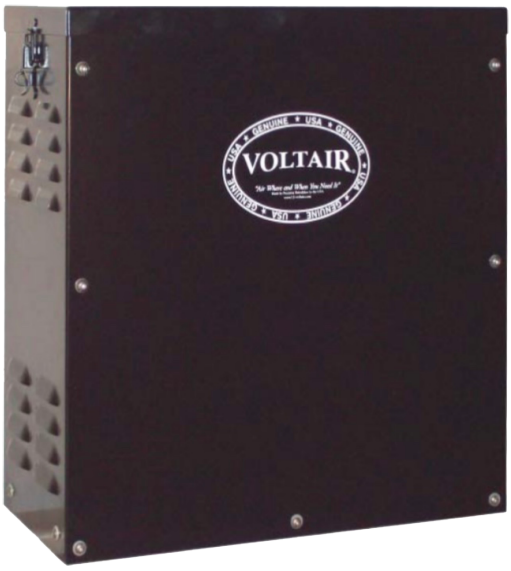
VOLTAIR® OWNER'S MANUAL

12V 150 PSI	24V 150 PSI
6 CFM	6 CFM
Model VA12	Model VA24



Questions?

As a manufacturer, we are committed to providing complete customer satisfaction. If you have questions, have missing parts, or have received damaged parts, contact us immediately. We want to ensure your complete satisfaction.

"AIR WHERE AND WHEN YOU NEED IT!"

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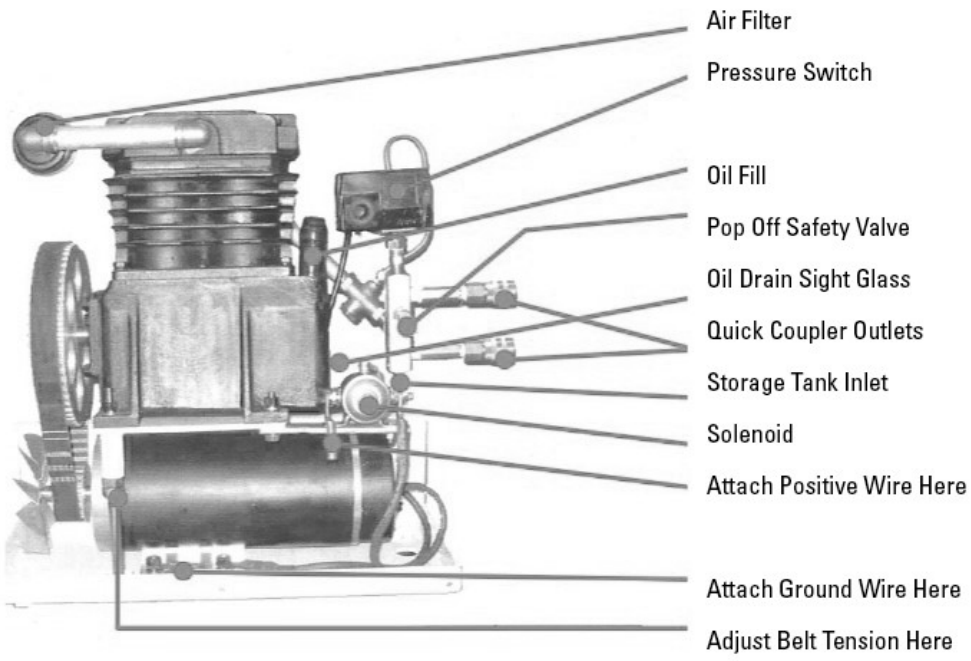
WARNING:

To reduce the risk of burns, fire, electric shock, or injury; read the following important safety precautions and information before operation of your VOLTAIR®.

Thank you for purchasing the VOLTAIR® air compressor. The VOLTAIR® is a heavy-duty air compressor designed to let you accomplish most air-related jobs away from the shop.

For safety and benefit, read this manual before using the VOLTAIR® .

Item Identification



Assembly and Installation

1. Be sure to inspect the VOLTAIR® for any shipping damages.
2. Install the two quick couplers onto the threaded nipples within the holes of the VOLTAIR® cabinet.
3. Remove the lid by un-latching. Remove the front panel by removing the 7 screws that hold the front service panel on the VOLTAIR®.
4. It may make wiring and mounting easier if the body back/side panel is also removed by removing the 4 screws on the sides of the unit and lifting the panel upward.
5. Check Belt Tension - Although being shipped with proper belt tension, please check to ensure belt tension did not change during shipping. See Maintenance section for belt tensioning.
6. Check Oil - the compressor is shipped with oil but the level should be checked and oil added if needed. It is recommended that the oil be CHANGED AFTER THE FIRST 8 HOURS of operation It takes approximately 0.54 quarts of oil to fill the compressor to the mid level in the sight glass.. DO NOT OVERFILL. The recommended oil is a MINERAL BASED NON-DETERGENT COMPRESSOR OIL, 10W for 20F - 70F (-7C - 21C) operation and 30W for 50F - 110F (10C - 73C) operation.
7. Find a location for your VOLTAIR® where:
    a. The VOLTAIR® can get adequate ventilation. If installing the VOLTAIR® in a vehicle compartment, make sure the compartment is adequately ventilated to insure the VOLTAIR® does not overheat.
    b. The VOLTAIR® will not be overly exposed to dirt and dust.

c. The VOLTAIR® can be properly fastened to ensure that it doesn't shift.

d. The under and back side of the support structure is clear of components that could be damaged when drilled through to make electrical and air connections to the VOLTAIR®.

8. Once you have decided on a location for the VOLTAIR®

   a. For Deck Mount - use the 4 mounting holes in base of the VOLTAIR®.

   b. For Bed Side Mount - use at least 2 of the mounting holes on the base of the VOLTAIR® as well as 2 new drilled holes higher up on the back of cabinet.

   c. Set the VOLTAIR® into position.

   d. Mark the 3 large holes on the right side of the VOLTAIR® base onto the floor of your location.

   e. Mark the mounting holes for the VOLTAIR® on your vehicle.

   f. Set the VOLTAIR® aside and get ready to drill some holes.

9. Drill your holes for electrical and plumbing.

   a. To eliminate any potential problems, it is recommended to add extra protection around the wires and hose (such as running the wires and hose through another hose or use a rubber grommet).

   b. Drill a hole at least 1/8" bigger than the outside diameter of the hose/wires that will be ran through the floor of your location.

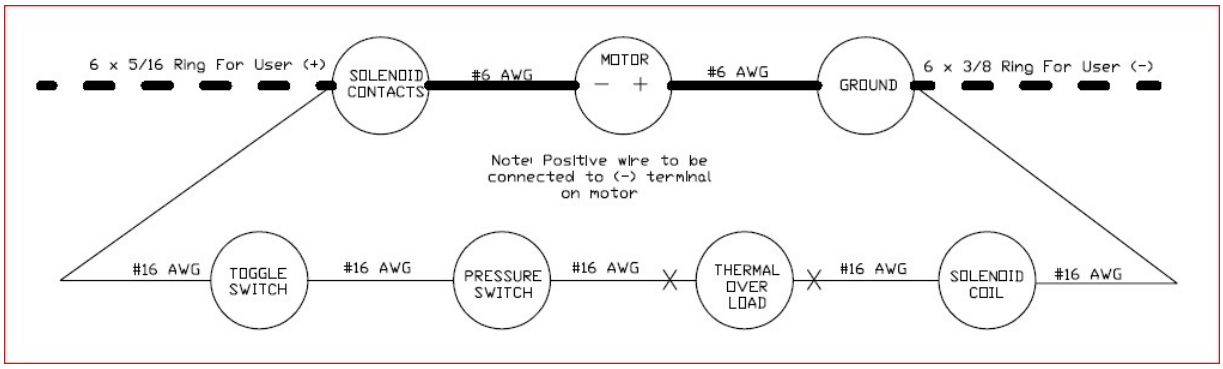
   c. Drill 3/8" holes for 5/16" mounting bolts (mounting bolts are not provided).

   d. Once your holes are drilled, move the VOLTAIR® back into position and use 5/16" bolts, lock washers and nuts to secure the VOLTAIR®.

10. Electrical Wire Size- Add the length of needed positive and ground wires together. Use the following table to find the minimum copper battery cable wire sizes for both the positive and ground wires

Max Total Feet	10 Ft	20 Ft	25 Ft	30 Ft	40 Ft	60 Ft	70 Ft
12 Volt	4 Ga	2 Ga	1 Ga	1/0 Ga	2/0 Ga	3/0 Ga	4/0 Ga
24 Volt	8 Ga	6 Ga	4 Ga	4 Ga	2 Ga	1 Ga	1/0 Ga

Voltair Wiring Diagram



11. Ground Wire Installation - In most cases a short ground cable from the VOLTAIR® to the frame of your vehicle is sufficient. When securing a ground to the frame of a vehicle be sure to sand/grind metal 'shinny' to ensure that the ground makes good contact. REMEMBER: When working with 12V DC Voltage your positive connection is only as good as your ground connection. If you have a "weak" ground connection, you will not be able to get peak energy through the positive wire to the VOLTAIR®.
    a. Run the wire from the bottom of the vehicle up through the bottom hole of the VOLTAIR® base.
    b. Strip back about 3/4" of the outer covering of the battery cable to attach and secure to the 'loose' copper lug at the base of the compressor, by either soldering or crimping.
    c. Tighten the bolt at the base of the compressor.
    d. Run other end of the ground wire along frame of vehicle to ground location and secure. Be sure to use plastic tie straps to secure wire against frame.
12. Positive Wire Installation
    a. This wire should be run directly from the battery (or the circuit breaker if used) of the vehicle to the side of the solenoid in the VOLTAIR®. When running this wire be sure to keep it away from moving parts and exhaust. KEEP IN MIND that if the outer sheath of the battery cable wears through and makes contact with metal it will create a short and cause major damage.
    b. Run wire from the bottom of the vehicle up through the other bottom hole of the VOLTAIR® base.
    c. Strip back about 3/4" of the outer covering of the battery cable to attach and secure to the copper lug by either soldering of crimping. Wrap the connection with electrical tape to complete the job.
    d. Attach to the side of the solenoid not connected to the motor. Be sure that the copper eyelet is not making contact with any other metal objects.
    e. Run other end of positive wire along frame of vehicle to the positive side of the battery. Be sure to use plastic tie straps to secure the wire against frame. DO NOT USE WIRE.
13. Vehicle Battery
    a. For optimum performance, it is recommended that the vehicle battery be rated with 120 or more minutes of reserve.
    b. The alternator that comes standard in most vehicles will charge between 40-50 amps at vehicle idle. Since the VOLTAIR® draws 80 amps when in use. It is recommended that a good battery and, in some cases, a second battery maybe necessary.
    c. The VOLTAIR® air compressor does not need cranking amps for optimum performance, but it does need battery reserve.

d. Over time a battery's ability to hold a full charge greatly diminishes. A lead battery may need to be replaced as often as every 2 years.

e. If you are using or planning to use the VOLTAIR® for more than 3-4 hours on a day-to-day basis, adding a second battery will help in achieving optimum performance.

14. Auxiliary Ignition Switch (Optional)

    a. The VOLTAIR® compressor is designed to operate only when both the pressure switch and the on/off toggle switch are in the on position. When these switches are on and your system air pressure drops below 125 PSI, the VOLTAIR® will kick on and run until the pressure reaches 135 PSI - regardless of whether you are in the vehicle or not. To avoid this, you may wish to power the VOLTAIR® only when the keyed ignition switch is on. This way, the VOLTAIR® will only run if both the ignition switch is on and the VOLTAIR® is calling for operation.

    b. To accomplish this, follow the steps below:

    c. Run a 16-gauge wire from the bottom of the vehicle up through one of the 3 holes of the VOLTAIR®.

    d. Remove the wire from the side of the solenoid (the same terminal that the positive wire from the vehicle is hooked to) and connect that wire to the wire you just pulled up.

    e. Run the other end of the 16-gauge wire to a terminal on your vehicle that is only powered when the ignition switch is on. Consult your automobile manufacturer to assist you in locating a power source that only has power when the ignition is in the 'on' position.

15. Replace the body back/side panel.

16. Insert the pre-wired toggle switch into the hole in the side of the cabinet and tighten the nut.

17. Replace the front cover.

18. YOUR VOLTAIR® SHOULD BE READY TO GO.

OPTIONS

1. Circuit Breaker
    a. One way to prevent damage in the event of a short circuit is to install a circuit breaker.
    b. A 150-amp circuit breaker is recommended and is available as an option; see the parts list for part number.
    c. This device should be mounted on the positive wire as close as possible to your battery that will trip in the event that you have a short.
2. Air Tank(s)
    a. Choosing the right size air storage tank - How much air storage you need can vary from task to task. In most cases a 6-gallon tank is adequate for filling/changing 1-2 tires at a time. Anything larger than 40 gallons is not recommended by VOLTAIR®. See Chart on the next page to help you determine how long it will take to fill an air storage tank.
    b. Choosing a location for you air storage tank - With air, the inlet and outlet are one in the same which makes it possible to plumb 2 or even 3 tanks with a minimal number of fittings. If you are mounting an air tank in an out of the way place, then running an air hose from the VOLTAIR® to your air storage through the base of the VOLTAIR® unit is the best way to go. This hose will be going through the middle hole of the VOLTAIR® base.
    c. A Department of Transportation approved air storage tank is recommended and is available from BWP-NSI, see parts list.
    d. Replace the bottom nipple on the VOLTAIR® unit running to the coupler and install an elbow or a tee.
    e. Run a pipe or hose down from here through the middle hole of the VOLTAIR® unit to the bottom of the vehicle and to your tank.

ESTIMATED TIMES IT TAKES TO FILL AIR STORAGE TANKS

	6 Gallon	12 Gallon	20 Gallon	30 Gallon	40 Gallon
0-135PSI	2 Min	4 Min	7 Min	10 Min	13 Min

MAINTENANCE

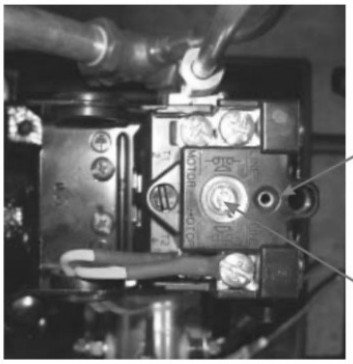
1. Under normal conditions you can count on your VOLTAIR® to provide "AIR WHERE AND WHEN YOU NEED IT" for a long time.
2. Check the items below at least once a year or every 200 hours of use.
    a. Check the air filter and replace as needed.
    b. Check oil level.
    c. Check belt to make sure that there is adequate belt tension. You should have 1/4" - 3/8" movement when applying slight pressure to the belt directly between the motor and pump pulleys. To adjust tension, loosen the four nuts on the support rods for the compressor. Move the upper or lower nuts until the proper tension is achieved. Tighten the nuts.
    d. Check pump pulley to make sure that side flanges are securely fastened.
    e. Remove any debris that may have fallen inside the case of the VOLTAIR®.
    f. Check positive and negative wires to make sure that are not worn and that they are securely fastened.
    g. Check plumbing to make sure there are no air leaks.
3. Drain oil and replace
    a. If using petroleum based non-detergent compressor oil, drain oil every 2 years or 400 hours.
    b. If you are using synthetic based compressor oil, drain oil every 4 years or 600 hours.

TROUBLESHOOTING

1. My VOLTAIR® does not run
    a. Do you have voltage at the terminal on the solenoid with wire coming from the battery? If yes – proceed. If not - check the circuit breaker, reset if applicable, and check the positive wiring.
    b. Do you have voltage at the small terminal on the solenoid and the ground? If yes – proceed. If not – then check
        i. if the ignition switch (if used) is powered,
        ii. if the toggle switch on the side of the VOLTAIR® is in the on position,
        iii. if the pressure switch is in the auto (down) position,
        iv. if the air pressure is less than 120 PSI, the pressure switch will not close to run the VOLTAIR® until the pressure has dropped below 120 PSI.
        v. if the thermal overload (if so equipped) is not open
    c. Do you have voltage on the terminal on the solenoid with wire going to the motor? If yes – proceed. If not - you have a bad solenoid
    d. Do you have a good ground? If yes - you have a bad motor. If not - fix ground.
2. My VOLTAIR® shakes
    a. Check belt tension. See maintenance section for belt tensioning.
    b. Check to make sure that the motor is securely fastened to the frame. Remove the cabinet and make sure that the two socket head bolts on the back of the unit are tight.
3. My VOLTAIR® runs but is not able to pump up any pressure - Check to see if you have any external air leaks. Disconnect any air storage tanks and plug tank supply line and run VOLTAIR® to see if pressure builds up - If this fixes the problem you have a leak that needs to be fixed.

4. My VOLTAIR® just starts - stops - starts - stops - You probably don't have an external air storage supply tank. The VOLTAIR® is shutting down with 135 PSI in the air lines and a small leak is draining the pressure down to 125 PSI and the VOLTAIR® is kicking back on to build the pressure back up to 135 PSI .
5. My VOLTAIR® runs fast at beginning but sounds like it slows down after it has run a few minutes.
    a. Recharge battery to make sure you have a good full charge.
    b. Make sure your cables are adequately sized, check the voltage at the VOLTAIR® to make sure you have 12 volts.
    c. Check your alternator - With an DC amp meter and the vehicle running; check the wire between the battery and the alternator to see if the alternator is charging.
    d. Replace the battery with a new battery. Check battery specifications section 13 of installation, elsewhere in this manual.

HOW DO I ADJUST MY PRESSURE SWITCH



Main Spring
Adjusting Screw A (metal screw)
Turn Clockwise to increase both cut-in and cut-out pressure.

Differential Pressure
Adjustment Screw B (black plastic screw)
Turn Clockwise to increase cut-in pressure without affecting cut-out pressure.

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GENUINE VOLTAIR

PARTS LIST

Part Number	Description	Weight
VA001	Air Manifold	0.89
VA002	Air Coupler 1/4 FPT 1/4 Ind Std	0.2
VA003	Safety Valve 1/4 MPT 165#	0.08
VA004	Check Valve 3/8' FPT	0.25
VA005	Pulley, Large, For Compressor Tapered Shaft	3.5
VA006	Pulley, Small, For Motor	0.42
VA007	Air Manifold Support Bracket for 16.25" Tall Unit	0.1
VA008	Pressure Switch 150 PSI	0.95
VA009	Body Back/Side Panel For 16.25" Tall Unit	10.1
VA010	Housing Lid For 16.25 and 18.5 Tall Units	3.1
VA011	Front Panel for Unit with Height of 16.25	5.5
VA013	Motor Base for Unit with Height of 16.25	15
VA014	Cover Plate For 16.25" Tall Unit	0.5
VA015	12 Volt Motor	21
VA016	24 Volt Motor	21
VA017-70	1" Flat Belt, 26.35" Long For 16.25" Tall Unit 70 cog	0.15
VA017-71	1" Flat Belt, 26.625" Long For 16.25" Tall Unit 71 cog	0.16
VA017-72	1" Flat Belt, 27" Long For 16.25" Tall Unit 72 cog	0.15
VA017-76	1" Flat Belt, 28.5" Long For 18.5" Tall Unit 76 cog	0.16
VA021	Compressor	36.25
VA022	Circuit Breaker, 150 Amp	0.9
VA023	Air Tank, 6 Gallon, 8" D x 30"L	22.1
VA025	Air Tank, 12 Gallon, 12"D x 29"L	32.9
M-3021	Toggle Switch	0.05
M-3097	Solenoid Switch 12 V 85 Amp	1.0
M-3098	Solenoid Switch 24 V 85 Amp	1.0
VA12	12 Volt 6 CFM 150 PSI 16.25" Tall Complete Unit	140.5
VA24	24 Volt 6 CFM 150 PSI 16.25" Tall Complete Unit	140.5

WARRANTY

BWP-NSI warrants the complete VOLTAIR® unit against defective workmanship and materials for 1 year from the date of purchase. If the VOLTAIR® unit fails to operate during the warranty period due to a defect, the VOLTAIR® unit needs to be returned to the dealer to determine the proper course of action. The dealer should contact BWP-NSI regarding a warranty inspection or replacement. BWP-NSI reserves the right to refuse any warranty claim if the VOLTAIR® has been altered, not maintained, abused or has been dismantled without proper authorization. BWP-NSI, Inc. can request that the VOLTAIR® unit be returned for inspection. BWP-NSI is not liable for improper installation of the VOLTAIR® unit. BWP-NSI, INC. IS NOT RESPONSIBLE OR LIABLE FOR INDIRECT, CONSEQUENTIAL DAMAGES ARISING OUT OF OR IN CONNECTION WITH THE USE OF PERFORMANCE OF THE PRODUCT OR OTHER DAMAGES WITH RESPECT TO ANY ECONOMIC, PROPERTY, OR REVENUE LOSSES.

To order parts, consult your dealer; go to 12-Voltair.com, or call BWP-NSI at (636) 364-5108.

THANK YOU FOR YOUR PURCHASE!

We know that your Voltair® will provide you with

“AIR WHERE AND WHEN YOU NEED IT!”

The VOLTAIR® Team