash.
3. There is a driver and passenger side housing. Be sure to mount them on the correct sides. Firmly hold the lightbar onto its final mounting position. While pressing the whole housing against the "D" Pillar, (being very careful not to move the housing) slowly remove the tape backing from the top and leading edge of the housing and then from the rear.
4. With the tape backing removed, press the housing firmly against the mounting surface where the tape is, to secure it.

WARNING! The adhesive used in this procedure is fully bonded after 72 hours @ 70°F (21°C). During this period, do not expose the lights to any unnecessary force, such as a high-pressure car wash.

IMPORTANT! It is the responsibility of the installation technician to make sure that the installation and operation of this product will not interfere with or compromise the operation or efficiency of any vehicle equipment!

WARNING! All customer supplied wires that connect to the positive terminal of the battery must be sized to supply at least 125% of the maximum operating current and FUSED at the battery to carry that load. DO NOT USE CIRCUIT BREAKERS WITH THIS PRODUCT

Operation:
Scan-Lock™
This feature allows you to program a selected flash pattern into a lighthead. The lighthead must be activated using ScanLock. The Scanlock™ wire is WHITE/VIOLERT on the LINZ6™ and WHITE on the Vertex™.

To cycle forward through patterns apply power to the Scanlock wire for less than 1 second and release.

To cycle backward through patterns apply power to the Scanlock wire for over 1 second and release. When the desired pattern is displayed, allow it to run for more than 5 seconds. The lighthead will now display this pattern when active.

To reset to the factory default pattern Turn off power. Apply power to the Scanlock wire while turning power back on.

Sync
The SYNC wire is GREY on the LINZ6™ and GREEN on the Vertex™. For SYNC to operate, you must connect the SYNC wires together. If you do not want to use the sync feature, cap the sync wires.

To sync lightheads, configure both lightheads to display the same Phase 1 pattern. With the power off, connect the SYNC wires from each lighthead together. When the lightheads are activated, their patterns will be synchronized. To configure lightheads to alternate their patterns, advance the pattern of that lighthead to the Phase 2 mode of the current pattern. The same concept applies to Phases 3 & 4.

Wire Color Function
White/Vio... Scan-Lock™
Grey Connects to other Sync... SIM
Black (12V) or Black/White (24V) To Ground
LED Color or Red/WH (two-color split models) To +VBAT
Wht/Red (single-color split models)

Flash Patterns:

1. SignalAlert™ 75, Phase 1
2. SignalAlert 75, Phase 2
3. SignalAlert 75, Phase 3
4. SignalAlert 75, Phase 4
5. CometFlash 75, Phase 1
6. CometFlash 75, Phase 2
7. CometFlash 75, Phase 3
8. CometFlash 75, Phase 4
9. DoubleFlash 75, Phase 1
10. DoubleFlash 75, Phase 2
11. DoubleFlash 75, Phase 3
12. DoubleFlash 75, Phase 4
13. SingleFlash 75
14. SingleFlash 75
15. SingleFlash 75
16. CometFlash 75
17. CometFlash 75
18. CometFlash 75
19. CometFlash 75
20. CometFlash 75
21. CometFlash 75
22. CometFlash 75
23. CometFlash 75
24. ActionFlash 50
25. ActionFlash 120
26. ActionFlash 150
27. ActionFlash 150
28. ActionFlash 150
29. ActionFlash 150
30. ActionFlash 150
31. ActionFlash 150
32. ActionFlash 150
33. ActionFlash 150
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Split Lighthead Operation:

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IMPORTANT WARNING!
CAUTION! DO NOT LOOK DIRECTLY AT THESE LED'S WHILE THEY ARE ON. MOMENTARY BLINDNESS AND/OR EYE DAMAGE COULD RESULT!