

WHELEN[®]

ENGINEERING COMPANY INC.

51 Winthrop Road
Chester, Connecticut 06412-0684
Phone: (860) 526-9504
Fax: (860) 526-4078
Internet: www.whelen.com
Sales e-mail: autosale@whelen.com
Canadian Sales e-mail: autocan@whelen.com
Customer Service e-mail: custserv@whelen.com

Installation Guide: Liberty™ LC Lightbar

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.
- 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 any 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.
- If this product uses a remote device to activate or control this product, make sure that this control is located in an area that allows both the vehicle and the control 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!**

For warranty information regarding this product, visit www.whelen.com/warranty

IMPORTANT! The lightbar should be a minimum of 16" from any radio antennas!

Mounting your Lightbar:

Refer to the Lightbar mounting guide included with your lightbar

Routing your 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.

WARNING! 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.

Connecting the Cables:

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!**

Power Cable:

1. Open the wiring shield lid (Fig. 4) and route the power cable into the wiring shield and towards the firewall.
2. Follow the factory wiring harness through the firewall. It may be necessary to drill a hole in the firewall. If so, be absolutely sure that there are no components that could be damaged by drilling. After the hole has been drilled, insert a grommet to protect the cable.
3. Route the cable along the factory wiring harness towards the battery.
4. Install a 20 amp fuse block (customer supplied) on the end of the RED wire in the power cable. Remove the fuse from the fuse block before connecting any wires to the battery.
5. Connect the fuse block to the POSITIVE (+) terminal on the battery. There can not be more than two (2) feet of wire between the fuse block and the battery. The wire between the fuse block and the battery is "unprotected", do not allow this wire to come into contact with any other wires.
6. Connect the BLACK wire to the factory chassis ground adjacent to the battery.

Control Cable:

Extend the control cable to your switch panel and make the appropriate connections, using the information provided on Page 5. The control cable connects to your control head or switch box and is fused there. Typical fusing is 5 Amps. Applying +12VDC to a control wire will activate its function.

Cruise Lights / Auxiliary / White-Orange:

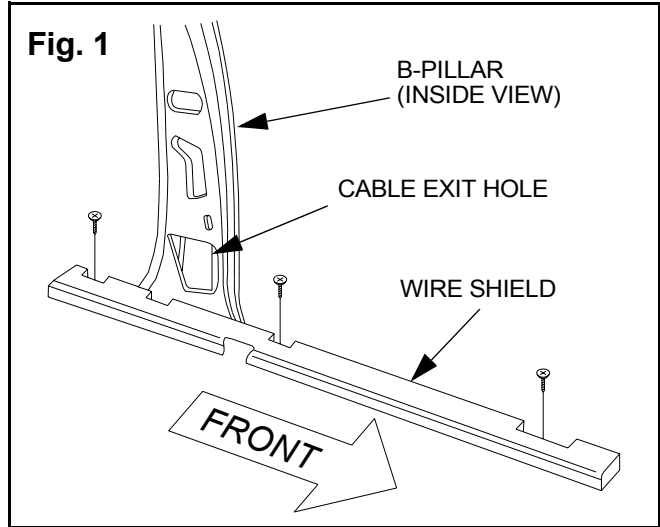
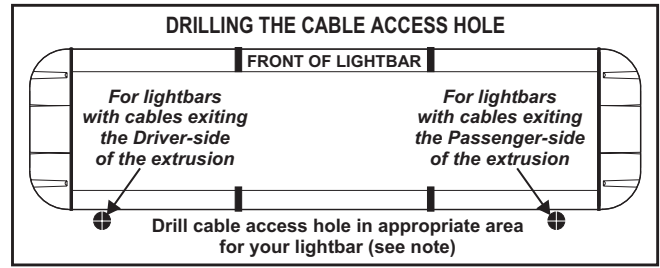
- Low Cruise & Auxiliary (default)
- High Cruise & Auxiliary
- Cruise Off, Auxiliary Only

Low Power / Violet:

The type of switch used is dependant on how the operator wishes the Hi/Lo feature to function:

Latching Mode: By applying +12 VDC voltage to the Violet wire for less than 1 sec., the lightbar is "latched" into low power operation. The unit must be turned off and then back on to restore normal, Hi power operation. (A Momentary Switch is Preferred)

Level Mode: Applying +12 VDC voltage to the Violet wire for more than 1 sec. holds the lightbar in low power mode until voltage is removed. (A Toggle Switch is Preferred)



Scan-Lock™ / White-Violet

TO CYCLE FORWARD THROUGH ALL PATTERNS: Activate the function you wish to change the flash pattern on, (Takedowns, alley lights etc...) and apply +12 volts to the Scan-Lock™ wire (WHITE-VIOLET) for less than 1 second and release. This will change the pattern. Repeat to go to next pattern.

TO CHOOSE A PATTERN: While cycling through the patterns, when you find the pattern you want let it run for more than 5 seconds and it will lock in and become the default pattern.

TO RESET TO THE FACTORY DEFAULT PATTERN: Turn off the function (Takedowns, alley lights etc...) you want to reset, apply +12 volts to the Scan-lock™ wire then turn the function back on.

Available Flash Patterns:

SignalAlert™ 75 Alternating (default setting) / CometFlash® 75 Alternating / DoubleFlash 150 Alternating / DoubleFlash 75 Alternating / SingleFlash 375 Alternating / SingleFlash 150 Alternating / SingleFlash 75 Alternating / ActionFlash™ 75 Alternating / ModuFlash™ 75 Alternating / CalFlash™ Single 75 driver Steady / Steady / ActionScan™

Traffic Advisor Patterns: Sequence to Solid (default setting) / Sequence On-Sequence Off / Single Lamp: Sequence On to TripleFlash™ / Two Lamp: Sequence On to TripleFlash™

Troubleshooting:

Your Lightbar should now be fully operational. If it is not functioning properly, check your connections for the following:

1. The positive wire (RED) is properly connected to the battery, by way of the user supplied fuse block
2. A working fuse of the correct amperage (20 amp) is installed in the fuse block.
3. The ground wire (BLACK) is properly connected to the factory ground.

If all of these connections are good, contact your Whelen representative for further assistance.

Control Cable:

1 - GREEN	In factory default configuration, this wire activates: FRONT CORNER LED's	10 - WHITE	In factory default configuration, this wire activates: DRIVER-SIDE ALLEY LIGHTS
2 - BLUE	In factory default configuration, this wire activates: REAR CORNER LED's	11 - WHITE-BLACK	In factory default configuration, this wire activates: TAKE-DOWN LIGHTS
3 - GREEN-WHITE	In factory default configuration, this wire activates: FRONT OUTBOARD LED's.	12 - WHITE-ORANGE	In factory default configuration, this wire activates: AUXILIARY / CRUISE LIGHTS
4 - BLUE-WHITE	In factory default configuration, this wire activates: REAR OUTBOARD LED's	13 - WHITE-YELLOW	In factory default configuration, this wire activates: The LEFT TA's
5 - GREEN-BLACK	In factory default configuration, this wire activates: FRONT INBOARD LED's	14 - WHITE-BROWN	In factory default configuration, this wire activates: REAR CENTER LED's
6 - BLUE-BLACK	In factory default configuration, this wire activates: REAR INBOARD LED's	15 - VIOLET	Low Power (See page 1)
7 - WHITE-GREEN	In factory default configuration, this wire activates: The RIGHT TA's	16 - WHITE-VIOLET	Scan-Lock™ (See page 1)
8 - WHITE-BLUE	In factory default configuration, this wire activates: FLASHING ALLEY & TAKEDOWNS	17 - WHITE-RED	In factory default configuration, this wire activates: FRONT CENTER LED's
9 - YELLOW	In factory default configuration, this wire activates: PASSENGER-SIDE ALLEY LIGHTS	NONE	The RFI shield drain wire is connected to ground

NOTE: WHITE-GREEN & WHITE-YELLOW = Split TA

Power Cable:

1. **RED** - Provides power for all strobe lamps. Connect to POSITIVE battery terminal (12 VDC) and fuse @ 30 amps AT THE BATTERY
2. **BLACK** - Provides ground for all strobe lamps Connect to chassis ground.
3. **NONE** - RFI shield drain. Connect to chassis ground

Liberty Lightbar Wiring

