

Air Horn Install DIY for the 5th Gen Camaro

(Air Horn Kit from <http://www.assuredautomotiveproducts.com>)

Complete Kit Part # ACHRSK-106-VIAIR20003

The KIT includes the following:

<p><u>Horn Specs:</u> Part # ACHRSK-106 DB: 140 @ 140 psi Solenoid: 12v/24v Trumpets: 2 Trumpet Diameter: 3.7" Trumpet Length: 11.5" and 14.7" Trumpet Material: CHROME Plated Zinc Mounting Hardware: Included</p>	
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<p><u>VIAIR 200003 Compressor Specs:</u> Part # AVC2000 VIAIR 275c Compressor 120 psi (25% Duty Cycle) 12 volt Permanent Magnetic Motor Max Working Pressure: 150 psi 18 Amp Draw Min. Ambient Temp.: -40 F. Max. Ambient Temp.: 158f F. Tank Size: 1.5 Gal. Overall Dimensions: 15.16"L x 5.94" W x 12.83" T</p>	
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This Kit also includes:

- *Pressure Switch (90 psi ON – 120 psi OFF)
- *1/4" NPT Compression Fittings
- 20' Air Line - .25" O.D.
- *170 psi Pressure Safety Valve
- *Drain Cock
- Mounting Hardware
- Complete MFG Instructions
- VIAIR 1 Year Warranty against Defects
- (*- pre installed on Tank)

Additional parts/supplies for complete FACTORY LIKE install:

Spade/Crimp Terminals for 10 – 14 ga.	
Rubber Grommet 1/4" ID x 1/2 " OD	
Black Toggle Switch	
Rocker Switch	
12 – 14 ga. Automotive Wire (Black and Red)	
1/2" Wire Loom (10' long)	
Black Zip Ties	
Piggy Back Fuse Holder (mini size)	
ATO size 30 amp In-Line Fuse Holder w/ 30 amp fuses	
242 Loctite	
Tubing Mounts (Coax Clips)	
Switch Mount	
Small pkg. of #8 – 32 Machine screws/nuts	
Black Electrical Tape	
2 ea. 8 – 1.25 mm x 1" long bolts/washers	
Piece of 10 ga. sheet metal (8" x 6" horn mount material)	
ONE wire coat hanger or some like piece of wire to be as a "fish tape".	

I have broken the install into 4 sections:

Section 1: Under the Hood (mounting horns and wiring)

Section 2: In the Trunk (mounting the compressor and wiring)

Section 3: Under the Car (running the tubing back to front)

Section 4: Final Hook-up and Test – do this during the day when your neighbors are awake. Unless you don't like them.

<p>NOTE: Sections 1 or 2 can be done in any order; I recommend waiting until after Section 2 is finished before going on to Section 3. It just makes the job flow better.</p>
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PLEASE READ:

These instructions are probably the most detail instructions you will most likely ever come across. I personally hate it when you are left to try and figure it out on your own. Since these instructions are only for our cars, it's a lot easier to cover it all. I would like to hope I didn't leave anything out. These are things I learned during MY install, and to think about when making YOUR choices, if you decide to do things a little different.

Before we get started, I want you to know, I did this install without any additional help, except when installing and tightening up the compressor mounting fasteners. HOWEVER, a second pair of hands would have come in handy at times.

During my install, I **DID NOT** remove my front fascia, but if you so desire, or if your cars front fascia is already removed, GO FOR IT, it makes it a LOT easier.

ALSO, I performed Section 3 with my car on jack stands, if you have the availability of a LIFT.....MORE POWER TO YA!! As that REALLY makes the job easier!

The I mounted my tank/compressor on the left (driver's side), IF you have the Premium BA sound system, the amp is in the trunk, and on the left hand side fender well under the insulation just in front of the tail light. Thus, if you EVER had to get to it, for any reason....you would need to take the compressor/tank out....and after you install it....you probably don't want to take it back out! If you happen to have a sub or subs mounted in this location, the mounting of the Tank/Compressor will/should/could need to be mounted elsewhere in the trunk, it's up to you.

This will require you to modify these instructions dealing with the mounting and electrical portions of Section 2 and the routing of the Tubing in Section 3.

Look under your car, you will see on the right hand (passenger) side where all the break lines and what not are run....this is NOT where I ran the tubing lines, as my compressor is on the other side, for reasons stated above, and for you to run the tubing across from one side to the other, not only will you not have enough tubing, but getting to the body to mount it would be a REAL PITA, if not impossible.

I made the decision up front that I wanted to have the availability to either use the Air Horn, OR the stock horn. Thus that is what is covered in my instructions; however, there is "NOTE BOX" in the instructions in Section 1 to show you how hook the air horn up as your primary, full time horn. I also decided to install a separate cut off switch at the compressor in the trunk, such that if the car was going to be "DOWN" or not used for any length of time, why have the system powered up maintaining air pressure at all times and using battery power. In case you were wondering, I did some testing after my install. I powered up my system and charged it up to 100%, and then did a total system leak check using some soapy water at every air connection, as described in Section 1, step #66. After a satisfactory leak check, I turned off the compressor....and waited. 24 hrs later, I turned on the compressor and it did NOT cycle, thus for at least 24 continuous hrs there was no appreciable air leakage. Even after TOOTing the horn a time or two (short blasts), it did not cycle. You have to really lay on it to use that much air.

I'm all about making things as easy as possible on the person doing the install, THAT MEANS ME and YOU! LOL and No, I don't mean I take short-cuts, that means even if it means taking something else off/apart to gain access, and doing it RIGHT, I will take that extra step. So yes, there are times during this process that you may find an easier way....but these instructions will "GET-R-DONE" without a lot of hassle and have a QUALITY, FACTORY WORTHY, INSTALL that you will be proud of.

Make sure you put all the little "pieces parts" together so they won't get lost or misplaced as you work. If you happen to have a empty box laying around, USE IT! ...it works like a champ!

OK.....so on to the INSTALL INSTRUCTIONS!!

SECTION 1

Under the Hood

1. Remove the BLACK intermediate piece between the front fascia and the radiator frame, where the hood latch is by removing the 4 bolts on the radiator frame and 6 clips on the fascia. Set aside and out of the way.



NOTE: PRIMARY FULL TIME AIR HORN SET-UP

If want to install this kit with the purpose of making the air horn your PRIMARY FULL TIME horn. Perform steps #3 – 6, and 8 (modify this step such that the red wire need not be inserted any further than the bottom of the radiator/frame rail, leave the rest of the loom empty till the tubing is brought into the engine compartment in step #26) then skip to step #26 and complete the remainder of Section 1.

2. Locate on the firewall, under the hood and on the inside the car, where the Hood Latch cable penetrates. It's down below the Brake Master Cylinder and left of the brake/clutch pedal. This is where we are going to drill a hole, from the inside, for the wires go to the switch on the dash.



NOTE: IF you have a CAI you need to modify this part of the instructions to remove your CAI. As need be, that is UNLESS you just want to DEAL WITH IT further on in the instructions, I highly suggest you remove your CAI.

3. Open the Air Box lid and remove the filter. Set aside. Loosen the worm clamp that connects the inlet hose to the air box. Remove the 2 nuts from the air box mount on the back side of the air box. There is ONE tension mount on the bottom side of the air box, so pull straight up and remove the air box.
4. Open the Fuse Box on the right hand (passenger) side of car. Locate fuse 51, right side mid way, the horn fuse (mini, 15 amp). Using the fuse puller in the fuse box, remove the horn fuse.
5. Install the horn fuse in the lower spot of the Piggy Back fuse holder, and install either a 7.5 or 10 amp mini fuse on the top, the one that has the wire coming out of it. Install into the fuse box at #51.



6. Attach a long piece of RED wire using a “splice crimp” or solder and shrink wrap if you prefer, which will be long enough to run from the fuse box, across the top of the radiator and down the side, to the top of the frame rail and to the firewall where it will penetrate, plus another 3 feet.
7. Cut a piece of BLACK wire, long enough to go from the hood latch, to about the head light, down to the frame rail, up to the firewall where it will penetrate, plus another 3 feet. Connect the two wires together with a piece of electrical tape so they can be fished through together later.
8. Take the WIRE LOOM, attach it to the red wire using electrical tape where it will exit the fuse box, cut a piece the length required to run from the fuse box, across the top of the radiator and down the side, to the top of the frame rail and to the firewall where it will penetrate starting at the fuse box, insert the red wire its full length. At this time you can zip tie the wire loom to the top of the radiator. Leave the rest of the loom loose till later in the install.



9. Insert the Black wire into the wire loom, starting at the fire wall end, stop where the loom will be at about the bottom of the radiator and leave the remainder outside of the loom at this time.
10. “SNAKE” the wires/loom along the side of the radiator and the frame rail, under and around tubing and other wires/looms so it will lay flat when final attachment is done.
11. Cut another piece of loom and where the black wire exits the other loom, insert it to the end.
12. Move the Drivers seat as far back as possible to make you as much room as possible.
13. Pull back the insulation on the inside of the firewall, up to the hood latch cable. Mark the location, to the right of the cable, for the hole to be drilled for the wiring.
14. DRILL THE HOLE, allow yourself some extra room (size of the hole your drilling), once you get the hole drilled, use a awl or screwdriver and poke a hole in the insulation so you can feed the wires through.
15. Feed the attached Red & Black wires through the firewall. Trim/cut the excess loom where it gets to the firewall. Where the wires will go through the firewall, wrap the wires generously with just enough electrical tape to fill and seal the hole when totally pulled through.
16. Using zip ties, going toward the interior fuse box, attached the two wires to whatever is handy to keep them up and out of sight.
17. Remove the interior fuse box panel cover and set aside.

18. Remove the single screw attaching the A/C duct and carefully remove.

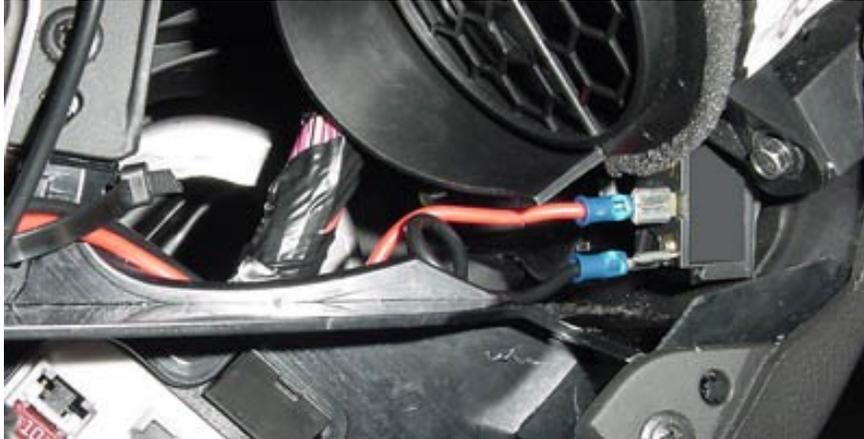


19. Locate the spot to mount the ON/OFF Switch, 1-9/16" from the edge of the light switch to the center of the ON/OFF switch location. Ensure you have the spot marked to be centered with the horizontal centerline of the light switch.



20. Drill the appropriate size hole for the switch you purchased.
21. Tie a string to your switch, **JUST IN CASE YOU DROP IT** into the dash....this way you can fish it back out very easily, feed it in below the remaining duct work and test fit the switch. Remove the switch.
22. Route the two wires above the fuse box and out of the way, allowing a little extra room, cut the excess wire to the proper length to reach the switch. Attach the appropriate terminal ends for your switch.
23. At this point, you need to take the switch and verify which position is ON and which is OFF. Depending on whether you want the switch to be UP or DOWN when the air horn is active.

24. Attach the wires to the switch, feed the switch behind the dash and tighten up the switch nut.



25. Re-install the duct work and install the screw that holds it in place.

IF you performed Section 1 first, stop here. Proceed to Section 2.

26. With the tubing now threaded into the engine compartment, locate the wire loom containing the red/black wires for the horn.
27. Begin feeding the tubing into the wire loom.
28. Once you reach the point where the black wire exits the loom (step #9) near the bottom of the radiator, and into the second loom (installed in step #11) and feed the tubing through and in to it.
29. Look at the tubing where it entered the engine compartment and into the loom. Ensure there is no interference and adequate space by the steering linkage. Adjust the tubing as needed to ensure that clearance.



30. Using electrical tape, connect the two pieces of wire loom together and form a seal, such that they won't come apart. Also, wrap electrical tape around the loom at the point where the tubing entered the loom, such that it will not work itself out of the loom.

31. At this time, use Zip Ties to attach the wire looms to adjacent tubing and looms from the top of the radiator, down the frame rail and up to the firewall.



32. Route the second loom containing the tubing and the black wire (power wire for the horns solenoid) towards the left head light area to ensure it will not interfere with the reinstallation of the Air Box/CAI.



33. Locate the cable to the hood release right above the left head light.
34. You will see a small opening which it runs through.

35. Cut the loom, being very careful not to damage the tubing and the black wire, to the desired length such that it will terminate where the wire and tubing will enter the opening.

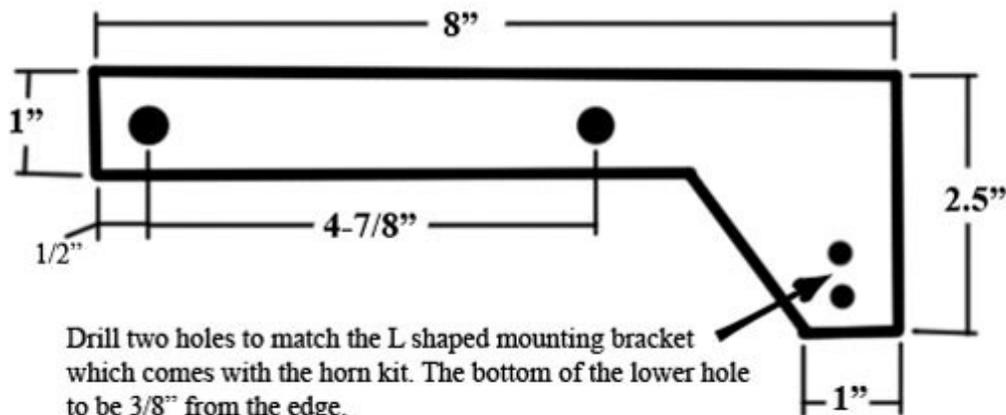
At this point of the install, if you have taken off your front fascia or it's already off for other reasons, this part of the install is MUCH EASIER and much more straight forward. The instructions will continue with the assumption that your fascia is still installed.

36. Looking through the opening between the fascia and radiator near the hood latch, locate where the hood latch cable comes into this area.

NOTE: During this portion of the install, when working through the small opening, take care not to damage the fascia's finish by scratching the edges or dropping anything onto it. I highly recommend using a covering of some sort (even an old/soft towel) to protect it.

37. Take the coat hanger, either cut it apart or take it apart, and straighten it out.
38. Take a pair of pliers and make a small hook to use as a "fish tape".
39. From the opening by the hood latch, run the coat hanger, HOOKED part first, into the engine compartment.
40. Attach the Black wire and the tubing to the end of the hanger using electrical tape.
41. Carefully/gently pull the wire/tubing through, disconnect it from the hanger.
42. Take the remaining sheet metal and make the Horn mount in the picture below.

Horn Mounting Bracket



43. Your horn has, in the center, an actuating solenoid. The solenoid is supplied to you with a “barbed” fitting. The kit comes with a ferruled fitting similar like the one you installed on the tank. CHANGE IT OUT.

NOTE: WARNING!! Remove the nut/ferrule/insert, and set aside in a safe place. Since you are doing this install with the fascia ON your car, IF you happen to drop them it will make you life hard. Look into the opening at the hood latch, it’s pretty much the only access, and the parts are small.

44. The solenoid had two black wires. Cut off the terminal ends that come on it, if it had any.
45. Install a RING Terminal on one (the ring terminal needs to be big enough to put one of the bolts for the horn mount through it), and an Insulated Spade terminal on the other.
46. REMOVE the trumpets on the horn, they are screwed in, and have an o-ring on them. Set them to the side.
47. Attach the horn to the mounting plate you just made using the supplied “L” bracket and fasteners and tight, it’s recommended to use the Loctite 242 on all of these fasteners.

This is where things get TIGHT, real tight. You will certainly need a little extra room to get the horn and mount into the area below the hood latch. THANK GOODNESS our front fascia is made from a urethane based materials and paints allow it to bend and conform.

48. Right below the hood latch, you will see two empty 8 mm holes, which will match up with the holes in the mounting bracket.
49. Either use a piece of spare wire or tie a piece of string capable of supporting the weight of the horns, to the horns where the solenoid is connected.
50. Obtain your bolts/washers to attach the horn/mount and apply Loctite 242 on them and set them where they are handy.
51. Once you have the horn/mount through the opening, hang the horns by the string/wire and using the other hand, install the bolt/washer on the passenger side.
52. Place the remaining bolt/washer through the ring terminal for the solenoid.
53. Tighten both bolts up.
54. Take the tubing and cut it to length, ensure 3 things: 1. the cut is straight, 2. it has enough bow and won’t get crimped, and 3. it won’t rub on the grill.
55. Test fit it to make sure its right.
56. Pull the tubing out of the opening, place a towel or rag in the open as you install the fitting parts.
57. Install the tubing nut.
58. Install the ferrule.

59. Place a drop of “super glue” or some other “sticky” on the insert and install the insert FULLY. This will ensure it will/can not fall out while installing the tubing to the solenoid.
60. Push the tubing the bottom of the fitting and tighten.
61. Take the black wire and cut to fit. Allow a little extra room and install the other half of the insulated spade connection.
62. Using zip ties, connect/hang the black wire and the tubing to the hood latch cable running at the top of the opening.
63. Reach through the opening and carefully thread the bottom (longer) trumpet in place, make sure it’s tight.
64. Repeat fro the top trumpet.
65. Turn on the compressor and allow to pressure up the system.
66. Using a soapy water solution, check ALL air connections and fittings in the system and on the air tank.
67. Look at the two trumpets and verify that they are not touching anything, if need be, you can “adjust” their position by “tweaking” the mounting bracket.
68. IT’S COMPLET AND FUNCTIONAL.....GIVE IT A BLAST!!!
69. Re-install the transition piece between the fascia and the radiator mount.
70. Re-install the air box, be careful not to crush or crimp the wire loom where it rests on the frame rail, tighten the two retaining nuts.
71. Re-install the intake hose to the top of the air box, tighten the worm clamp.
72. Re-install the filter and latch the cover.
73. Re-install the interior fuse box cover.

SECTION 2

In the Trunk

1. Open the trunk, remove the trunk mat, and put to the side.
2. Remove the tire/battery cover nut and remove the cover.
3. Remove the battery cover.
4. Take a piece of cardboard the total size of the compressor tank mount/legs. (5" x 8 3/4")
5. Turn the tank on its side and use the cardboard to make a template to mark the mounting hole spacing.
6. Place the compressor/tank on the left side of the trunk, roughly 2- 2 1/2" from the back of the trunk, and situated such that the tank mount/legs are about 1/2" from the edge of the tire/battery cover.



7. Mark the hole locations with a marker.
8. Using a small drill bit (1/8") drill all four mounting holes.

This is where you will need to make a choice. With the compressor/tank where it's at, when you drill the 1/8" holes, and look at the bottom side where they penetrate the trunk, you will find that the two outside holes are inside the frame rail. I thought of two options:

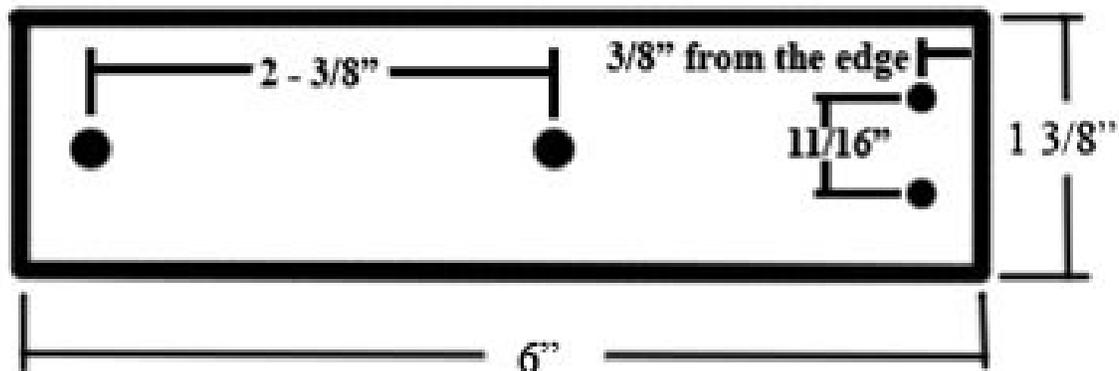
1. Drill the holes on the inside holes to their finished size and use the supplied mounting bolts/washers/nuts on the inside mounting holes.
2. Obtain two appropriate sized self-tapping screws, resize the outboard holes to the proper size for the self-taping screws, and install.

OR

1. Leave the rubber grommets in the tank mount to ensure vibration dampening.
2. Make two more mounting holes BETWEEN the current mounting holes on the tank frame, near the middle, locate them such that they will fall outside the frame rails. Drill 7/16" holes in the tank mount. Use 3/8" bolts/washers/nuts, ONE on each leg. Due to the limited space under the compressor, you will need to adjust the length of the bolts such that they do not contact the bottom of the tank. When final assembly is performed, use LOCTITE 242 thread locker to ensure the bolts/nuts will not loosen up over time.

9. After the tank mounting location and the way the mounting is accomplished, remove the compressor.
10. We will now make the rocker switch mount for the remote trunk ON/OFF switch.

Mark the compressor feet bolt locations and drill appropriate size holes. Do the same for the Rocker switch mounting holes.



11. Take the 10 ga. Sheet metal and cut a piece 6" long, and 1 3/8" wide.
12. Remove the bolts from the compressor cylinder end and set aside.
13. Loosen the two motor end fasteners, but do not remove.
14. Mark the bolt hole locations of the compressor feet, starting 3/8" from one end, and centered.
15. Drill the marked locations.
16. Mark the location of the rocker switch mount.
17. Drill holes and install rocker switch mount using #8 – 32 machine screws/nuts.
18. Using the original compressor fasteners removed in step 12, slide the new switch mount under the compressor feet and insert fasteners, tighten up all 4 compressor feet fasteners.
19. Install the rocker switch in the mount. On the side of the switch, it will be marked: Power, Ground, and Load



20. Take Red (Load) and Black (Ground) wires from the pressure switch and cut them to the proper length to reach the new rocker switch.
21. Install a crimp terminal to the Red wire and connect it to the LOAD terminal on the switch.
22. Looking in the trunk, you will see a recessed spot which has a bundle of wires in it. Cut a piece of both Red and Black wire which would reach from the compressor/tank, run along the edge of the trunk up to the recess, into the battery well and to both sides of the battery at each terminal.
23. Install a properly sized RING TERMINAL on each wire.

24. Temporarily install the tire/battery cover.
25. Put the trunk mat in and mark where the compressor bolt holes are beneath the mat. Looking on the bottom side of the mat, there is some padding, remove the padding beneath the tank mounts locations.
26. On the tank/compressor, remove the tubing connection which came on the compressor, and install the new fitting supplied with the kit. Remove the ferrule/insert and tubing nut.
27. Reinstall the Tank/compressor and make the final assembly using the mounting method decided on in the note box between steps 8 and 9.
28. Remember to use Loctite 242 on the tank mounting fasteners.
29. From the underneath side, of the right side (drivers side) of the trunk, outside the frame rails, drill a 1/2" hole for the tubing to exit the trunk. (see location in pic below).
30. Install a 1/4" grommet in the hole to ensure a tight seal and nor rubbing of the tubing will occur.



31. Run the tubing into the trunk. Ensure the end of the tubing has a straight clean cut. Place the tubing nut over the tubing. Install the ferrule onto the tubing, and install the insert into the tubing.
32. Insert tubing into the fitting on the tank, ensure it's bottomed out, and tighten up.
33. Remove the tire/battery cover.

34. Route the Red (power) and Black (ground) from their connection location. Using zip ties, connect the wires to the bundle in the recess. Run them along the edge of the trunk. Cut the Red wire to length such that it will reach the Rocker switch.



35. Install the ATO in-line fuse holder on the Red wire coming from the battery, using a splice crimp on one end and a female spade terminal on the other. (DO NOT INSTALL THE FUSE AT THIS TIME)



36. Connect the wire from the In-line Fuse holder to the POWER terminal on the rocker switch.
37. Connect BOTH black (ground) wires, one from the pressure switch, and one coming from the battery, to a single terminal connector and connect to the GROUND terminal of the Rocker switch.

38. Connect the Red wire from the pressure switch to the LOAD terminal of the Rocker switch.



Note: Continue to Section 3, return to step #39 below when time to hook up power and restore the trunk to its normal configuration.

39. Connect the Black (Ground) wire to the post on the NEGITIVE terminal post.



40. Connect the Red (power) wire to the post under the cap of the POSITIVE terminal post.



41. Ensure the rocker switch is in the OFF position.
42. Insert a 30 amp ATO fuse in fuse holder.
43. Re-install the battery cover.
44. Re-install the Tire/compressor.
45. Re-install the Tire/Battery cover and install the nut.
46. Straighten out the trunk mat.

Continue to Section 3

SECTION 3

Under the Car

1. This section will need to be completed with the car either on a lift or on jack stands to give you enough room to drill the holes for mounting the tubing clips.



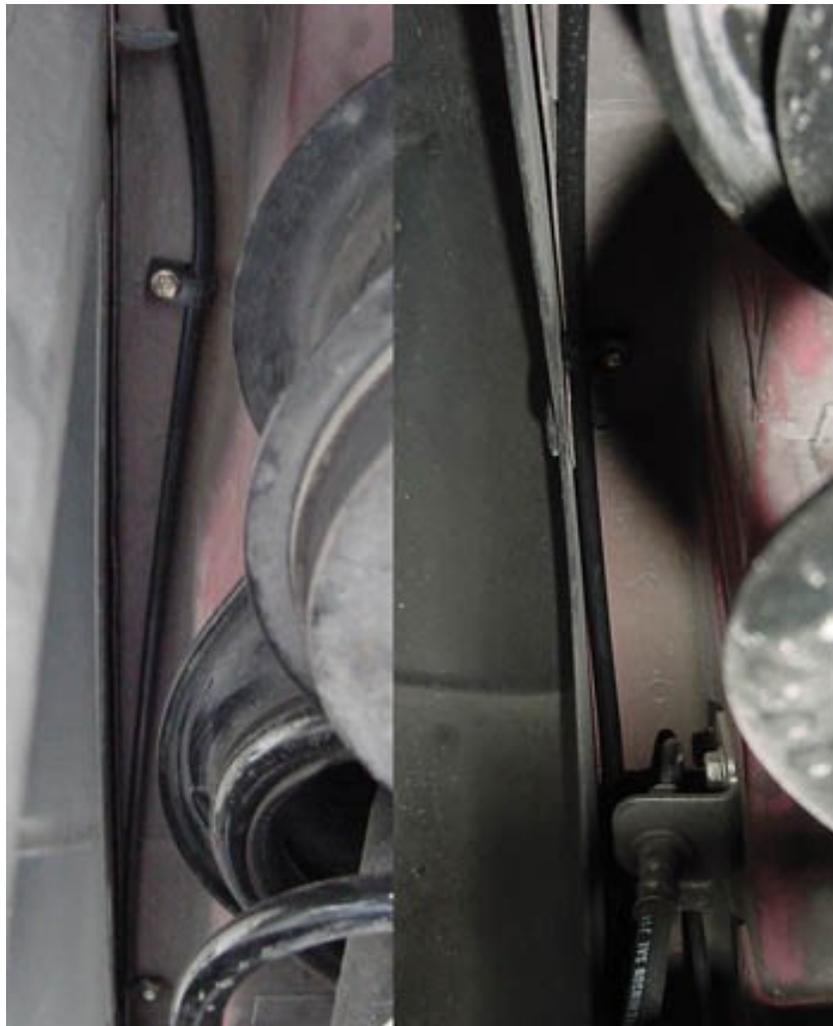
2. Depending on the size of the screw which came in the tubing clip. Select the appropriate size drill bit.
3. Drill and install tubing clips approximately every 8".
4. The tubing exits the trunk on the driver's side.



5. Route the tubing towards the back side of the plastic inner fender well.



6. Route the tubing above the wheel well opening and behind the plastic inner fender well.



7. After exiting the wheel well, continue down the side installing tubing clips close to the rocker panel. As you install the clips on the tubing, ensure the tubing is tight between each clip as you tighten up the clip.



8. Continue on down the side drilling and installing tubing clips just inside the rocker panel, the full length of the car up to the front left wheel well.



9. At the front of the car, route the tubing towards the inner fender well, and go under it and up and over the frame rail.



10. At this point, “thread” the tubing into the engine compartment, running it in between the frame rail and the steering linkage.



At this point, return to Section 1, step #26

HAVE FUN!!