

## Components and Hardware:



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1. Twin Air Compressor .....	(1)
2. Air Filter .....	(2)
3. Power Wire Harness .....	(1)
4. 90 Degree Swivel Elbow Adaptor .....	(1)
5. Air Chuck .....	(1)
6. Dust Cap .....	(1)
7. Tire Connection Hose .....	(2)
8. Compressor Source Hose .....	(1)
9. Gauge Manifold .....	(1)
10. Ring Terminal .....	(3)
11. M6 Bolt .....	(8)
12. M6 Washer .....	(8)
13. M6 Split Washer .....	(8)
14. Teflon Tape .....	(1)
15. Mesh Carrying Bag .....	(1)



## Tools for Installation:

- 10mm Wrench or Socket
- 8mm or 5/16 in Drill Bit

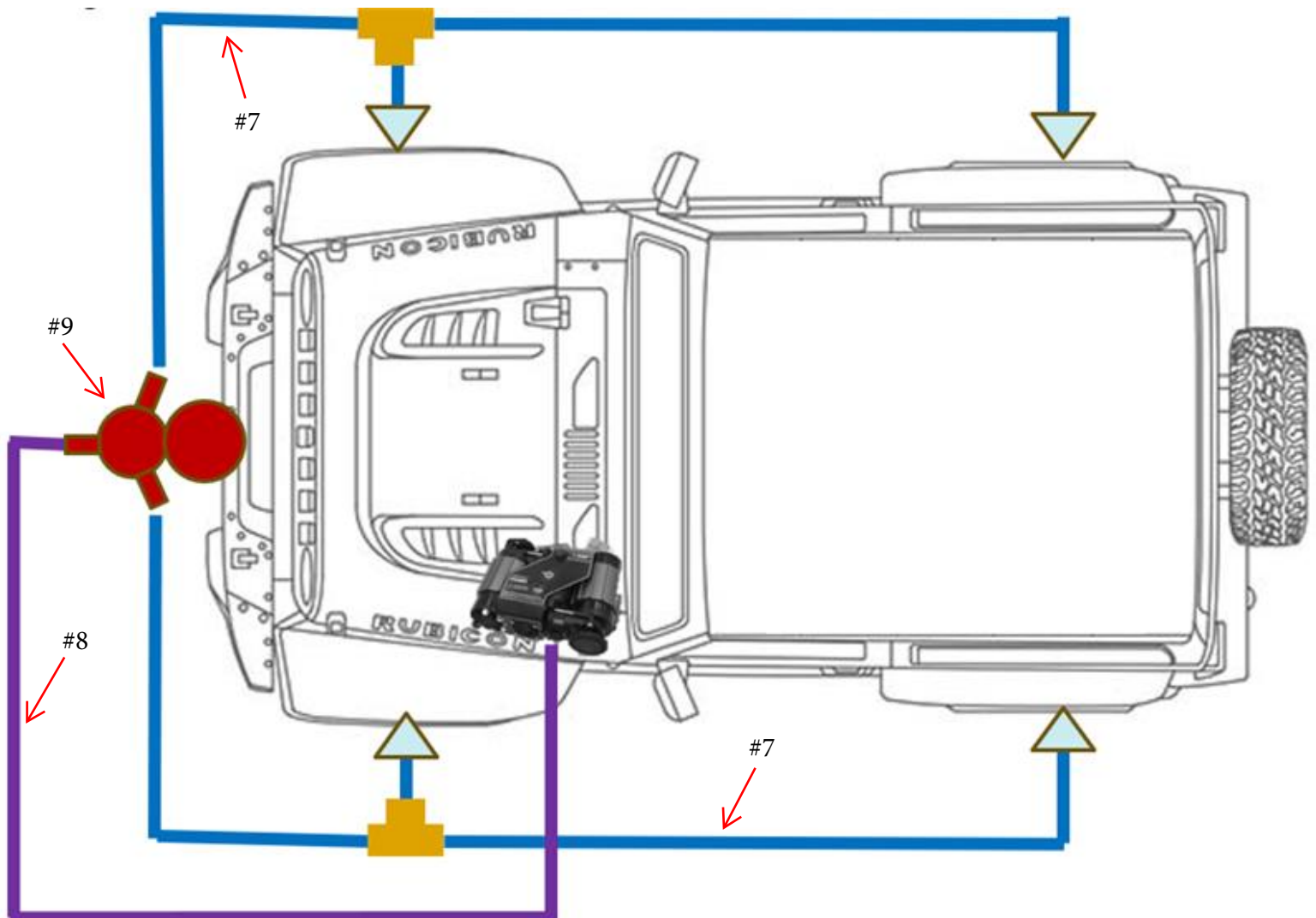
## Twin Air Compressor Kit

### How to install the Air Chuck (#5) to the Twin Air Compressor (#1)

Identify your compressor mounting location and determine if it will need to use the Swivel Adaptor (#4) to allow clearance for the Compressor Source Hose (#8) connection. If the Swivel Adaptor (#4) is needed, wrap Teflon Tape (#14) around the threads clockwise for 2-3 wraps. The Swivel Adaptor (#4) can then be installed and tightened onto the Twin Air Compressor (#1). Repeat the Teflon Tape (#14) wrapping process for the Air Chuck (#5). Install and tighten the Air Chuck (#5) into the Swivel Adaptor (#4). If the Swivel Adaptor (#4) is not needed, apply the Teflon Tape (#14) directly to the Air Chuck (#5) and install it directly onto the compressor body and tighten.

### Diagram of hose layout

The shortest supplied hose is the Compressor Source Hose (#8). This hose is used to connect the compressor to the Gauge Manifold (#9). The 2 longer supplied hoses are the Tire Connection Hoses (#7). Regardless of your chosen compressor mounting location, it is recommended to run the source hose and gauge manifold to the center line of your vehicle. This will ensure that the supplied tire hoses will be able to reach all 4 tires simultaneously.



This 12V DC Twin Air Compressor is an on-board vehicle air compressor that is compact and supplies high-volume compressed air for operating most air powered tools and includes applications such as rapid inflation of small, medium and large tires, continuous air supply for tools rated up to 85 L/min (3 CFM) @ 6 Bar (90 PSI), or operation of air tools rated higher than 85 L/min (3 CFM) @ 6 Bar (90 PSI) using a separate air tank. This compressor is not intended for use with air locking differentials.







## SPECIFICATIONS



Current Draw	No Load (0 Bar / 0 PSI): 28A @12VDC Load (2 Bar / 29 PSI): 50A @12VDC	Pressure Switch	Open: 10.3 Bar (150 PSI) Closed: 9.3 Bar (135 PSI)
Motor Type	Twin Permanent Magnetic Motors	Safety Valve	Open @ >12.4 Bar (180 PSI)
Airflow	174.3L/Min @ 0 Bar (6.16 CFM @ 0 PSI) 131.7L/Min @ 2 Bar (4.65 CFM @ 29 PSI)	Size (HxLxW)	102 x 190 x 275mm (4 x 7-½ x 10 ¾ in.)
		Total Weight	8.8 kg (19.4 Lbs)



The safety instructions provided in this manual are not intended to cover all possible conditions and practices that may occur when operating, maintaining and cleaning the product.

Always use common sense and pay particular attention to all DANGER, WARNING, CAUTION, and NOTICE statements of this manual.







## WARNING SYMBOLS AND DEFINITIONS

	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
	Addresses practices not related to personal injury.
	

Symbol	Property or Statement
	Read and understand this instruction manual prior to using this product.
	Wear ANSI approved safety glasses.

Symbol	Property or Statement
	Toxic Fumes. Do not use this compressor as a source for breathable air.
	Explosion hazard.

## WARNING SYMBOLS AND DEFINITIONS (Cont'd)

Symbol	Property or Statement	Symbol	Property or Statement
	Hot surface burn hazard.		Injection Hazard.
	Fire hazard.		Compressed Air.
	Caustic battery acid hazard.		Do Not Weld.

### NOTICE

This instruction manual is intended for your benefit. Please read and follow the safety, installation, maintenance and troubleshooting steps described herein to ensure your safety and satisfaction. The contents of this instruction manual are based upon the latest product information available at the time of publication. The manufacturer reserves the right to make product changes at any time without notice.

## GENERAL SAFETY RULES



### WARNING

**READ ALL SAFETY WARNINGS AND ALL INSTRUCTIONS.** Failure to follow the warnings and instructions may result in electric shock, serious injury and/or DEATH.

**SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE.**

#### WORK AREA SAFETY

- **Operate in a safe work environment.** Keep your work area clean, well-lit and free of distractions. Place lights so you are not working in a shadow.
- **Keep anyone not wearing appropriate safety equipment away from the work area.**
- **Keep out of reach of children.**
- **Do not install or use in the presence of flammable gases, dust, or liquids.**

#### PERSONAL SAFETY

- **Wear Personal Protective Equipment (PPE) approved by the American National Standards Institute (ANSI) or the Canadian Standards Association (CSA).**
- **Always wear impact safety goggles that provide front and side protection for the eyes.** Eye protection equipment should comply with ANSI Z87.1 or CSA Z94.3-07 standards based on the type of work performed.
- **Wear protective clothing designed for the work environment and equipment.**

## PERSONAL PRECAUTIONS

- Control the tool, personal movement and the work environment to avoid personal injury or damage to the equipment or vehicle.
- Do not operate any equipment when tired or under the influence of drugs, alcohol, or medications.
- Avoid wearing clothes or jewelry that can become entangled with the moving parts of a tool. Keep long hair covered and bound.
- Do not overreach when operating the equipment. Proper footing and balance enables better control in unexpected situations.

## SPECIFIC SAFETY PRECAUTIONS

- **Do not let comfort or familiarity with the equipment (gained from repeated use) replace strict adherence to the equipment safety rules.** If you use this equipment unsafely or incorrectly, you can suffer serious personal injury or DEATH.
- **Do not overinflate an object.** Overinflation can cause damage and/or personal injury if the object ruptures while under pressure. Never leave the compressor unattended while in operation.
- **Use the correct equipment for the job.** This equipment was designed for a specific function. Do not disassemble, modify or alter this equipment or use it for an unintended purpose.
- **Never point the air stream or air tool at any point of your body, other people, or animals.** Debris and dust may be ejected without warning. Serious injury may occur from loose debris being propelled at high speeds from the compressed air stream.
- **Injection hazard.** The air stream produced by this equipment is at high enough pressure and velocity to penetrate human and animal flesh which could result in amputation or other serious injury.
- **Never allow children to operate this compressor.**
- **Do not touch any part of the compressor during and immediately after use.** The compressor will become very HOT.
- **Disconnect the compressor from the battery prior to attempting any maintenance or repair.**
- **Do not use this compressor as a source of breathable air.**
- **Ensure the vehicle exhaust is well ventilated and not operated in an enclosed space such as a garage when running a vehicle engine to charge a battery or operate the compressor.**
- **Only use tanks that are ASME BPVC Sec. VIII or SAE J10 certified when using a separate air reservoir.**

- **Do not attempt maintenance or repair of the compressor while the vehicle engine is running.**
- **Do not use combustible substances in or around the compressor.** Never operate the compressor in an area where hydrocarbon vapors (such as gasoline), are present or suspected to be present.
- **Relieve all compressed air from the system prior to removing or disconnecting any hoses, fittings, or related items.**
- **Always wear eye protection when working around batteries to prevent the risk of injury due to contact with corrosive battery acid or an explosion.**
- **Never weld, solder, steam clean or use a gas torch near the compressor.** Excessive heat may cause damage to the electrical components of the compressor or may cause pressurized components of the air system to explode.
- **All pressure containing parts, especially flexible hoses and their couplings must be regularly inspected, be free from defects and replaced as needed.**

## PREPARING FOR INSTALLATION



- **Installation and service of this compressor should be performed by qualified personnel.**
- **Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage.** For assistance or additional information, consult a qualified service technician, service agency or your dealer.
- **Do not install this product or route any wires in the deployment area of your air bag.** Equipment installed in the air bag deployment area will reduce the effectiveness of the air bag or become a projectile that could cause serious personal injury or death. Refer to your vehicle owner's manual for the air bag deployment area.

## Selecting a Mounting Location:

Selecting an acceptable mounting location will ensure proper operation and a long service life. When considering a mounting location, attention should be given to the following:

- The compressor should be mounted on a flat surface that will allow easy access to the control switch and so hoses and their connections can be checked or adjusted when necessary.
- Ensure the location will allow the mounting bracket to be securely attached with four mounting bolts.
- The compressor should be as close to the battery as possible to ensure maximum performance. Mounting the compressor further away will require heavier gage wiring. Use 8 AWG wire for distances between 3-5m (10 -15 ft), 6 AWG for distances between 5-7m (15-20ft), and 4 AWG for distances between 7-9m (20-30ft).
- Avoid heat sources such as the engine exhaust, radiator, and engine block.
- The compressor will get hot. Mount the compressor where children or pets will not have access.
- Avoid areas where the compressor may become excessively wet or dusty from road spray or rain runoff.
- The compressor should be mounted above the waterline to avoid becoming submerged.
- Location of any remote air filter should allow access for filter replacement, disassembly, and cleaning.
- Extension tubes for remote air filters should be as short as possible.

- The compressor will be loud when starting and operating. Locate the compressor where it will not startle or irritate vehicle occupants.
- Do not mount the compressor where flammable liquids are stored.
- Avoid mounting the compressor where the electromagnetic fields of the DC motors will not cause interference.

**NOTICE!** Spend some time to consider the best installation location and the position of the compressor BEFORE drilling the mounting holes. Keep in mind the location of control switch and output port to ensure easy access.

## Drilling and Mounting the Compressor

The drawing in Fig. 1 shows the mounting hole dimensions and relative location. There are four pairs marked A, B, C, and D. Use **ONLY ONE HOLE FROM EACH PAIR, *four holes total***, that best suits the chosen installation location and to ensure the best stability for the compressor.

Measure and mark the holes to the dimensions in the drawing. ENSURE THE HOLE POSITIONS ARE ACCURATE by measuring, and re-measuring.

Use an 8 mm (5/16 in.) drill bit to drill the holes. Holes should not be drilled oversize more than 10 mm (3/8 in.) to compensate for any misalignment.

First place a lock-washer, then a flat washer onto each M6 x 18 hex head bolt. Insert the bolt with washers through the opposite side of the drilled panel and mount the compressor.

Tighten the hex head bolts to 6-9 Nm (4.4 to 6.6 ft-lbs).

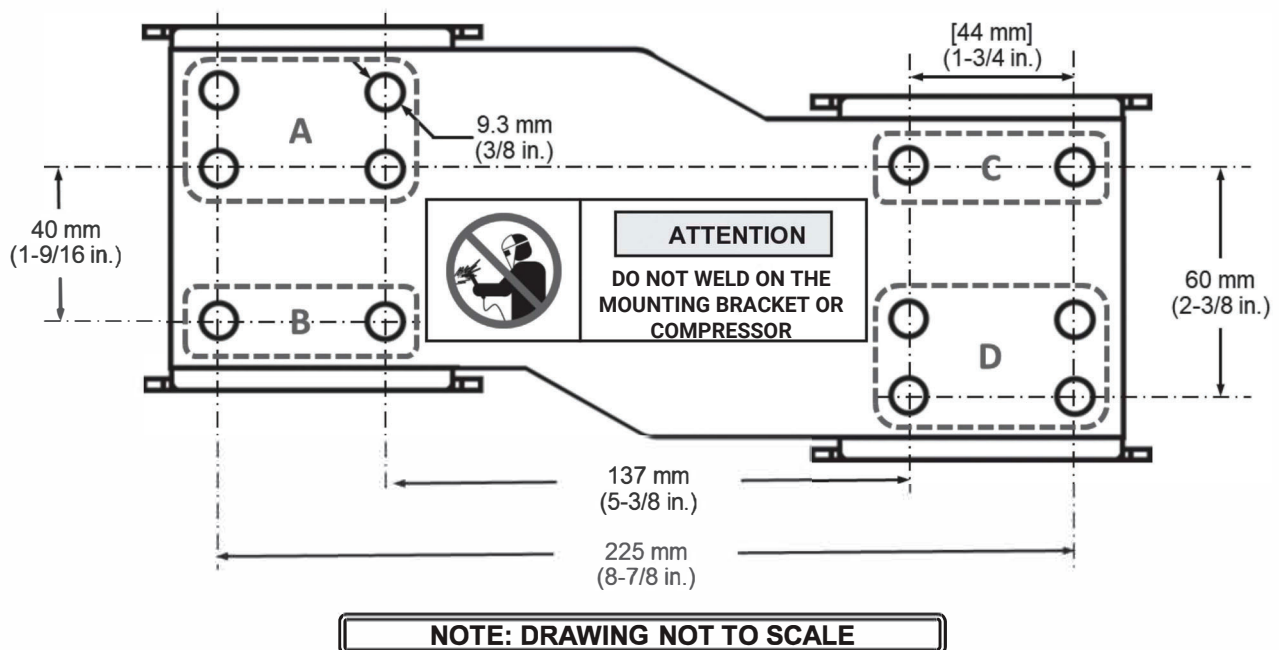


Fig. 1

## Assembling and Installing the Air Filter

Install an air filter into each intake manifold by hand.

If desired, the air filters may be installed by removing the filter disk and using an 8 mm (5/16 in.) hex key on the center of the port.

If the filters will be installed remotely, intake extension tubes can be installed. See the next section for more information.

## Using an Intake Extension Tube (Optional)

The compressor is designed so that the air filters can be relocated using an intake extension tube (not included).

**NOTICE!** The inside diameter and length of the intake extension tube may restrict intake air flow and negatively affect compressor performance. In some cases, this may cause overheating and damage to the compressor. Use the chart to determine the correct diameter required for the desired length.

Max. Length of Tube	Min. Inside Dia.
<150 mm (6 in.)	8 mm (0.320 in.)
<400 mm (16 in.)	10 mm (0.390 in.)
<890 mm (35 in.)	12 mm (0.470 in.)
<1700 mm (67 in.)	14 mm (0.550 in.)
<3000 mm (120 in.)	16 mm (0.630 in.)
<p>Note: The above dimensions are for ONE intake manifold extension. If combining two intakes into one extension tube, then halve the values in the "Max. Length of Tube" column.</p>	

Determine the desired path of the intake extension tube and measure the total length between the compressor and location where the air filter will be mounted.

**NOTICE!** Avoid routing the intake extension tube through areas where the intake air will become excessively hot. Pre-heated intake air will reduce the performance of the compressor.

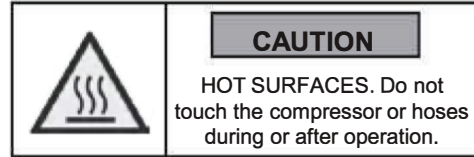
Use the chart above to determine the minimum required inside diameter for the measured length.

Install the intake extension tube with a 1/4 in. NPT male fitting at one end and a 1/4 in. NPT female at the other end, then install the air filter onto the female end of the intake extension tube.

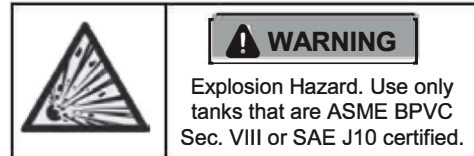
Secure all loose sections of the intake extension tube.

## Connecting the air system

**NOTICE!** The manufacturer recommends using a separate air tank if the compressor is operated for prolonged periods. Operating for prolonged periods increases the duty cycle and the compressor will run less efficiently and require longer cool-down times.



Pneumatic tools that require greater than 85 L/min (3 CFM) @ 6 Bar (90 PSI) will require installation of a separate air tank or air receiver.



## ON/OFF Control Switch.

The ON/OFF Control switch is located on the compressor cover plate and is connected at Fitting 2 (Fig. 2, Wiring Diagram). Use this fitting if wiring a remote ON/OFF control switch.

When wiring a remote ON/OFF control switch, choose a safe location for the switch that will be convenient for the operator.

Do not route electrical wires near sharp edges or parts that will move or become hot.

**NOTICE!** Always use a rubber grommet when passing through any holes in metal to protect and insulate the wires, and to prevent short circuits.

Mount the switch to a solid surface and do not let the switch or wires dangle or hang loosely.

Use zip ties to tie down the wires and prevent the wires from dangling or moving.

Allow at least 50 mm (2 in.) of clearance behind the mounting surface.

If mounted in the cab, ensure that the switch is within sight of the driver to visually determine if the compressor is ON or OFF.

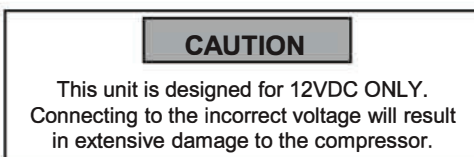
Do not put the switch anywhere that may cause accidental operation by the driver or passengers.

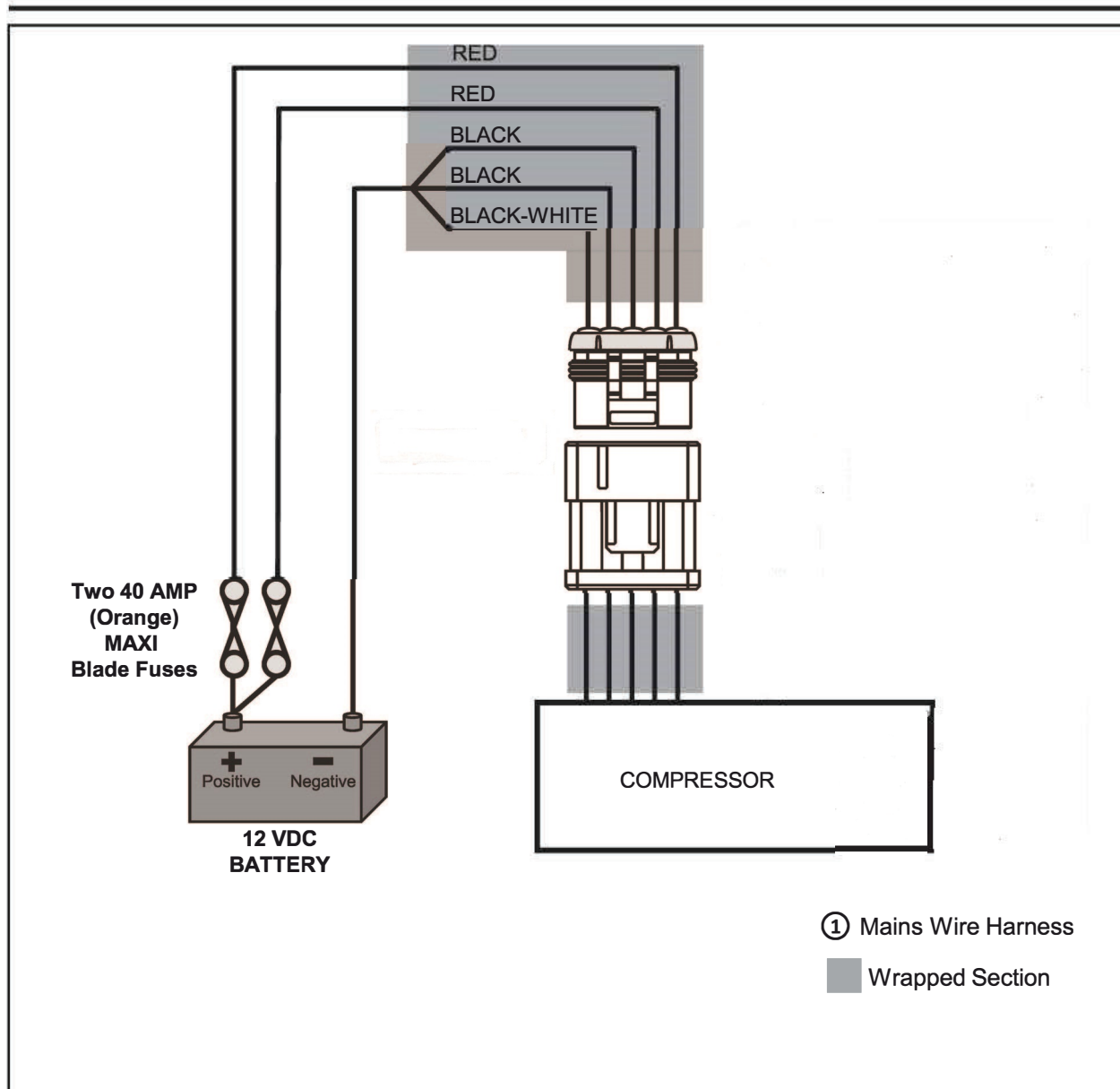
Do not put the switch where it may be exposed to water.

The compressor switch may be panel mounted inside the vehicle or, if a suitable position cannot be found, a switch bracket may be used.

## Connecting the Main Power Wiring Harness.

Use a multimeter and ensure that the ON/OFF switch is in the OFF position before connecting the Mains Wiring Harness Fig.2





Wiring Diagram  
Fig. 2

**⚠ WARNING**

To prevent serious injury from accidental operation: always disconnect the battery cables before installation, performing any inspection, maintenance, or cleaning procedures.

**⚠ WARNING**

To prevent serious injury from explosion due to sparking, ventilate the battery and disconnect it before making wiring connections.

**⚠ WARNING**

To prevent serious injury from leaking battery acid, do not use a dirty, corroded, or leaking battery. Only use a 12VDC automotive (or equivalent) battery in good condition.

Route the main power wires from the compressor to the battery. Be sure the wires are not near sharp edges or parts that will move or become hot.

Trim the wires to the correct length for battery connection. If any wire requires an extra length to



reach the battery, then add an extension that is properly sized. Use 8 AWG wire for distances between 3-5m (10 -15 ft), 6 AWG for distances between 5-7m (15-20ft), and 4 AWG for distances between 7-9m (20-30ft).

**NOTICE!** The two inline MAXI blade fuses should be as close to the battery as possible. If extending the red wires, add the extension wire to the opposite side of the fuses.

Crimp a ring terminal that matches the wire size on each Red wire (5 mm<sup>2</sup> / 10AWG).

Place both the Black wire and the Black-White wire into a ring terminal that will accept both wires (8 mm<sup>2</sup>/

8AWG), or alternatively use two separate ring terminals that match the wire size on each wire, then crimp into place.

### CAUTION

For this product to operate at optimum efficiency, a good electrical connection to chassis ground must be made. It is recommended the product ground wire be connected directly to the NEGATIVE (-) battery post.

Remove the NEGATIVE (-) wire from the battery and move it out of the way.

Connect the ring terminal on the Red wires to the POSITIVE (+) terminal of the battery and secure it under the nut of the battery terminal clamp.

Connect the ring terminal(s) on the Black & Black-White wires to the NEGATIVE (-) battery terminal clamp, then attach the battery cable to the battery terminal.

Connect Fitting ① of the Mains Wiring Harness to the compressor.

Use zip ties to tie down the Mains Wiring Harness and prevent the wires from dangling or moving.

### Leak Testing

With the vehicle parked and the engine off, turn the compressor on and wait until the air system is fully charged to 10.3 Bar (150 PSI).

The air compressor will automatically shut off when the system is charged, and it will automatically start again once the pressure in the system drops below 9.3 Bar (135 PSI).



### WARNING

Compressed air can penetrate skin and cause serious injury or death. In case of accidental skin injection seek immediate medical treatment.

Once the system is charged, do not operate any device that uses the compressed air. The compressor restarting before the end of 15 minutes indicates a leak.

Locate leaks by spraying a mild soap and water solution onto all air fittings and tubing. Bubbles will appear wherever there is a leak.

Repair or replace any leaking components, or by disassembling any fittings, cleaning the threads and sealing surfaces, and/or adding thread sealant.

### Troubleshooting

Prior to performing any testing or troubleshooting, ensure that the whole air system has been depressurized and that the wiring described in this manual has been correctly installed.

Place the ON/OFF switch into the ON position then perform all the steps in order as shown in the Fault Diagnosis Flowchart at the end of this manual for testing and troubleshooting electrical faults. Contact your distributor or seek the advice of a qualified automotive electrician with any questions.



### WARNING

Compressed air can cause serious injury or death. Ensure power to the compressor is disabled, and bleed off pressure before attempting repair or replacement.

## Fault Diagnosis Flowchart

