

# WHELEN<sup>®</sup>

## ENGINEERING COMPANY INC.

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**Installation Guide:**  
**600 Series LED Lighthead**

### 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.

**⚠ 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](http://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 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/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!**

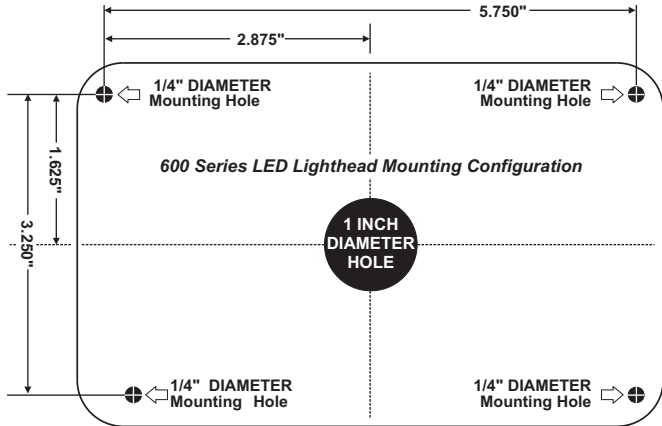
**IMPORTANT NOTICE!** This product has been designed for improved visibility. Prior to installing this product on any vehicle, check your state motor vehicle codes to confirm that this product complies with any and all state statutes.

**Mounting:**

- Using the dimensions below, mark off and drill the 1" wire hole and four 1/4" mounting holes into the mounting surface. Make sure the lighthead will not interfere with any existing equipment or items on the opposite side of the mounting surface.

**IMPORTANT: Always check all measurements before drilling.**

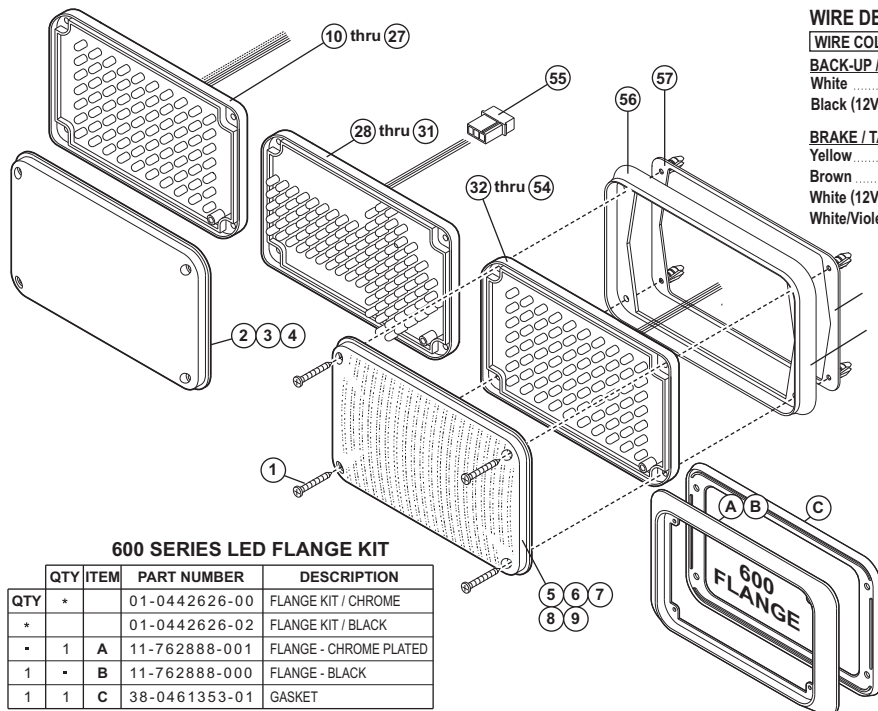
- Using a 1/4" drill bit, drill the four mounting holes and install the four supplied fastax screw grommets into the holes. Install a grommet (customer supplied) into the 1" wire hole to protect the wires.
- Using appropriately sized wires (minimum wire size / 18 AWG), extend the wires to their connections (See "Wire Designations"). Fuse the +12VDC connections at 3 Amps and test the lighthead before securing it to the vehicle.



**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 the load. DO NOT USE CIRCUIT BREAKERS WITH THIS PRODUCT!**

- Position the lighthead components onto the mounting surface and secure to the vehicle using four supplied sheet metal screws.

**WARNING! This product draws significantly less current than a standard incandescent automotive bulb. If your flasher does not operate properly, it may be necessary to replace your existing flasher module with a Whelen 3TERM flasher module. Contact your local sales representative for information about your specific vehicle.**



**600 SERIES LED FLANGE KIT**

QTY	ITEM	PART NUMBER	DESCRIPTION
*		01-0442626-00	FLANGE KIT / CHROME
*		01-0442626-02	FLANGE KIT / BLACK
-	1	A 11-762888-001	FLANGE - CHROME PLATED
1	-	B 11-762888-000	FLANGE - BLACK
1	1	C 38-0461353-01	GASKET

**Scan-Lock™ (White/Violet)**

Extend the WHT/VIO wire to a normally open momentary switch (customer supplied) and then to +VBAT. Fuse this wire at 1 Amp.

**IMPORTANT: Pattern selection requires the LEDs to be turned on.**

**IMPORTANT: This lighthead comes in either 12 or 24 volts.**

**TO CHANGE PATTERNS:** To cycle forward to the next pattern apply +VBAT to the WHITE/VIOLET wire for less than 1 second and release.

To cycle back to the previous pattern apply +VBAT to the WHITE/VIOLET wire for more than 1 second and release.

**TO CHANGE THE DEFAULT PATTERN:** When the desired pattern is displayed, allow it to run for more than 5 seconds. The lighthead will now display this pattern when initially activated.

**TO RESTORE THE FACTORY DEFAULT PATTERN:** With the power to the lighthead off, apply +VBAT to the WHT/VIO wire. Now turn power to the lighthead on. The factory default pattern should now be displayed.

- Flash Patterns:**
- SignalAlert™ 75
  - SignalAlert™ 150
  - SingleFlash 375
  - SingleFlash 150
  - SingleFlash 75
  - SingleFlash 150
  - DoubleFlash 150
  - DoubleFlash 75
  - CometFlash@ 75
- 10. ActionFlash™**
- ModuFlash™
  - ComAlert™
  - ActionScan™
  - SignalAlert™ Steady
  - Steady (Brake)
- Brake Patterns:**
- Steady Brake
  - SignalAlert™ Steady
- Arrow Patterns:**
- Steady On
  - Sequence to Solid 150FPM
  - Sequence to Solid 80FPM
  - Sequence to Solid-Steady On - Fast
  - Sequence to Solid-SteadyOn - Slow
  - SignalAlert™ to Steady

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

Early models use Pattern Activation Pins for pattern selection:

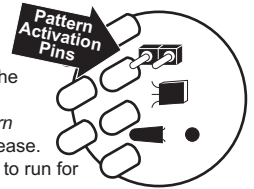
Pin location varies on different models, but they are always on the LED side of the circuit board. Remove the lens, locate the Pins then turn the lighthead on.

**TO CYCLE PATTERNS FORWARD:** Short both pattern activation pins together for less than 1 second and release. Repeat to advance to the next pattern. Allow a pattern to run for more than 5 seconds to lock it in.

**TO CYCLE PATTERNS BACKWARDS:** Short the pins for more than 1 second and release. After the desired pattern has been selected, turn off the lighthead and re-install the lens.

**TO RESET TO THE DEFAULT PATTERN:** Turn the lighthead off. While shorting the pins, turn the lighthead on. Keep the pins shorted for about 5 seconds until the default pattern is active.

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



**WIRE DESIGNATIONS**

WIRE COLOR	FUNCTION	FLASHER, TURN, ARROW, WIDE-ANGLE
White	Positive (+)	Colored Positive (+)
Black (12V) or Black/White (24V)	Ground	This wire color will be whatever the color of its LED is, when light is switched on.
Yellow	Stop/Turn - Positive (+)	Black (12V) or Black/White (24V) Ground
Brown	Taillight - Positive (+)	White/Violet Scan-Lock™
White (12V) or White/Black (24V)	Ground	
White/Violet	Scan-Lock™	

See next page for parts listings

**ORDERING INFORMATION**

01-0683719

TERMINATION  
LED / LENS COLOR  
STYLE

STYLE	LED / LENS COLOR	TERMINATION
2 = B/T/T (MIN)	A = AMBER / AMBER	0 = NONE
3 = ARROW	B = BLUE / BLUE	1 = DEUTSCH
4 = TURN	C = WHITE / CLEAR	3 = 3 POS AMP
5 = WIDE-ANGLE	G = GREEN / GREEN	4 = AMP PINS & 3 POS CON. (SEPARATE)
6 = FLOOD	R = RED / RED	
7 = BACK-UP	S = AMBER-AMBER-AMBER	
B = B/T/T (MAX)	K = AMBER-RED-AMBER-RED	
G = BACK-UP (24V)	W = RED-RED-RED	
E = 24V B/T/T (MAX)	1 = AMBER / CLEAR	
K = 24V WIDE-ANGLE	2 = BLUE / CLEAR	
L = 24V TURN	4 = GREEN / CLEAR	
N = B/T/T (CERTIFIED)	5 = RED / CLEAR	
	6 = AMBER-AMBER-CLEAR	
	7 = AMBER-RED-CLEAR	
	8 = RED-RED-CLEAR	

