

VIATR[®]

Your Vital Air Source

- 400H-A – HARDMOUNT AUTOMATIC AIR COMPRESSOR KIT
PART NO. 40041
- 450H-A – HARDMOUNT AUTOMATIC AIR COMPRESSOR KIT
PART NO. 45041



IMPORTANT:

It is essential that you and any other operator of this product read and understand the contents of this manual before installing and using this product.

SAVE THIS MANUAL FOR FUTURE REFERENCE

USER MANUAL



IMPORTANT SAFETY INSTRUCTIONS

CAUTION - To reduce risk of electrical shock or electrocution:

- Do not disassemble. Do not attempt repairs or modifications. Refer to qualified service agencies for all service and repairs.
- Do not use this product in an area where it can fall or be pulled into water or other liquid.
- Do not reach for this product if it has fallen into liquid.
- Use this compressor with 12-volt DC systems only.
- This product should never be left unattended during use.

WARNING - To prevent injury:

- Never allow children to operate this compressor. Close supervision is necessary when this compressor is being used near children.
- This compressor will become very hot during and immediately after use. Do not touch any part of this compressor with bare hands, other than the ON/OFF switch, during and immediately after use.
- Do not use this product near flames or 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 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 the body.
- This air compressor is equipped with Automatic Reset Thermal Protector, and can automatically restart after the thermal protector resets. Always cut off power source when thermal protector becomes activated.
- Wear safety glasses or goggles when operating this product.
- Use only in well ventilated areas.

INSTALLATION

This air compressor is ideal for mounting under the hood or even inside your vehicle. The compact size of this compressor requires minimal space, and oil-less design permits mounting in many different areas of your vehicle. Please read and follow these Installation Instructions carefully to avoid injury or damage to the compressor or to your vehicle.

Each of our air compressors and parts have been carefully produced and packaged. Before you begin installation, please familiarize yourself with Installation Parts List (Fig. 1) of this manual.

Guidelines for Selecting Mounting Location:

The selection of proper mounting location for your air compressor will help ensure a long and trouble free compressor service life. Please pay close attention to the following guidelines:

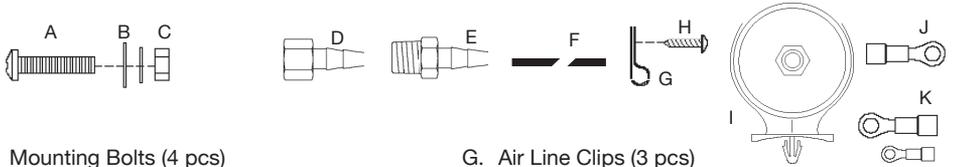
1. Select a FLAT, UPRIGHT AND SECURE location where the compressor can be mounted.
2. To maximize air compressor performance, locate compressor as CLOSE TO THE BATTERY as possible so that length of positive lead wire required is at a minimum.
3. Choose mounting location that is as cool as possible and AWAY FROM HEAT SOURCES. The cooler the ambient temperature the less chance the compressor will overheat.
4. This compressor is moisture & splash resistant, but NOT WATER PROOF. Do not mount compressor in locations where the unit is likely to come in contact with water.
5. Select compressor mounting location where air line can be routed from compressor air inlet to remote inlet air filter. Make sure Remote Inlet Air Filter is located in a dry location, away from water splashes.
6. If it is necessary to mount the air compressor further away from the battery, such as inside your vehicle or in the bed of your pickup, use a minimum 8 AWG positive lead wire for remote installation. (See wire gauge reference chart)
7. Do not mount compressor near areas where flammable liquids are stored.

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MOUNTING AND WIRING

1. Disconnect ground cable from vehicle's battery.
2. Temporarily position the air compressor in the location where it will be mounted. Route the positive wire to the positive post of the battery. Measure and cut positive wire to the appropriate length and use appropriate inline fuse.
3. Route ground wire to the negative post of the battery or to an appropriate chassis grounding point and cut ground wire to length as needed.
4. Mount the air compressor with the four sets of bolts, nuts, washers, and locking washers provided. (See Fig. 2 for Mounting Instructions). Use of thread sealant is recommended.
5. Attach ground wire to the negative post of the battery or chassis grounding point. Check to make sure that the air compressor's ON/OFF switch is in the OFF position. Attach positive wire to positive terminal of the battery.
6. Re-check to make sure that all connections are made securely.

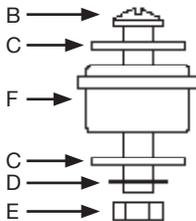
(Fig. 1) 400H-A/450H-A Hardmount Automatic Air Compressor Kit Installation Parts List:



- | | |
|---------------------------------------|-------------------------------------------------------|
| A. Mounting Bolts (4 pcs) | G. Air Line Clips (3 pcs) |
| B. Flat Washers (8 pcs) | H. Screws (3 pcs) |
| C. Locking Washer (4 pcs) | I. Remote Inlet Air Filter with Filter Element (1 pc) |
| D. Nuts (4 pcs) | J. Positive (Red) Ring Terminal (1pc) |
| E. 1/4" F x 3/8" Tube Fitting (1 pcs) | K. Negative (Black) Ring Terminals (2 Sizes) |
| F. 3/8" Air Line (1 pc) | |

(Fig. 2) Compressor Mounting Hardware

- B. Mounting Bolt
C. Flat Washer
D. Locking Washer
E. Nut
F. Vibration Isolator



OPERATING INSTRUCTIONS

1. **IMPORTANT:** Always operate the compressor at or below the MAXIMUM PRESSURE RATING of the compressor. Please refer to Application & Specifications Sections of this manual for details.
2. Always observe the MAXIMUM DUTY CYCLE of the air compressor. Refer to Compressor Applications and Specifications Sections of this manual for details. Operation exceeding maximum pressure ratings and/or duty cycle will result in damage to the air compressor.
3. Your air compressor is equipped with an AUTOMATIC THERMAL OVERLOAD PROTECTOR. This feature is designed to protect the air compressor from overheating and causing permanent damage to your air compressor. The thermal overload protector will automatically cut power to your air compressor should the internal operating temperature of the air compressor rise above safe levels during excessive use.
4. Should your compressor shut off suddenly after extended use, do not attempt to restart the air compressor. Turn power switch to the air compressor to the OFF position. The automatic thermal overload protector will automatically reset when internal temperature of the air compressor drops below safe levels. Allow air compressor to cool off for about 30 minutes, before resuming use of the air compressor.
5. For your convenience, and to protect the air compressor from over-pressure operation that

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OPERATING INSTRUCTIONS (continued)

can cause permanent damage to the unit - this compressor is equipped with built-in pressure switch with a factory set cut-on pressure of 130 PSI (\pm 5%) and a factory set cut-off pressure of 155 PSI (\pm 5%). During inflation of tire pressures between 130 PSI to 155 PSI, if you stop inflation, the compressor may not restart. This is completely normal, since inline pressure is greater than cut-on pressure of the pressure switch and less than cut-off pressure of the pressure switch.

To restart compressor, deflate tire pressure to below 130 PSI, reconnect tire chuck to tire valve stem and resume tire inflation

6. ONLY OPERATE THE AIR COMPRESSOR IN WELL-VENTILATED AREAS.

7. Compressor performance is also enhanced when operating compressor with vehicle's engine running.

TIRE INFLATION

This air compressor comes with 1/4" quick connect stud. An extension coil hose and a tire inflation gun are also included with your compressor. Each end of the extension coil hose is equipped with a 1/4" quick connect coupler. The tire inflation gun comes with a 1/4" quick connect stud, pressure gauge, rubber hose, bleeder valve and tire chuck. Attach one end of the extension coil hose to the stud on your compressor and the other end to the stud on the tire gun kit. The tire gun kit can be used for both airing up and airing down. Please familiarize yourself with the following functions of this versatile air tool.

1. Attach one end of the extension coil hose to the compressor and the other end to the tire gun kit.
2. Push the tire chuck, with the lever in the upright position, down over the tire valve stem and then push the lever down to the horizontal position to lock in place.
3. Turn compressor switch on and hold down the trigger on the tire gun kit to begin inflation.

TIRE DEFLATION

1. Push the tire chuck (with the lever in the upright position) down over the tire valve stem and then push the lever down to the horizontal position to lock in place.
2. Press the bleeder valve button on the tire gun kit to decrease tire pressure.
3. When desired pressure is reached, release the bleeder valve button to halt deflation

IMPORTANT: Always make sure the Portable Compressor's power cord is uncoiled and fully extended when using your air compressor to avoid overheating the power cord.

INLINE PRESSURE GAUGE

1. The pressure gauge on the inflation gun provides convenient tire pressure monitoring when airing up or down (not airflow of the compressor). This eliminates switching back and forth between a tire chuck and a tire pressure gauge.
2. Please note that during inflation and deflation, due to air velocity, pressure gauge cannot provide accurate pressure readings. Release lever on the tire inflation gun during inflation to check tire air pressure.

NOTE: To release excess pressure, turn off compressor and disconnect hose from compressor. With the tire inflation gun still connected to the other end of the coil hose, pull trigger on the tire inflation gun to release excess pressure.

SAFETY PRECAUTIONS:

1. Always inflate tires to manufacturer's recommended tire pressures. Exercise extreme caution when driving with aired-down tires. Reinflate tires before high-speed roadway travel.
2. Never exceed 20 M.P.H. when driving with partially inflated tires.
3. Never make sharp turns while driving with reduced tire pressure.
4. Re-inflate tires before high speed traveling onto roadways.

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INLINE PRESSURE GAUGE (continued)

5. Use heat-resistant, minimum 200 PSI-rated working pressure extension hose. Do not use aftermarket hoses with less than 200 PSI working pressure. Some aftermarket hoses may not be suitable for use with this air compressor due to heat and pressure typically generated by this type of air compressors.

MAINTENANCE & REPAIRS

1. Periodically check all electrical and fittings connections. Clean and tighten or repair as needed.
2. Periodically check all mounting bolts. Tighten as needed.
3. Replace air filter element periodically. Replacement frequency depends on operating frequency and operating environment. For frequent use in dusty environment, we recommend that you replace air filter element at least once a month.
4. Regularly clean dust and dirt from compressor cooling fins and motor housing.
5. Your air compressor is equipped with a permanently lubricated, maintenance-free motor. Never try to lubricate compressor.
6. All repairs should be performed by Manufacturer or Manufacturer's Authorized Service Agencies only.

CAUTION: Never touch the air compressor or fittings connected to the air compressor, with bare hands during or immediately after usage. If necessary, wear heat resistant gloves to handle fittings, air line, and coil hose.

SPECIFICATIONS

- Part No. 40041 / 400H-A Automatic Air Compressor

Motor Voltage:	12 Volts
Max. Current Consumption:	30 Amps
Motor Type:	Permanent Magnetic
Max. Working Pressure:	150 PSI
Max. Duty Cycle (@ 72°F & 100 PSI):	33%
(Min. On/Off @72°F & 100 PSI)	20 On / 40 Off
Max. Restart Pressure:	150 PSI
Max. Ambient Temperature:	158°F
Min. Ambient Temperature:	-40°F
Fuse:	40 amps
Dimensions:	11.25"L x 4"W x 6.75H"
Net Weight:	8.95 Lbs.

- Part No. 45041 / 450H-A Automatic Air Compressor

Motor Voltage:	12 Volts
Max. Current Consumption:	23 Amps
Motor Type:	Permanent Magnetic
Max. Working Pressure:	150 PSI
Max. Duty Cycle (@ 72°F & 100 PSI):	100%
(Min. On/Off @72°F & 100 PSI)	Continuous
Max. Restart Pressure:	150 PSI
Max. Ambient Temperature:	158°F
Min. Ambient Temperature:	-40°F
Fuse:	30 amps
Dimensions:	12"L x 4"W x 6.75H"
Net Weight:	11.05 Lbs.

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COMPRESSOR APPLICATION GUIDE

To ensure that you get the highest level of satisfaction from your compressor performance, refer to information below:

VIAIR COMPRESSOR REFERENCE CHART

COMPRESSOR SERIES	MAX. WORKING PRESSURE	DUTY CYCLE (100 PSI @ 72°F)
090 SERIES	120 PSI	9%
092 SERIES	120 PSI	9%
095 SERIES	120 PSI	9%
097 SERIES	130 PSI	10%
098 SERIES	130 PSI	10%
100 SERIES	130 PSI	15%
250 IG SERIES	150 PSI	100%
275 SERIES	150 PSI	25%
280 SERIES	150 PSI	30%
325 SERIES	150 PSI	33%
330 IG SERIES	150 PSI	100%
350 SERIES	150 PSI	100%
380 SERIES	200 PSI	100%
		55% @ 200 PSI
400 SERIES	150 PSI	33%
420 SERIES	150 PSI	33%
425 SERIES	175 PSI	33% @ 175 PSI
		50%
444 SERIES	200 PSI	100%
		50% @ 200 PSI
450 SERIES	150 PSI	100%
450 IG SERIES	150 PSI	100%
460 SERIES	150 PSI	100%
480 SERIES	200 PSI	100%
		50% @ 200 PSI
485 SERIES	200 PSI	100%
		100% @ 200 PSI

ABOUT COMPRESSOR DUTY CYCLE:

Duty cycle refers to the amount of time a compressor can be operated in a given time period at 100 PSI, and a standard ambient temperature of 72° F. It is commonly expressed in percentage format: Compressor on time ÷ (on time + off time) = Duty Cycle %.

ONE-HOUR DUTY CYCLE

(100 PSI @ 72°F)

	MINUTES ON / MINUTES OFF
9%	5 Min. On / 55 Min. Off
10%	6 Min. On / 54 Min. Off
15%	9 Min. On / 51 Min. Off
20%	12 Min. On / 48 Min. Off
25%	15 Min. On / 45 Min. Off
30%	18 Min. On / 42 Min. Off
33%	20 Min. On / 40 Min. Off
50%	30 Min. On / 30 Min. Off
100%	1 Hour Run Time

NOTE: All compressors, regardless of rated duty cycle, require sufficient rest time in between cycles to allow for partial or complete heat dissipation. Heat dissipation rates may vary depending on ambient temperatures and operating conditions.

ABOUT RATED WORKING PRESSURE:

To ensure trouble free service life of your compressor, always operate compressor within rated working pressure of the compressor. Never use a pressure switch with a higher cut-off pressure than compressor's rated working pressure.

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TROUBLESHOOTING GUIDE:

PROBLEM:	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Compressor runs continuously and air flow lower than normal	<ol style="list-style-type: none">1. Excessive air usage2. Loose connections3. Worn piston ring or inlet valve.4. Clogged air filter element	<ol style="list-style-type: none">1. Decrease air usage2. Check all connections with soap and water solution and tighten.3. Replace compressor4. Replace air filter element
Compressor runs continuously	<ol style="list-style-type: none">1. Faulty pressure switch	<ol style="list-style-type: none">1. Replace pressure switch
Compressor will not run	<ol style="list-style-type: none">1. No power, or power switch in OFF position2. Blown fuse3. Motor overheats4. Faulty pressure switch (if hooked up to a pressure switch).	<ol style="list-style-type: none">1. Make sure compressor switch is ON2. Disconnect compressor from power source, replace fuse. (Refer to Specifications section for correct fuse amperage)3. Let compressors cool off for about 30 minutes to allow thermal overload switch to reset.4. Replace pressure switch
Thermal overload protector cuts out repeatedly	<ol style="list-style-type: none">1. Lack of proper ventilation or ambient temperature is too high2. Compressor valves failed	<ol style="list-style-type: none">1. Move compressor to well ventilated area, or area with lower ambient temperature2. Replace compressor
Excessive knocking or rattling	<ol style="list-style-type: none">1. Loose mounting bolts2. Worn bearing on eccentric or motor shaft3. Cylinder or piston ring is worn	<ol style="list-style-type: none">1. Tighten bolts2. Replace bearing or piston assembly3. Replace piston or compressor

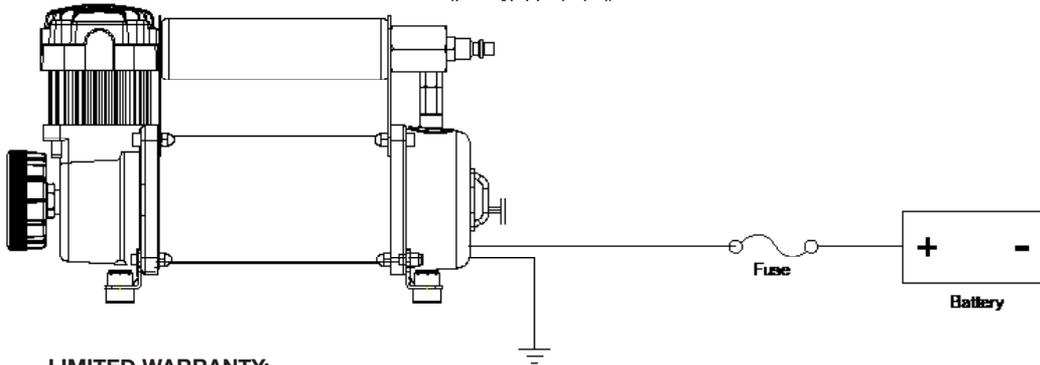
CAUTION: NEVER DISASSEMBLE COMPRESSOR WHILE COMPRESSOR IS PRESSURIZED.

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AMERICAN WIRE GAUGE GUIDE 12-VOLT:

Amp Draw	Length of wire from battery to compressor (in feet)			
	5	10	15	20
5	16	16	16	14
10	16	14	12	10
15	16	12	10	10
20	14	10	10	8
25	14	10	8	6
30	12	10	8	6
40	12	8	6	6
50	10	6	6	4
60	10	6	4	4

Wiring Diagram:



LIMITED WARRANTY:

VIAIR Corporation warrants this product, when properly installed and under normal conditions of use, to be free from defects in workmanship and materials for a period of one year from its original date of purchase. To receive warranty service or repair, please contact VIAIR Corporation.

Returns should be made within one year of the date of purchase, after a Return Goods Authorization (RGA) number has been assigned by VIAIR Corporation. To obtain RGA, fax a copy of your receipt to (949) 585-0188. For complete warranty details, please visit: www.viaircorp.com/warranty

PLEASE NOTE:

THIS WARRANTY COVERS PRODUCT DEFECTS ONLY; IT DOES NOT COVER INCIDENTAL OR CONSEQUENTIAL DAMAGES AS RESULT OF MISUSE OR ABUSE.

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