

WHELEN[®]

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Installation Guide:
Front and Rear Upper Light Arrays
2015 - 2017 Ford Transit

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.

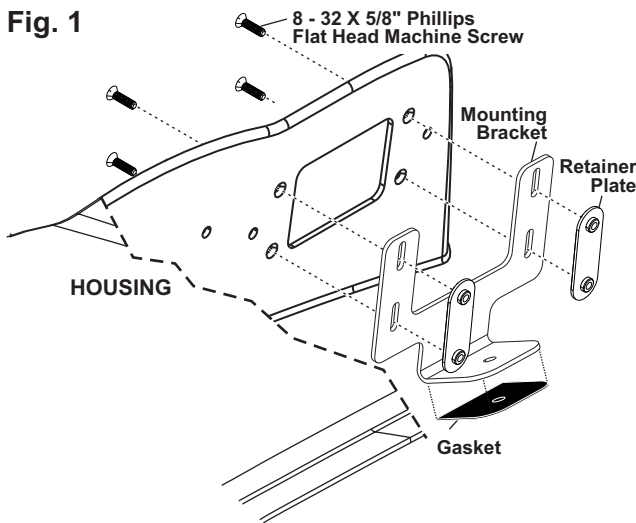
Safety First

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.

- **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.**
- **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!**

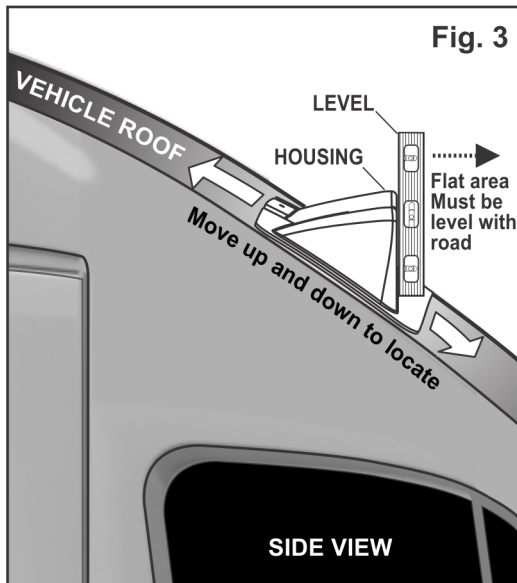
Installation / Front Light Array:

Fig. 1



gaskets and mount them onto the mounting brackets (Fig. 1). Apply #242 medium Loctite® (or similar) to the 8 - 32 X 5/8" Phillips Flat Head Machine Screws and install the mounting brackets to the housing loosely, so that the brackets will slide up and down freely.

3. **NOTE:** Due to the size of the housing it is recommended to use two installers for this



installation. Place the housing in the exact mounting position. Center the housing left to right on the vehicle. The bottom corners of the housing should be approximately 6-1/2 inches from the seam above the windshield (Fig. 2).

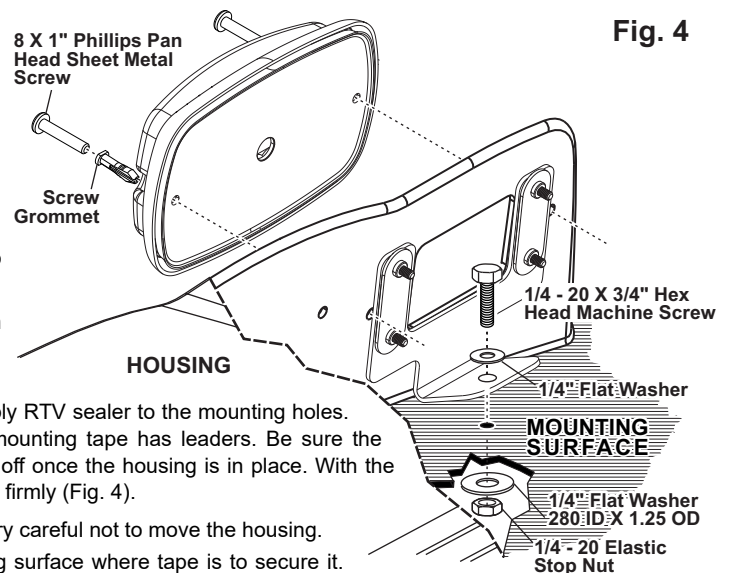
4. With the housing in place, put a level on the front flat area of the housing (Fig. 3) and move the housing up or down on the vehicle until the front flat area of the housing is level. The housing is fitted to the vehicle contours so that when it is in the exact mounting location, the housing will sit perfectly on the vehicle and the front flat area will be level. With the housing leveled, check to make sure it is still centered side to side.

5. Without moving the housing mark the location of the outer boundaries of the housing onto the mounting surface with masking tape. This will help you locate the area to apply the primer (step 9). Adjust all 3 mounting brackets you installed in step two so that they sit tight on the roof then tighten the mounting brackets firmly to the housing.

6. With the housing still in place, carefully mark off the mounting hole locations for the 3 mounting brackets onto vehicle. Also mark off the cable passage hole location.

NOTE: The wire path and cable passage hole locations are left to the installation technician's discretion. Select a path that will both protect the cable from damage and not interfere with the operation of any other vehicle components or equipment.

7. Remove the housing, drop the headliner and drill the



mounting holes (Sized for 1/4 - 20 X 3/4" Hex Head Machine screws). Drill the cable passage hole sized for the control cable and a hole grommet.

8. Install a rubber grommet (Customer supplied) into the cable passage hole. Feed the control cable through the hole to the control box and apply RTV sealer to waterproof the hole. Place the other end of the cable into position on the roof where it will connect to the lightheads. Tape the connectors to the roof so they sit behind the lightheads they connect to for easy access.

9. Using isopropyl alcohol (70%), clean the vehicle where it will come in contact with the mounting tape. Also prime these areas with the supplied primer. Allow the primer to dry at least 5 minutes.

10. **IMPORTANT!** Once mounted, the housing is not easily removed. Apply RTV sealer to the mounting holes. Place the housing in its exact mounting location. The backing on the mounting tape has leaders. Be sure the leaders are protruding from under the housing so that you can pull them off once the housing is in place. With the housing in place secure the brackets to the vehicle tightening all hardware firmly (Fig. 4).

11. Hold the housing firmly in place and pull the backing off of the tape. Be very careful not to move the housing.

12. With the backing removed, press the housing firmly against the mounting surface where 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.

13. Plug each lighthead into the harness and mount the lightheads to the housing (Fig. 4).

14. Connect the control cable to your control box following control box instructions.

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

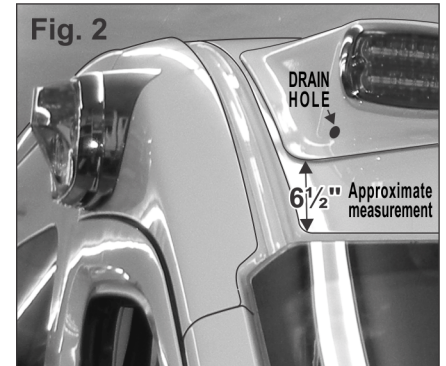
NOTE: A Mid Roof Transit is shown in this installation for example. The High Roof Transit mounts the same.

IMPORTANT! The vehicle should be parked on a level surface. The face of the housing where the lightheads are mounted must be vertically level.

IMPORTANT: The mounting tape on the other side of the housing is not a continuous loop. Several gaps in the tape allow for drainage of condensation from the housing. If a sealant is applied to the perimeter of the housing you must be absolutely sure you do not cover the drain holes in the housing.

1. Paint the housings (if desired).

2. Locate the 3 mounting brackets that come with the housing. Refer to the serial number on each bracket for location. The serial number will end in "D" (driver side) or "P" (passenger side). The bracket without a letter indication is the center bracket. Peel the backing off the supplied rubber



Installation / Rear Light Array:

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

NOTE: A Mid Roof Transit is shown in this installation for example. The High Roof Transit mounts the same.

IMPORTANT! The vehicle should be parked on a level surface. The face of the housing where the lighthoods are mounted must be vertically level.

IMPORTANT: The mounting tape on the other side of the housing is not a continuous loop. Several gaps in the tape allow for the drainage of condensation from the housing. If a sealant is applied to the perimeter of the housing you must be absolutely sure you do not cover the drain holes in the housing.

Installation:

1. Paint the housings (if desired).

NOTE: These housings are composed of ABS plastic. If they are to be painted, be sure to use a primer/paint system whose manufacturer has certified to be ABS-compatible.

2. Drill a 7/16" wire passage hole into the vehicle in the location indicated in Figure 1. One cable operates both sides of the array so only one wire passage hole is needed. The wire hole can be on either the driver or passenger side of the vehicle depending on where the installer is running the cable.

3. Install a rubber grommet (Customer supplied) into the cable passage hole. Feed the control cable through the hole and to the location of the control box then apply RTV sealer to waterproof the hole. Put the other end of the cable into position on the roof where it will connect to the lighthoods.

IMPORTANT: There is a driver and passenger side housing. Be sure to mount them on the correct side.

4. Using the isopropyl alcohol (70%), clean the vehicle where it will come in contact with the mounting tape. Also prime the areas that come in contact the mounting tape with the supplied primer. Allow the primer to dry 5 minutes.

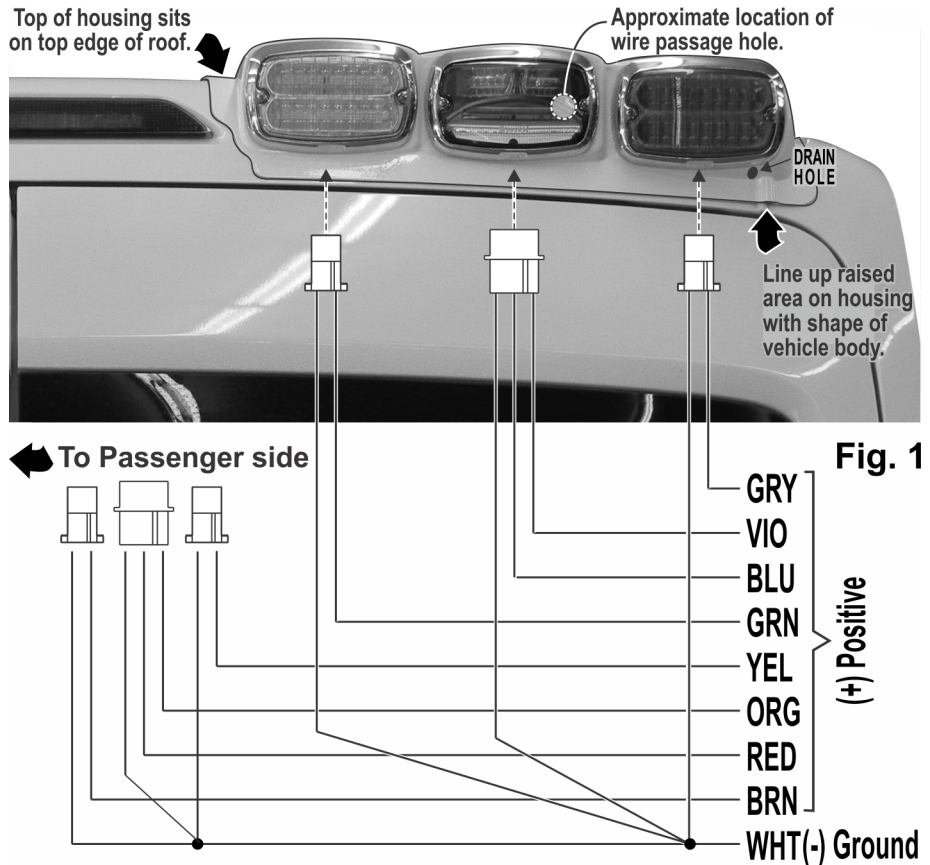


Fig. 1

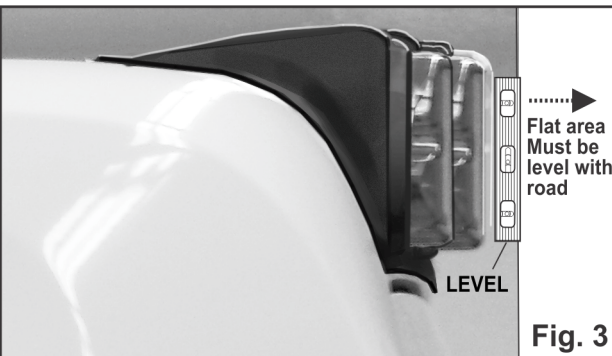


Fig. 3

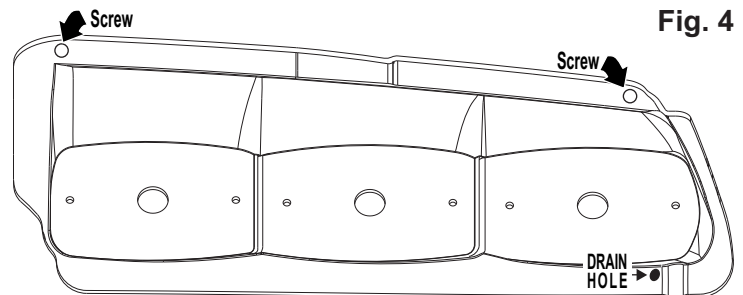


Fig. 4

Passenger side shown for example. Both sides mount the same.

5. Place the housing in its exact mounting position. The housing is contoured to the vehicle. Use the vehicle contours to locate the housing as shown in figure 1. The backing on the mounting tape has leaders. Be sure the leaders are protruding from under the housing so that you can pull them off once the housing is in place. Make sure the front flat area of the housing is level (Fig. 3)
6. Hold the housing firmly in place in the exact mounting location while you pull the backing off of the tape. Be very careful not to move the housing.
7. With the backing removed, press the housing firmly against the mounting surface where 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.**
8. After the adhesive is bonded, drill 2 holes in the outside corners of the top of the housing and install the 2 supplied #10 X3/4" Sheet Metal Screws (Fig. 4).
9. Plug the lighthouse cable into the lighthoods and mount the lighthoods to the housing (See Fig. 4 of the front array mounting instructions).
10. Extend the control cable to your power source and follow the wiring diagram