

# WHELEN<sup>®</sup>

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## Installation Guide: 200-series / 4" Round TIR-6™ Super-LED® Lighthouse

### Safety First

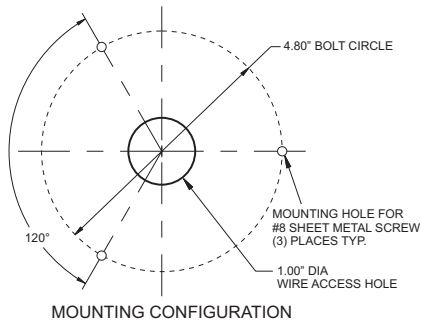
This document provides all the necessary information to allow your Whelen product to be properly and safely installed. Before beginning the installation and/or operation of your new product, the installation technician and operator must read this manual completely. Important information is contained 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 owners 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](http://www.whelen.com/warranty)**

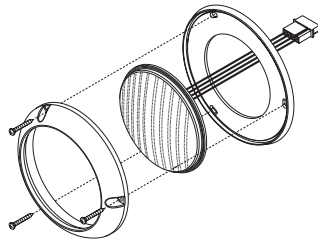
## Mounting: Trim Ring (optional)

**Caution:** Permanent mounting of this product will require drilling. It is absolutely necessary to make sure that no other vehicle components could be damaged by this process. Check both sides of the mounting surface before starting. If damage is likely, select a different mounting location.



**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!

1. Position the flange onto the proposed mounting location. Using a scribe or similar tool, mark off the 3 mounting holes. Also mark the area in the center where the 1 inch wire passage hole will be drilled.



**IMPORTANT:** Always be sure to check all measurements before drilling.

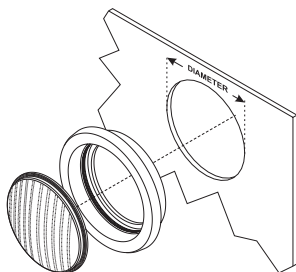
2. Using a drill bit sized for a #8 sheet metal screw and the thickness of the mounting surface, drill the 3 mounting holes.
3. Drill a 1" dia. wire passage hole in the area marked. Be sure to deburr and install a grommet (customer supplied) into this hole.
4. Using appropriately sized wires (Minimum 18 AWG), extend the lighthouse wires to their designations. Fuse the +12VDC connections at 3 Amps and test for proper operation.
5. Secure the lighthouse to the vehicle using the supplied mounting hardware.

## Wiring:

Wire Color	Function	Connect to:
LED Color	Power	Switched +12VDC
Black	Ground	Chassis Ground
Grey	Sync	See text
White/Violet	Scan-Lock™	See text

### GROMMET MOUNTING / HOLE CHART

Mounting Surface Thickness	Mounting Hole Diameter
.0625" (1/16")	4.47"
.125" (1/8")	4.50"
.1875" (3/16")	4.50"
.25" (1/4")	4.53"
.375" (3/8")	4.56"



## Mounting: Grommet (optional)

**IMPORTANT!** Make sure the lighthouse will not interfere with existing equipment and be aware of any items on the opposite side of the mounting surface.

1. Mark the center of the mounting location onto the mounting surface. Scribe a circle onto the mounting surface using this point as the center. Refer to the mounting hole chart for the proper diameter.
2. Cut and deburr the grommet hole.
3. Using appropriately sized wires (Minimum 18 AWG), extend the lighthouse wires to their designations. Fuse the +12VDC connections at 3 Amps and test for proper operation.
4. Insert the lighthouse into the grommet then secure it to the vehicle by snapping the grommet into the mounting hole.

### IMPORTANT WARNING!

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

**Operation** - This lighthouse features Scan-Lock™ selectable flash patterns and SYNChronization capabilities.

**Scan-Lock™** - To cycle forward through patterns, with the lighthouse switched on, apply +12VDC to the WHT/VIO wire for less than 1 second and release. To cycle backward through patterns, apply +12VDC to the WHT/VIO wire for more than 1 second. When the desired pattern is displayed, allow it to run for more than 5 seconds. The lighthouse will now display this pattern when active. To reset to the factory default pattern, turn off power and apply +12VDC to the WHT/VIO wire while turning power back on.

SYNC lighthouses have a special set of flash patterns, with each pattern available in two modes; Phase 1 and Phase 2. All lighthouses configured to display the Phase 1 mode of a given pattern will flash simultaneously. Any lighthouses configured to display the Phase 2 mode of a pattern, will alternate with any Phase 1 lighthouses with the same pattern.

**Sync** - To sync two lighthouses, configure both lighthouses to display the same Phase 1 pattern. With the power off, connect the GREY wires from each lighthouse together. When the lighthouses are activated, their patterns will be synchronized. To configure the two lighthouses to alternate their patterns, set the pattern of either lighthouse to the Phase 2 mode of the current pattern.

To understand how to use the SYNC feature with more than 2 lighthouses, the principals will be applied to a sample system consisting of 4 lighthouses. 2 are mounted on the rear, driver side of the vehicle and 2 mounted on the rear, passenger side of the vehicle.

With all the wiring complete, turn on the 4 lighthouses. As shipped from the factory, all the lighthouses will simultaneously display the same pattern (Signal Alert™ 75 Phase 1).

To configure, for example, the passenger side lighthouses to alternate with the driver side lighthouses, change the flash patterns for either the passenger or driver side lighthouses to Phase 2 mode of the same pattern.

**Available 4-wire Flash Patterns / \* = California Title XIII compliant**

**SYNC Patterns:** SignalAlert™ 75 Phase 1 > SignalAlert™ 75 Phase 2 > CometFlash® 75 Phase 1 > CometFlash® 75 Phase 2 > DoubleFlash 75 Phase 1 > DoubleFlash 75 Phase 2 > SingleFlash 75 Phase 1 > SingleFlash 75 Phase 2\* > ComAlert™ 75 Phase 1 > ComAlert™ 75 Phase 2 > LongBurst™ 75 Phase 1 > LongBurst™ 75 Phase 2 > PingPong 75 Phase 1 > PingPong 75 Phase 2

**Regular Patterns:** SingleFlash 60\* > SingleFlash 90\* > SingleFlash 120\* > SingleFlash 300 > DoubleFlash 150 > ComAlert™ 150 > ActionFlash™ 1 > ActionFlash™ 2 > ModuFlash™ > ActionScan™ > Steady

**IMPORTANT!** Before returning the vehicle to active service, visually confirm the proper operation of this product, as well as all vehicle components/equipment.