



# Nathan AirChime Installation Manual

Nathan P3, P5, K3LA, K5LA 540 Kit

**WARNING:** To ensure the longevity of your system, reading and following these instructions are recommended. Make sure to change filters and to drain the moisture from your tank on a regular basis.

# HornBlasters

## Nathan AirChime

### Installation Guide

#### Before Getting Started

Read over the entire instruction guide before you begin your installation.

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#### Kit Contents:

- Nathan AirChime P3, P5, K3LA, K5LA
- Viair 325/400/444/480 Air Compressor
- 1/2" SMC Electric Solenoid Valve
- 17' 1/2" Airline
- 4 x 1/2" PTC to 1/2" NPT
- 17' 10 Gauge Wire
- 17' 18 Gauge Wire
- 1 x Toggle Switch
- 1 x Inline Fuse Holder
- 5 x 18-22 Gauge Butt Connector
- 3 x 10-12 Gauge Butt Connector
- 2 x 18-22 Gauge Ring Terminal
- 1 x 10-22 Gauge Ring Terminal
- 1 x 10-22 Gauge Male Quick Disconnect
- 1 x 18-22 Gauge Male Quick Disconnect
- 1 x 10-12 Gauge Scotch Lock
- 1 x 18-22 Gauge Scotch Lock
- 1 x 35 Amp Fuse
- 1 x 1/4" 175 PSI Safety Valve
- 5 x 1/2" NPT to 1/4" Reducer
- 1 x 1/2" Plug
- 1 x 3/4" Plug
- 1 x 1/4" Drain Cock
- 1 x Pressure Switch w/ Relay
- 1 x HornBlasters Gauge
- 1 x Teflon Tape
- 1 x Horn-Air 5 Gallon Tank

**IMPORTANT:** This complete train horn kit uses 12 volt DC components. Only install this kit with a 12 volt DC power source.

#### Important Safety Instructions

##### **CAUTION: To prevent the risk of electrical shock or electrocution:**

- Do not disassemble any electrical components of this horn kit (air compressor, air valve, pressure switch).
- Do not attempt repairs or modifications of any component. Please refer to qualified service agencies for all service and repairs.
- Do not operate any component where it can fall or be submerged into water or any kind of liquid.
- Do not reach for any component that has fallen or been submerged into water or any kind of liquid.
- Use the included components with 12 volt DC systems only.
- Do not leave the air system unattended during use.

##### **WARNING: To prevent injury:**

- Never allow children to operate the compressor or air horn. Use close supervision when operating this equipment near children.
- The air compressor will become very HOT during and immediately after operation. Do not touch any part of the compressor with your bare hands during or immediately after use.
- Do not use this product near open flames, explosive materials or where aerosol products are being used.
- Do not operate this product where oxygen is being administered.
- Do not pump anything other than atmospheric air.
- Never use this product while sleepy or drowsy.
- Do not use any tools or attachments with the supplied air source unit without first determining maximum air pressure for that tool or attachment.
- Never point any air nozzle or air sprayer toward another person or any part of your body.
- The included compressor is equipped with an automatic reset thermal protector and can automatically restart after the thermal protector resets. Always cut off power source when thermal protector becomes activated.
- Use only in well ventilated areas.
- Do not sound the air horn(s) in close proximity to another person's or your own ear(s).
- Do not fill the included air tank above 150 PSI. Doing so may result in death or serious injury.

# Installing Your Train Horn Kit

## Planning Your Installation

This is the most important step in your installation.

- Plan out the location of each component before starting your installation.
- Make sure you have enough airline and wire to install the system before beginning the installation.
- Make sure mounting locations are secure and void of debris.
- Try to keep the supply wire to the compressor as short as possible. Wires lose voltage over distance therefore shorter wires will result in better performance.
- Mount your air source unit in a location that is as cool as possible and away from heat sources. This will make your compressor run cooler and last longer.
- Your air source unit must be mounted upright with the compressor above the tank. Failure to mount the unit in this position will allow any condensation buildup to drain back in to the compressor and harm its components, and also will disrupt the compressor's ability to cool.
- Teflon tape or a locking compound should be used on every fitting in your air system to prevent air leaks; unless a white or red PTFE paste is already applied.
- Use the supplied 10 gauge wire or thicker (lower gauge #) wire to power your air compressor.

## Safety During Installation

- **Disconnect the ground of your battery before beginning your installation.**
- **Use eye protection when operating drills.**
- **Take your time and do not rush your installation.**

We recommend installing our kits in a certain configuration. With the 5 gallon tank, you have seven 1/2" ports and one 3/4" port. Install the tank in position where one 1/2" port is facing down, then use the 1/2" to 1/4" reducer bushing fitting for the drain cock. From there place the gauge, pressure switch and safety blow off valve in three 1/2" ports using the 1/2" to 1/4" reducer bushings. For two 1/2" ports, one of them will have the 1/2" to 1/4" female reducer bushing for the compressor (1/2" to 3/8" for the Viair 480c) and the other 1/2" port is for the 1/2" PTC to 1/2" NPT M fitting for the horns.

### Recommended Tools

- 3/8" Long Socket (Horn Front Mount)
- 1/2" Long Socket (Horn Rear Mount)
- 1/2" Wrench
- 9/16" Wrench (1/4" NPT Fittings)
- 7/8" Wrench (1/2" Banjo)
- 10mm Wrench or Socket (Air Source Mounting)
- 12mm Wrench
- Drill (3/16" & 7/16" Bits)
- Wire Cutter/Stripper
- Tubing Cutter/Razor
- Eye and Ear Protection

## I. Installing Your Hornblasters Train Horns

Locate an area for your horns that is dry and free from debris. The horns can be mounted in any direction and still be heard from all around. The horns should not be mounted where they will be completely submerged or will receive any kind of impact. Horns may be mounted directly to your vehicle, on a medium such as grommet strips (plumber's strap), sheet metal or any sort of custom bracket. Note that air line will be running to each horns rear mount.

1. Locate a secure, dry, and safe position for your horns.
2. Drill a 3/16" hole for the front mount of each horn and a 7/16" hole for each rear mount.
3. Secure the horn using the supplied mounting hardware.

## II. Installing Your Air Tank

Locate a secure area close to your air compressor to mount your air tank. The leader hose of the compressor should be able to reach an available port on the air tank with some slack.

1. Position the tank in its desired location and secure it using standard mounting hardware.

## II. Installing Your Air Compressor Pump

Locate a flat and secure installation area that will remain free of dust, dirt, and debris (your compressors performance is directly affected by air quality). Try to keep the distance of the unit from the battery to a minimum to keep your compressor running at maximum performance.

1. Disconnect the ground cable from the vehicle's battery.
2. Position the unit in the desired location and secure it using the supplied mounting hardware (8mm).
3. Remove the orange plug in the compressor's inlet and install the remotely mountable air intake assembly. Using the included 3/8" OD air line and fittings you may relocate the air filter up to 6 feet away from the air compressor.
4. **Only hand tighten the check valve.**

## IV. Installing Your Air Tubing & Air Valve

Before cutting any air tubing, make sure to double check your measurements. We recommend cutting your lengths with at least an extra inch per line just to be safe. Unlike compression fittings, the push to pull connectors can be used multiple times. When threading any fittings make sure to use Teflon tape or lock-tight to prevent air leaks. Some fittings may already have pipe sealant applied on their threads for your convenience. The air valve may be mounted in any direction but it is preferred that it is mounted vertically. Your tank has seven 1/2" NPT ports and one 3/4" NPT port.

**IMPORTANT:** Do not rotate or remove the inline check valve in the compressor's leader hose. Doing so will damage its seals and will result in damage to your air compressor and voiding of your warranty.

**IMPORTANT:** Do not make any kinks in your air line. Doing so will disrupt air flow and the damage is irreversible.

**IMPORTANT:** The air valve is directional and must be properly installed. There is an arrow on the brass body of the valve that shows the airflow direction, the arrow must point towards the horn. Improper installation will cause the valve to malfunction and create a constant air leak to the horns.

### Air Compressor to Tank:

[Air Compressor] » [1/4" Leader Hose] » [1/2" to 1/4" NPT F Reducer] » [Air Tank]

1. Carefully connect the air compressor leader hose to the 1/2" to 1/4" NPT F Reducer bushing that is located on either end of the tank using Teflon tape or paste on the treading. When installing the leader hose DO NOT move the inline check valve located just above the swivel fitting.
  - a. If installing a Viair 480c you will use a 1/2" to 3/8" NPT F Reducer.
2. Locate a secure location to mount the leader hose using the bracket provided. Avoid locations where the leader hose may become tangled with wires and other hoses.
  - a. When mounting the bracket, drill a hole with a 3/16" drill bit and put the self-anchoring hose bracket into the hole. Route the leader hose through the hose bracket and secure by pressing the bracket clamp into the locker position.

### Air Horns to Tank:

[Air Tank] » [1/2" NPT M to 1/2" PTC Fitting] » [1/2" Air Line] » [1/2" NPT M to 1/2" PTC Fitting] » [Air Valve] » [1/2" NPT M to 1/2" PTC Fitting] » [1/2" Air Line] » [1/2" NPT M to 1/2" PTC Fitting] » [Rear Horn Mount]

1. Plan out the fittings placement before you begin and make sure you understand the correct order.
2. Make sure that your tank is empty of air and that the compressor is not running during installation.
3. Start by installing the 1/2" PTC to the tank.
4. Install the valve in a safe location, preferably closer to the horns. If the valve has a directional arrow on its body, the arrow starts with the inlet and points out the outlet; the arrow should point towards your horns.
5. Next install PTC fittings on both open sides of the valve and on the bottom of the horn manifold. Make sure that the lines are inserted firmly into their sockets. You do not use Teflon tape or pipe sealant with the PVC fittings.
6. Now run the air line from your horn manifold to the air tank and cut the length required. Make sure the cut end is flat and the cut is completely perpendicular to the tubing length.
6. Finally install the air line carefully between the horns and the air valve making sure not to damage the PTC fittings.

### **Drain Cock to Tank:**

1. Install the drain cock into the 1/2" port on the bottom of the tank using the 1/2" to 1/4" NPT F bushing. If the drain cock already has sealant on its threads it is unnecessary to use Teflon tape on the threads.

### **Pressure Switch in to Tank:**

1. Install the pressure switch into an available 1/2" port on the air tank using Teflon tape or pipe sealant on the threading of the 1/2" to 1/4" NPT F bushing. Make sure to mount the pressure switch on the side or the top of the tank so that condensation will not be able to drain in to the pressure switch. **Hand tighten only, and don't tighten by twisting the box.**

### **Safety Valve in Tank:**

1. Install the safety valve into an available 1/2" port on the air tank using Teflon tape or pipe sealant on the threading of the 1/2" to 1/4" NPT F bushing. If the safety valve already has sealant on its threads, it is unnecessary to use Teflon tape on the threads. Do not mount on bottom of tank, and do not use as drain.

### **Air Gauge in Tank:**

1. Install the Hornblasters Air Gauge into available 1/2" port on the air tank using Teflon tape or pipe sealant on the threading of the 1/2" to 1/4" NPT F bushing. Make sure to mount the air pressure gauge on the side or the top of the tank so that condensation will not be able to drain in to the gauge.

### **Remaining Ports:**

1. If you did not purchase any accessories to go along with your Nathan AirChime kit, you will have one 1/2" port and one 3/4" port open. The kit comes with two hex plugs to cover these ports. This does give you the option to run air tools, air source relocation or many other accessories that we sell.

## **V. Wiring Your Valve & Air Source Unit**

Your train horn kit will use two completely independent circuits. One circuit will connect your horn trigger (push-button switch, or toggled factory button) to your electric solenoid valve. The other circuit will connect your accessory trigger (ignition wire, accessory wire) to your air source kit. If you have trouble with wiring, you can find a wiring diagram of your vehicle on [www.the12volt.com](http://www.the12volt.com). This can help you locate certain wires to properly and safely install your train horn kit!

### **Circuit 1**

1. Begin by wiring your horn trigger.
  - a. If you are intending to use your factory horn switch, start by locating the load wire of the horn button (positive when horn button is depressed in a standard vehicle) and wiring it to the included toggle switch (any side).
  - b. If you are going to use a push button switch (intermittent toggle switch) wire a fused (5A) wire from any 12 volt source desired (battery) to your switch (any side).
2. Wire your switch to any lead of your air valve.
3. Wire the other side of the air valve to ground.
4. Test your circuit by activating your trigger and listening for a "click" from the valve.

### **Circuit 2**

1. Find the accessory line in your vehicle (this is a wire that is only powered when the key is turned to the 'accessory' or 'on' positions).
2. Using the supplied 18 gauge wire connect the accessory wire to the "BLUE ignition positive wire" from the pressure switch.
3. Ground your pressure switch using the small "BLACK wire" from the pressure switch.
4. Locate your 12v DC power source that is capable of handling a 26 amp load.
5. Run the supplied 10 gauge or bigger wire to the inline fuse holder using the supplied 35 amp fuse. Then connect this to the "RED fused 12v positive wire" from the pressure switch.
6. Connect the pressure switch to the air compressor using the "WHITE compressor wire" from the pressure switch to the "RED wire" from the compressor.
7. Ground the other side of your air compressor using the "BLACK wire".
8. Your compressor system will now turn on automatically when power is on (key is in 'Accessory' or 'On' position) and automatically turn itself off upon reaching pressure limits.

## **You're Done!**

It's time to test your horns! Share your install photos on our Facebook fanpage at [www.facebook.com/hornblasters](http://www.facebook.com/hornblasters) and don't forget to check out [www.trainhornforums.com](http://www.trainhornforums.com), the largest train horn community on the internet!

## Maintenance & Tips

Disconnect electrical components and drain you air system before performing maintenance.

### General Air Horn System Maintenance

- Check your air horns for debris when appropriate and at least once a month and clean when necessary.
- Drain your air system at least every other week, to remove any condensation buildup on the inside of your air tank.
- Make sure your air compressor is clean and free from debris at all times.
- Periodically change your two stage air filter on your compressor.

### Tips

- Make sure your engine is running when your air compressors is in use to insure proper voltage and to prevent damage to your system.
- Do not run your compressor above its maximum rated working pressure. Doing so will not only void you warranty, but may also damage your compressor.

## Troubleshooting

### Problem

Air horn will not sound.	<ol style="list-style-type: none"> <li>1. No pressure in air tank.</li> <li>2. No power or toggle switch in 'Off' position.</li> <li>3. Blown fuse.</li> <li>4. Loose connections or bad ground in air valve circuit (circuit 1).</li> </ol>	<ol style="list-style-type: none"> <li>1. Check that air tank is pressurized.</li> <li>2. Make sure all toggle switches are on.</li> <li>3. Disconnect electrical components and replace fuse.</li> <li>4. Check that all electrical circuits are secure and not corroded.</li> </ol>
Horn tone changes when sounded	<ol style="list-style-type: none"> <li>1. A side fitting was used to connect the air source (line from valve) to the 4-point banjo manifold.</li> <li>2. Air line connecting the horns is not of equal length.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check that air source (line coming from valve) is entering the center fitting of the 4-point banjo manifold.</li> <li>2. Check that the air line connecting each horn to the 4-point banjo manifold is of equal length.</li> </ol>
Excessive moisture in horn or safety discharge.	<ol style="list-style-type: none"> <li>1. Excessive water in tank.</li> <li>2. Compressor is exposed to high humidity.</li> </ol>	<ol style="list-style-type: none"> <li>1. Depressurize tank using safety, then drain tank. Tilt the tank to drain moisture and drain more frequently.</li> <li>2. Move the compressor to an area with less humidity.</li> </ol>
Compressor will not run.	<ol style="list-style-type: none"> <li>1. No power or toggle switch in 'Off' position.</li> <li>2. Blown fuse.</li> <li>3. Motor overheat.</li> <li>4. Faulty pressure switch.</li> </ol>	<ol style="list-style-type: none"> <li>1. Make sure all toggle switches are on.</li> <li>2. Disconnect compressor from power &amp; replace fuse (35A).</li> <li>3. Let compressor cool off for about 30 minutes for thermal overload switch to reset.</li> <li>4. Replace pressure switch.</li> </ol>
Thermal overload protector cuts out repeatedly.	<ol style="list-style-type: none"> <li>1. Lack of proper ventilation/ambient temperature too high.</li> <li>2. Compressor valves failed.</li> </ol>	<ol style="list-style-type: none"> <li>1. Move compressor to a well ventilated area or an area with a lower ambient temperature.</li> <li>2. Replace air compressor.</li> </ol>
Excessive knocking or rattling	<ol style="list-style-type: none"> <li>1. Loose mounting bolts.</li> <li>2. Worn bearing on eccentric or motor shaft.</li> <li>3. Cylinder or piston ring is worn.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten bolts.</li> <li>2. Replace compressor.</li> <li>3. Replace compressor.</li> </ol>
Tank pressure drops when compressor shuts off	<ol style="list-style-type: none"> <li>1. Loose drain cock.</li> <li>2. Air valve or check valve is leaking.</li> <li>3. Loose connections.</li> <li>4. Defective safety valve.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten drain cock.</li> <li>2. Replace air valve or check valve.</li> <li>3. Check all air connections with soap and water solution and tighten as necessary.</li> <li>4. Replace safety valve.</li> </ol>
Compressor runs continuously and air flow lower than normal	<ol style="list-style-type: none"> <li>1. Excessive air usage.</li> <li>2. Loose connections.</li> <li>3. Worn piston ring or inlet valve.</li> <li>4. Clogged air filter element.</li> </ol>	<ol style="list-style-type: none"> <li>1. Decrease air usage.</li> <li>2. Check all connections with soap and water solution and tighten as necessary.</li> <li>3. Replace compressor</li> <li>4. Replace air filter element.</li> </ol>
Compressor runs continuously causing safety valve to open.	<ol style="list-style-type: none"> <li>1. Faulty pressure switch.</li> <li>2. Defective safety valve.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace pressure switch.</li> <li>2. Replace safety valve.</li> </ol>

## Can't Figure It Out?

No problem! Give us a call at 813-783-8058, or email at [support@hornblasters.com](mailto:support@hornblasters.com) and we'll be more than happy to help you fix your system. Also feel free to visit our online horn community, [www.trainhornforums.com](http://www.trainhornforums.com), for more information.

# Photograph & Media Submission Guidelines

Send in your installation photographs and any other media for a chance to be featured on our web site!

## General Photograph Submission Guidelines

- Please submit clean, concise photographs. Make sure your subject is clearly visible and in focus.
- You may submit and digital image format either via email at [media@hornblasters.com](mailto:media@hornblasters.com), or via digital media (CD, DVD, etc).
- Make sure to include some kind of personal information with your submission. We would love to be able to contact you and thank you.

## Installation Gallery Submission Guidelines

- Please take at least one photo of each major components of your installation (horns, compressor, tank, valve, switches, etc).
- Don't forget to send us some shots of your vehicle too! If we can't tell what the install is on, we probably won't post it.
- Include as much installation information as possible.
  - ✧ Who installed the system and when was it installed?
  - ✧ How long did the install take?
  - ✧ What is the year, model, and style of your vehicle?
  - ✧ If you took your system to a shop, would you recommend the shop to others?
  - ✧ Do you have any comments or tips about the installation?
  - ✧ Anything else you want to tell us, we always appreciate your feedback!
- Optionally include a little personal information:
  - ✧ Your name (if you would like your full name to be displayed, you have to let us know!)

## General Video Submission Guidelines

- We accept all kinds of media. Please provide us with the highest quality media to prevent video degradation.
- We can read all formats of video. We recommend using either the default your camera records with; or if you are compressing the video, we recommend using AVI containers and Xvid, Divx, or a MPEG codec. We recommend AGAINST using any kind of Windows Media\*, Real Media\*, or Apple QuickTime\* formats.
- You may submit any digital image format either via email at [media@hornblasters.com](mailto:media@hornblasters.com), or via digital media (CD, DVD, etc).
- Make sure to include some kind of personal information with your submission. We would love to be able to contact you and thank you!

\*Windows, Windows Media, Real, Real Media, Apple, and QuickTime are all registered trademarks and copyright of their respective owners.

## Get Involved In The Train Horn Community

No matter what your take is on your new train horn kit, it's always good to have someone to share your stories with. Trainhornforums.com is the largest train horn community online and provides a place to share photos of your ride, post videos, catch up with other train horn and HornBlasters fans, meet other train horn enthusiasts, or even find help with a complicated question.

Go online to [www.trainhornforums.com](http://www.trainhornforums.com) and sign up today!

**Make sure to follow us on all the popular social media! Facebook, Vine, Twitter, Youtube, and Instagram. Show off your install and tag us in all you photos!**



***@hornblasters #hornblasters  
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# HORNBLASTERS

*Don't Blow Your Temper, Blow Your Horns!*

## 5 Gallon Nathan AirChime Installation

