



- 42045 – Heavy Duty ADA Base Model Kit: 85/105 PSI (ADA Compressor Only)
- 42047 – Heavy Duty ADA Base Model Kit: 110/145 PSI (ADA Compressor Only)
- 45052 – Constant Duty ADA Base Model Kit: 85/105 PSI (ADA Compressor Only)
- 45054 – Constant Duty ADA Base Model Kit: 110/145 PSI (ADA Compressor Only)



**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**



# AUTOMATIC DEPLOYMENT AIR BASE MODEL KIT

## IMPORTANT SAFETY INSTRUCTIONS

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### **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 required service and repairs.
- Do not use this product around an area where it can fall or be pulled into water or other liquids.
- 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 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 an 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

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Please read and follow the installation instructions carefully to avoid injury or damage to the compressor or your vehicle.

Each of our air compressors and parts have been carefully produced and packaged. Before you begin installation, please familiarize yourself with the **ADA Base Model Kit Components List** in 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. The cooler the ambient temperature, the less chance the compressor will overheat. If mounted in the engine compartment for prolonged use (tire filling), open your hood to allow maximum cooling of the compressor unit.
3. This compressor is moisture & dust resistant, but NOT DIRT OR WATERPROOF. Do not mount compressor in locations where the unit is likely to come in contact with the elements.
4. Always utilize the supplied remote filter mounting option, and route the air line from compressor air inlet to remote inlet air filter located in a clean and dry area. Secure the air filter to keep it from dislodging and becoming damaged.
5. 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 the appropriate gauge wire for the amp draw of the compressor and distance from the battery. When in doubt, use the next larger wire gauge size.

# AUTOMATIC DEPLOYMENT AIR BASE MODEL KIT

## MOUNTING AND WIRING

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1. Disconnect ground cable from vehicle's battery.
2. Position the air compressor in the location where it will be mounted.
3. NOTE: For remote inlet air filter installation, refer to instructions included in the Remote Inlet Air Filter Pack.
4. Make sure that your compressor setup is properly fused.
5. Before connecting to power source, re-check your system to make sure that all electrical connections are made properly.
6. Connect power lead to the battery. It is recommended to provide switched power for the system, that is only turned on when the ignition of the vehicle is also energized in case of any air leaks that may allow the system to turn on and drain your battery during periods when the vehicle might remain parked. This is especially important when using a small reservoir, as is supplied with all ADA Base Model Kits.
7. Ensure that the drain valve located on the underside of the ADA Base Model reservoir is closed.
8. When power is made available to the ADA Base Model, the system will automatically turn on and fill the ADA reservoir.
9. When the cutoff pressure of the ADA Base Model has been reached, the system will shut off automatically.
10. Inspect all air line connections for leaks with soap and water solution. If a leak is detected, the connection may not be made properly. Re-do any connections that are leaking. The use of thread locker is recommended for all fittings. *(Avoid the use of Teflon tape).*

### ADA BASE MODEL KIT COMPONENTS LIST:

- Qty. 1: 400C or 450C Compressor
- Qty. 1: Extruded Aluminum Air Tank (12-port)
- Qty. 1: Pre-installed Safety Valve
- Qty. 1: Pre-installed 1/8" NPT Drain Cock
- Qty. 1: Pre-installed 85/105 PSI Pressure Switch (P/N 42045 & P/N 45052)  
or
- Qty. 1: Pre-installed 110/145 PSI Pressure Switch (P/N 42047 & P/N 45054)
- Qty. 8: Pre-installed 1/4" NPT Recessed Port Plugs
- Qty. 1: Pre-installed Quick Connect Coupler
- Qty. 1: 40-amp Relay
- Qty. 2: 1/4" NPT to 1/8" BSP Adapters
- Qty. 1: 1" NPT M Barbed Fitting for 1/4" Air Line (For Remote Mount Air Filter Installation)
- Qty. 1: 1" NPT F Barbed Fitting for 1/4" Air Line (For Remote Mount Air Filter Installation)
- Qty. 1: Coiled Air Line (For Remote Mount Air Filter Installation)
- Qty. 1: Air Filter Housing
- Qty. 2: Replacement Air Filter Elements
- Qty. 1: Mounting Hardware

# AUTOMATIC DEPLOYMENT AIR BASE MODEL KIT

## OPERATING INSTRUCTIONS

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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 at any time during use, your air compressor automatically shuts off unexpectedly; do not attempt to restart it. Turn off power and allow unit to cool for at least 30 minutes. This will allow the Thermal Overload Protector to reset so you can safely resume use of the air compressor.
5. To prevent discharge of your vehicle's battery, and enhance performance, keep the vehicle's engine running while using the compressor.
6. Only operate compressor in well ventilated areas.

**NOTE:** Your ADA Base Model Kit is equipped with a sealed pressure switch. Due to manufacturing tolerances, a variance of +/- 5% is possible for turn on & off pressures. This is not a manufacturing defect, and will not affect the operation of air lockers, nor the ability of the ADA Base Model Kit to inflate tires.

## MAINTENANCE & REPAIRS

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1. Periodically check all electrical and fittings connections. Clean and tighten as needed.
2. Periodically check all mounting screws. 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/or motor housing.
5. Your air compressor is equipped with a permanently lubricated, maintenance-free motor. Never try to lubricate the compressor.
6. All repairs should be performed by Manufacturer or Manufacturer's Authorized Service Agencies only.
7. For complete information regarding VIAIR Warranty, please visit: [www.viaircorp.com/warranty](http://www.viaircorp.com/warranty)

### **CAUTION:**

Never touch the air compressor or fittings connected to the air compressor, with bare hands during or immediately after use. The leader hose and fittings connected to leader hose will become very **HOT** during and after use. If necessary, wear heat resistant gloves to handle fittings, air line, and leader hose.

# AUTOMATIC DEPLOYMENT AIR BASE MODEL KIT

## SPECIFICATIONS

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### HEAVY DUTY ADA BASE MODEL KIT PART NUMBERS:

- 42045 – Heavy Duty ADA Base Model Kit: 85/105 PSI (ADA Compressor Only)
- 42047 – Heavy Duty ADA Base Model Kit: 110/145 PSI (ADA Compressor Only)

Motor Voltage:	12 volts
Max. Current Consumption:	26 amps
Motor Type:	Permanent Magnetic
Horsepower:	1/4
Max. Working Pressure:	150 PSI
Max. Duty Cycle (@72°F & 100 PSI):	33%
Minutes On/Off (@72°F & 100 PSI):	15 On/30 Off
Max. Ambient Temperature:	158°F
Min. Ambient Temperature:	-40°F
Auto. Reset Thermal Protection:	Yes

### CONSTANT DUTY ADA BASE MODEL KIT PART NUMBERS:

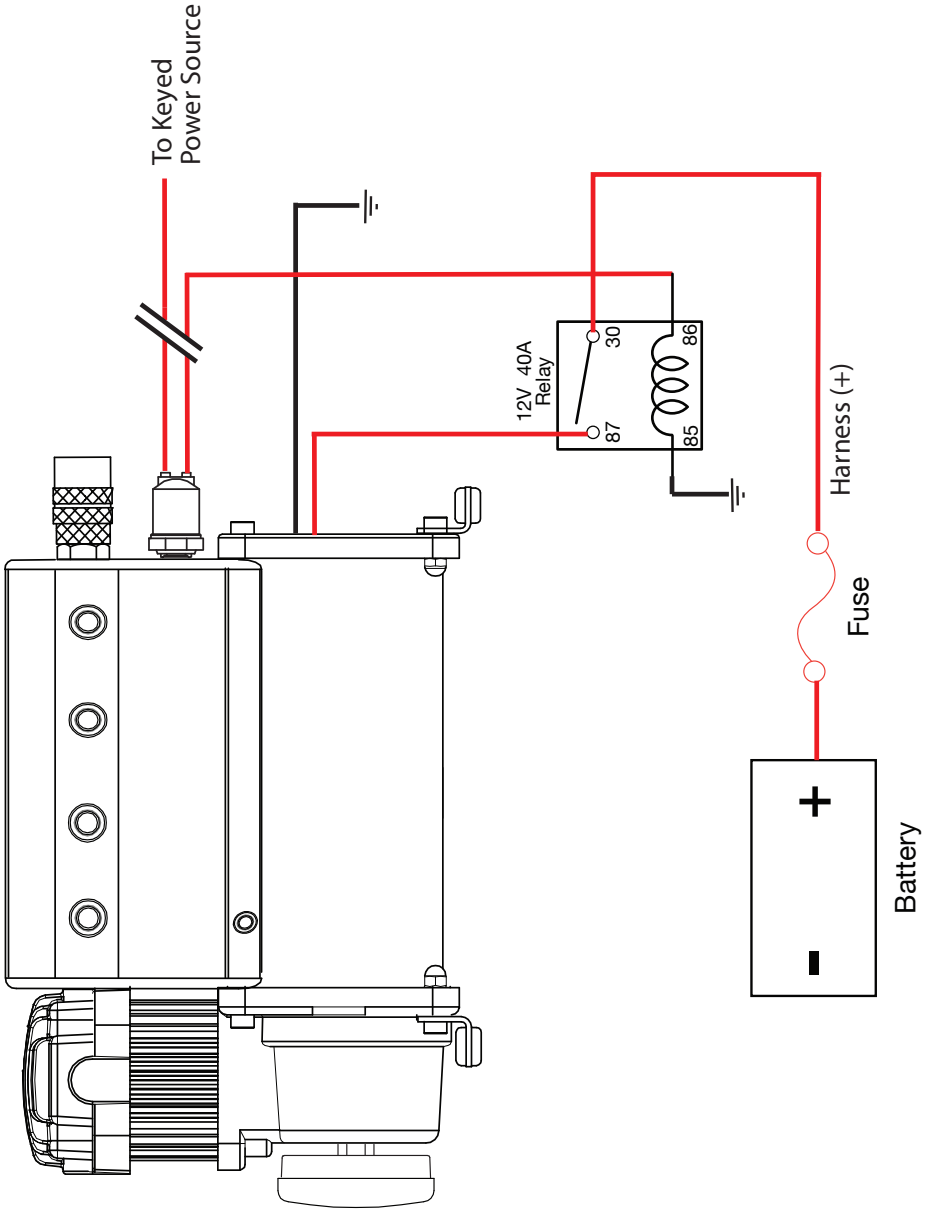
- 45052 – Constant Duty ADA Base Model Kit: 85/105 PSI (ADA Compressor Only)
- 45054 – Constant Duty ADA Base Model Kit: 110/145 PSI (ADA Compressor Only)

Motor Voltage:	12 volts
Max. Current Consumption:	19 amps
Motor Type:	Permanent Magnetic
Horsepower:	1/4
Max. Working Pressure:	150 PSI
Max. Duty Cycle (@72°F & 100 PSI):	100%
Minutes On/Off (@72°F & 100 PSI):	Continuous
Max. Ambient Temperature:	158°F
Min. Ambient Temperature:	-40°F
Auto. Reset Thermal Protection:	Yes

# AUTOMATIC DEPLOYMENT AIR BASE MODEL KIT

## ADA BASE MODEL KIT WIRING SCHEMATIC:

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# AUTOMATIC DEPLOYMENT AIR BASE MODEL KIT

## TROUBLESHOOTING GUIDE:

PROBLEM:	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Tank pressure drops when compressor(s) shut off	<ol style="list-style-type: none"><li>1. Loose drain cock</li><li>2. Loose connections</li></ol>	<ol style="list-style-type: none"><li>1. Tighten drain cock</li><li>2. Check all connections with soap and water solution and tighten</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.</li><li>3. Replace compressor</li><li>4. Replace air filter element</li></ol>
Compressor runs continuously causing safety valve (if equipped) to open	<ol style="list-style-type: none"><li>1. Bad 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>
Excessive moisture in discharge	<ol style="list-style-type: none"><li>1. Excessive water in air tank</li><li>2. High humidity</li></ol>	<ol style="list-style-type: none"><li>1. Drain tank, tilt tank to drain. Drain tank more frequently</li><li>2. Move compressor to area with less humidity, or use air line filter.</li></ol>
Compressor will not run	<ol style="list-style-type: none"><li>1. No power, or power switch in OFF position</li><li>2. Blown fuse</li><li>3. Motor overheats</li><li>4. Pressure switch failure</li></ol>	<ol style="list-style-type: none"><li>1. Make sure compressor switch is ON</li><li>2. Disconnect compressor(s) from power source, replace fuse. (Refer to Specifications section for correct amperage rating)</li><li>3. Let compressors cool off for about 30 minutes to allow 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 or ambient temperature is too high</li><li>2. Compressor valves failed</li></ol>	<ol style="list-style-type: none"><li>1. Move compressor to well ventilated area, or area with lower ambient temperature</li><li>2. Repair or replace 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 bearing or piston assembly</li><li>3. Replace piston or compressor</li></ol>

**CAUTION: NEVER DISASSEMBLE COMPRESSOR WHILE COMPRESSOR IS PRESSURIZED.**

# AUTOMATIC DEPLOYMENT AIR BASE MODEL KIT

## ABOUT COMPRESSOR DUTY CYCLE:

Compressor Duty Cycle refers to amount of time a compressor can be operated in a given time period, at 100 PSI and at a standard ambient temperature of 72°F. Duty Cycle is commonly expressed in percentile as:

Compressor on Time/ (Compressor on Time + Off Time) %

As an example, a compressor that is rated for 25% duty cycle means that compressor can be operated at:

100 PSI @ 72°F for 10 Minutes ON and 30 Minutes OFF

10 Min. On / (10 Min. On + 30 Min. Off) = 10 Min. / 40 Min.

=25% Duty Cycle

### DUTY CYCLE REFERENCE CHART

DUTY CYCLE @100PSI / 72°F

	MINUTES ON / OFF
15%	6 Min. On / 34 Min. Off
20%	8 Min. On / 32 Min. Off
25%	10 Min. On / 30 Min. Off
30%	13 Min. On / 30 Min. Off
33%	15 Min. On / 30 Min. Off
100%	Continuous Duty

### 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.

### WIRE GAUGE GUIDE 12-VOLT:

Amp Draw	Length of wire from battery to compressor				
	10	15	20	25	30
10	14	12	10	10	10
15	12	10	10	8	8
20	10	10	8	6	6
25	10	8	6	6	6
30	10	8	6	6	4
40	8	6	6	4	4
50	6	6	4	4	2
60	6	4	4	2	2

### 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](http://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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