

# WHELEN<sup>®</sup>

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**Installation Guide:**  
**Universal Mounting Bracket**  
**SA314 / SA315 & SA316 Siren Speakers**  
**Models: SABKT1 and SAK1**

**DANGER!** Sirens produce extremely loud emergency warning tones! Exposure to these tones without proper and adequate hearing protection, could cause ear damage and/or hearing loss! The Occupational Safety & Health Administration ([www.osha.gov](http://www.osha.gov)) provides information necessary to determine safe exposure times in Occupational Noise Exposure Section 1910.95. Until you have determined the safe exposure times for your specific application, operators and anyone else in the immediate vicinity should be required to wear an approved hearing protection device. Failure to follow this recommendation could cause hearing loss!

### 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.
- 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.
- 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!

**ACTIVATION OF THIS  
SIREN MAY DAMAGE  
UNPROTECTED EARS!**



**CAUTION**

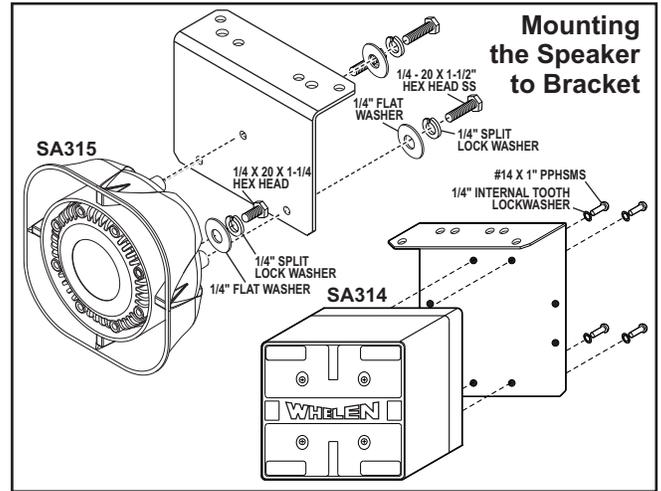
Loud siren noise can cause hearing damage and/or loss. Refer to OSHA Section 1910.95 prior to putting ANY siren into service!

**Selecting a Mounting Location:** The mounting location should be as flat as possible and allow the speaker to project its tone parallel with the road. For specific applications for the universal bracket, refer to the following pages.

**NOTE: The SA316 universal mounting bracket is covered on page 4.**

**Installation:**

1. Position the bracket onto the desired mounting area and mark off the mounting holes using the bracket as a template.
2. In the center of the 4 holes you marked off, drill a 1/8 inch pilot hole into the mounting surface for each of the mounting screws then enlarge the pilot holes with a 9/32 inch drill. If you can get access to the other side of the mounting area, and it is not too thick, you may want to substitute the mounting screws with nuts, bolts and washers (customer supplied) of comparable strength and thickness.
3. Secure the bracket onto the mounting surface with the supplied mounting hardware. **NOTE: You may need a socket and drill to drive the screws.**
4. Attach speaker to bracket with the supplied mounting hardware then extend the WHITE (Positive) and BLACK (Negative) speaker wires to your amplifier and connect as shown in the amplifiers instructions.



**APPLICATION**

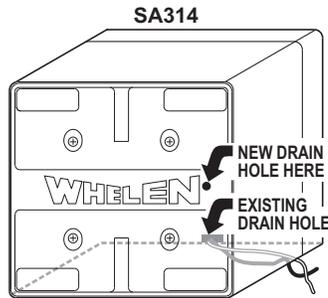
**HARDWARE**

2004-05 DURANGO .....	NUT: 5/16-18 Hex SS 1/2" Diameter .....	2
2004-05 DURANGO .....	BOLT: 5/16-18 X 1 Hex Head SS .....	2
2004-05 DURANGO .....	WASHER: 5/16 Split Lock .....	2
2001 TAURUS .....	SCREW: 1/4 X 1" Hex Washer Head Self Drilling .....	4
For Any Application / Bracket to vehicle ...	SCREW: 5/16 X 1" Hex Head SMS SS .....	4
For Any Application / Bracket to vehicle ...	WASHER: 5/16" Flat SS 3/4" Outer Diameter .....	2
Mounting SA314 Speaker To Bracket.....	SCREW: 14 X 1 PPHSMS A Point .....	4
Mounting SA314 Speaker To Bracket.....	WASHER: 1/4 Internal Tooth Lock .....	4
Mounting SA315 Speaker to Bracket .....	SCREW: 1/4-20 X 1-1/2 Hex Head SS .....	3
Mounting SA315 Siren Driver to Housing ..	BOLT: 1/4 X 20 X 1-1/4 Hex Head .....	1
Mounting SA315 Speaker to Bracket .....	WASHER: 1/4 Split Lock Washer .....	4
Mounting SA315 Speaker to Bracket .....	WASHER: 1/4 Flat Washer .....	4
Mounting SA316 Speaker to Bracket .....	14 X 3/4 Hex Head Sheet Metal Screw .....	4
Mounting SA316 / Bracket to vehicle .....	See mounting diagram on last page	

**QTY**

**SA315:**

The SA315 mounting kit comes with 3 long bolts (1/4-20 X 1-1/2" Hex Head SS). The longer bolts are necessary to go through the mounting bracket, through the siren housing and into the siren driver. They will replace 3 of the 4 shorter bolts ("A") that now secure the siren driver to the speaker housing. Your speaker is shipped with 2 or more of the shorter bolts installed. A short bolt must be used in the hole that does not go through the bracket so it will properly secure the driver to the housing. If you need to remove all 4 bolts at once be sure to hold the driver in place.



**WARNING:** Speaker wires must exit the bottom of the speaker. The wire hole also serves as a drainage hole. Improper mounting will result in siren driver failure and void the siren warranty.

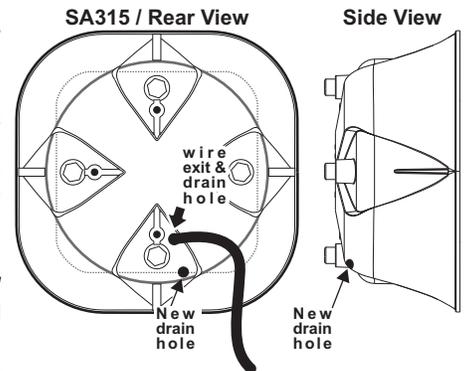
**IMPORTANT NOTE:** In most applications the existing drain hole will work fine. However, since this mounting bracket can mount in a variety of positions the drain hole in the bottom of the speaker can be ineffective if the speaker is mounted with the drain hole facing to the side. If your application does not allow this an alternate drain hole may be drilled.

**Drilling a drain hole / SA314:** Drill a small drainage hole in the area indicated, using a 1/8" (.125) drill bit. *There is a second wall behind the outer surface that you must not drill through.* Use a drill

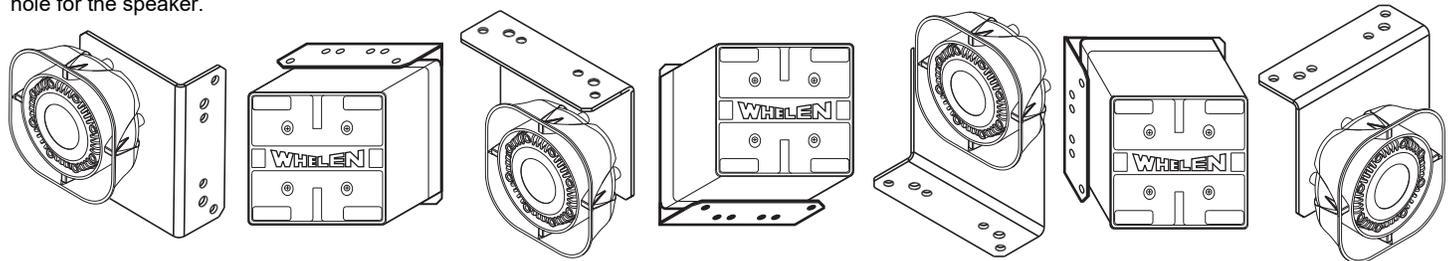
stop set to a 1/4" depth. This will insure that you don't hit any internal speaker parts while drilling the hole.

**Drilling a drain hole / SA315:** Remove the bolts that hold the driver to the speaker body and slide the driver out. Drill a small drainage hole in the rear of the speaker as shown. The hole should be drilled in the rear, on the curved part of the speaker body (See side view) using a 1/8" drill bit. Make sure the hole is located on the bottom (depending on the position the speaker will be in after mounting). *Be sure you drill through both the outer and inner walls of the siren housing so the drain hole will reach the driver compartment.* Reassemble the speaker, reinstalling the driver into the speaker body and securing the driver with the bolts you removed. **WARNING: When you are reassembling the speaker, be very careful not to pinch the wires between the siren driver and the housing. Feed the wires through the wire hole first.**

**IMPORTANT NOTE SA316:** If you have an SA316 it must be mounted with the wire hole exiting the bottom of the speaker. You can not drill an alternate drain hole in the SA316 speaker.



**Possible Mounting Positions:** The SA314, SA315 and SA316 can mount to the universal bracket in a variety of positions depending on what your mounting requirements are. The only necessity is that the speaker wires exit the bottom, (toward the ground) since this hole also serves as the drainage hole for the speaker.



**Installation / 2001 Ford Taurus:**

**READ BEFORE INSTALLING:** The speaker will mount in the area usually occupied by the air bag system. If your vehicle is equipped with A.B.S. you can not mount the speaker in this location.

For this application, the speaker will mount under the battery tray. First you will need to remove the battery and tray, and the air filter and housing (Fig. 2). The speaker bracket will mount to the drivers side of the engine compartment, on the side wall.

1. Disconnect the ground on the battery, remove the battery and tray and then remove the air filter and housing.
2. Attach the speaker to the bracket (Fig. 1). An SA314 is shown. See page 2 for an SA315.
3. Position the bracket (with speaker) onto the mounting area. Do not position it so far forward that the speaker is muffled. Be sure the

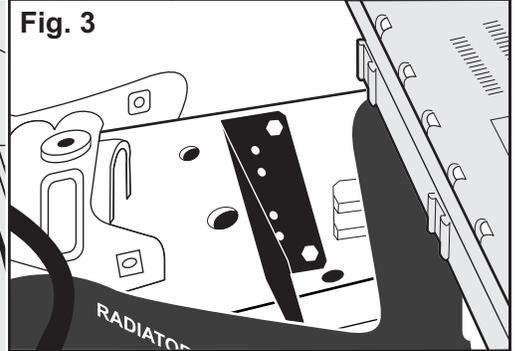
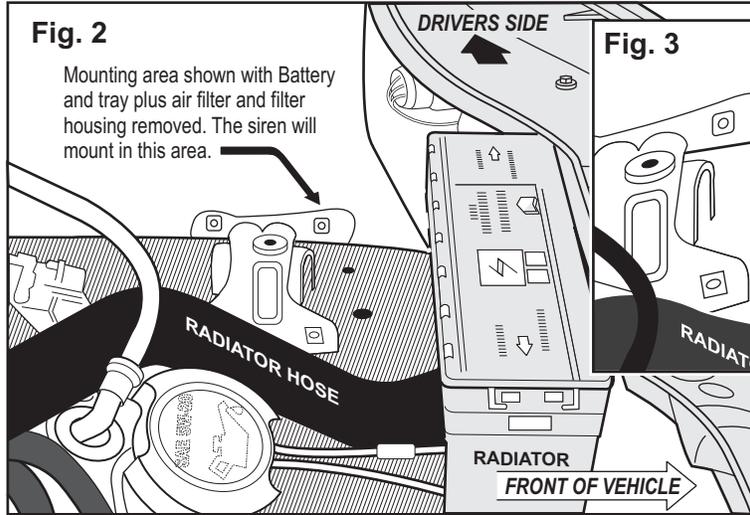
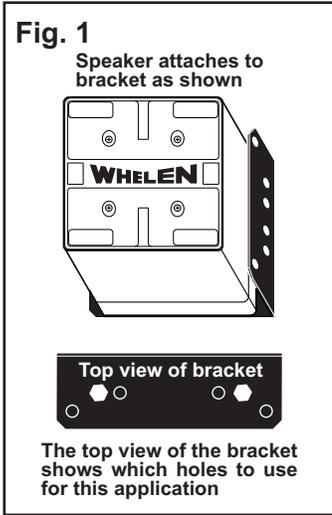
bracket doesn't interfere with any existing vehicle components. Using the bracket as a template, mark the mounting surface where the mounting screws will be located.

**Note:** Do not allow the new mounting hole locations to be directly adjacent to any existing holes.

4. Remove the speaker from the bracket. Using the self-tapping screws and washers supplied, mount the bracket onto the vehicle.

**Note:** You will need to drive the self tapping screws in with a socket attached to a drill.

5. Remount the speaker to the bracket making sure that the speaker wires exit the bottom for proper drainage .
6. Extend the WHITE (Positive) and BLACK (Negative) speaker wires to your siren amplifier and connect as shown in the amplifiers instructions.



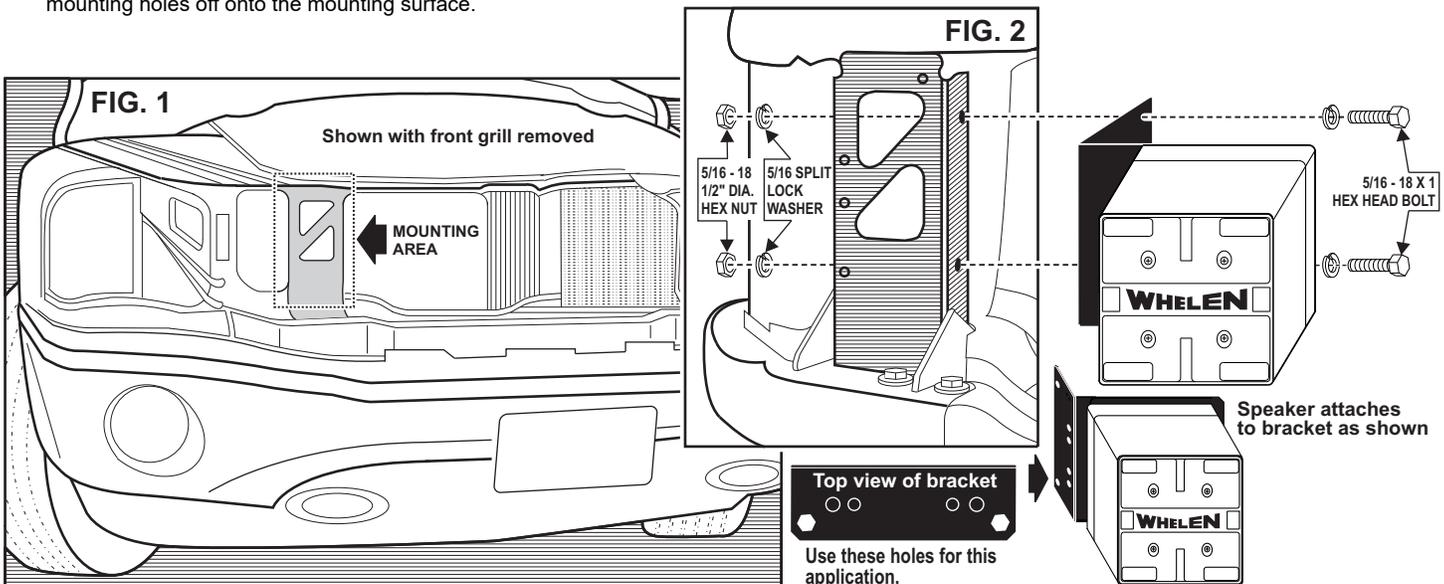
**Installation / 2004-05 Dodge Durango:**

1. First you will have to remove the grill. To remove the grill, you first have to remove both headlight assemblies. Refer to your vehicle owners manual for the proper procedure for both.
2. The speaker bracket will mount to the side of the support brace (on the passenger side) that is indicated in Figure 1 below.
3. Place the bracket onto the mounting area in the exact position it will be mounted, then using the bracket as a template mark the 2 mounting holes off onto the mounting surface.

4. Secure the speaker to the mounting bracket. An SA314 is shown. See page 2 for an SA315.

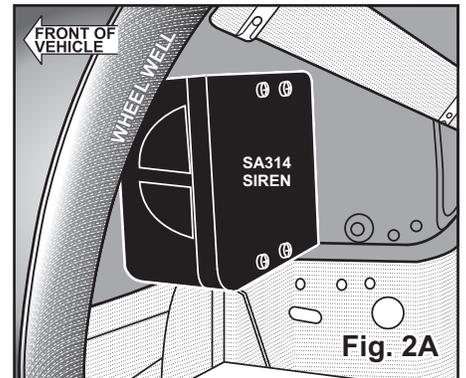
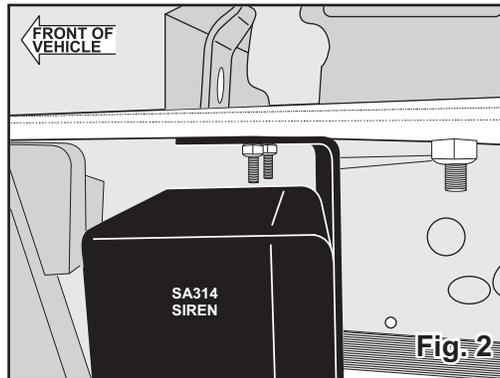
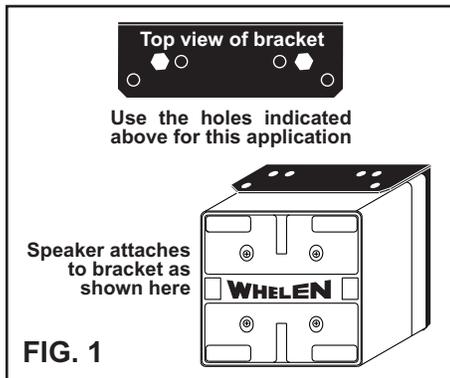
5. Drill the 2 mounting holes using a drill bit sized for a 5/16 - 18 hex head bolt and secure the bracket (with speaker) onto the mounting area with the supplied mounting hardware.

6. Extend the WHITE (Positive) and BLACK (Negative) speaker wires to your siren amplifier and connect as shown in the amplifiers instructions and replace the grill you removed in step 1.



**Mounting: / 2002 - 2003 Ford Explorer:** The speaker will be located in front of the driver side front tire, behind the bumper. You will use two existing nuts and their bolts that are already on the vehicle. Always be sure that the speaker wires exit the bottom after mounting for proper drainage.

1. Secure the bracket to the speaker using the supplied mounting hardware (See hardware applications on page 2). An SA314 is shown in Fig. 1. Refer to page 2 for the SA315. Be sure you mount the SA315 onto the bracket in the same position the SA314 is shown here.
2. Looking in through the drivers side wheel well, find the 2 existing bolts on the vehicle that match up to the brackets mounting holes.
3. Remove the 2 nuts from their bolts and mount the bracket (with speaker) securing it with the 2 nuts you removed (Figs. 2A & 2B).
4. Extend the WHITE (+) and BLACK (-) speaker wires to your siren amplifier and connect as shown in the amplifier instructions.



**Mounting: 2003 Suburban / Tahoe:** The siren will mount in front of the vehicles gravel shield, just forward of (and below) the air conditioner condenser as shown (Figs. 2 & 3). Always be sure that the sirens wires exit the bottom of the siren after mounting for proper drainage of the siren.

1. Place the bracket onto the mounting surface and mark off the location of the mounting holes.
2. Remove the bracket and drill the mounting holes an appropriate size for the supplied mounting hardware (See hardware applications on page 2).
3. Secure the bracket to the speaker using the mounting hardware provided for your model speaker. An SA314 is shown. See page 2 for an SA315.
4. Secure the bracket (with speaker) to the mounting location with the supplied mounting hardware.
5. Extend the WHITE (+) and BLACK (-) speaker wires to your siren amplifier and connect as shown in the amplifiers instructions.

