INSTALLATION INSTRUCTIONS
Summit Racing Vacuum Pump
SUM-760146

IMPORTANT! The following steps are precautionary actions taken to avoid any failures, damages and/or injuries to the vehicle and/or person(s) in area. These are highly recommended steps that will help ensure a safe working standard.

1. Do not use a hydraulic jack as means of supporting your vehicle while working on it. Instead, use jack stands to rest the weight of the vehicle on when working underneath of it.
2. Always have vehicle and jack stands on a solid, level surface to prevent slipping/shifting and possible injury and/or damages. DO NOT USE JACK AND OR JACK STANDS ON GRAVEL!
3. Remove the ground cable from the negative battery terminal, to prevent any accidental injuries or damages from electrical contact.
4. Never run vehicle in enclosed space for extended periods of time due to toxic fumes coming from exhaust. Always make certain work space is well ventilated.
5. Eye and ear protection is recommended when using power tools on your vehicle.

For all of the vacuum that you need, just install one of our Summit® electric vacuum pump kits. They include a shiny 12 V pump and all of the vacuum line, fittings, and hardware required for installation. These units are completely self-contained, with no need for the additional wiring of relays or switches—simply supply power to the units and they regulate themselves. When vacuum levels drop below 15 hg, the electric vacuum pumps activate and increase brake vacuum to 20 hg. If you have any questions or concerns, please contact our technical support line Monday through Friday 9 am – 9 pm EST at 330-630-0240.
## PARTS LIST:

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td>Vacuum Pump</td>
<td>1</td>
</tr>
<tr>
<td><img src="image2.png" alt="Image" /></td>
<td>Pressure Switch</td>
<td>1</td>
</tr>
<tr>
<td><img src="image3.png" alt="Image" /></td>
<td>Power Relay</td>
<td>1</td>
</tr>
<tr>
<td><img src="image4.png" alt="Image" /></td>
<td>Fuse Holder</td>
<td>1</td>
</tr>
<tr>
<td><img src="image5.png" alt="Image" /></td>
<td>Ring Connect</td>
<td>1</td>
</tr>
<tr>
<td><img src="image6.png" alt="Image" /></td>
<td>Bolts</td>
<td>1</td>
</tr>
<tr>
<td><img src="image7.png" alt="Image" /></td>
<td>Bullet Connects</td>
<td>2</td>
</tr>
<tr>
<td><img src="image8.png" alt="Image" /></td>
<td>Pump Mounts</td>
<td>4</td>
</tr>
<tr>
<td><img src="image9.png" alt="Image" /></td>
<td>Quick Connects 1/4</td>
<td>4</td>
</tr>
<tr>
<td><img src="image10.png" alt="Image" /></td>
<td>Washers/Nuts</td>
<td>10 Each</td>
</tr>
<tr>
<td><img src="image11.png" alt="Image" /></td>
<td>Tubing</td>
<td>72 IN</td>
</tr>
<tr>
<td><img src="image12.png" alt="Image" /></td>
<td>Brown Wire</td>
<td>108 IN</td>
</tr>
</tbody>
</table>
1. First, install the pump in a suitable location using the rubber insulators to mount to the vehicle.

2. Next, mount the vacuum switch in a suitable location. Make sure the switch is grounded to the vehicle.

   IF SWITCH BODY IS NOT PROPERLY GROUNDED, THE ELECTRICAL CIRCUIT WILL NOT WORK PROPERLY.
3. Begin electrical wiring by mounting the relay in a suitable location. Note: Relay mounting tab does not have to be grounded.

**CAUTION: WHEN INSTALLING THE RELAY AND VACUUM SWITCH, MAKE SURE THAT THE VACUUM SWITCH (THE SWITCH WITH THE RUBBER HOSES ATTACHED TO IT) IS NOT WIRED TO THE POSITIVE (+) SIDE. IF VACUUM SWITCH IS WIRED INCORRECTLY, THE SWITCH WILL BURN OUT AND WILL NOT WORK.**

4. Next, wire the fuse to a positive (+) ignition switched power source.
   
a) Positive (+) connection must be a switched source or pump will run with key off
   b) The circuit used for connection must have an 8 to 10 amp fuse

5. Detailed diagram of relay and & proper connections: (Terminals are labeled on actual relay). Proper connections to the relay are explained in the following steps:
   
   1) To top of vacuum switch
   2) From (+) fuse and to red (+) motor
   3) Vehicle ground, battery (-)
   4) **Connect 5** to black (-) motor
6. Splice two wires together and connect with a female end connector as shown below. The female end connector will connect to terminal 2 on the relay, one wire to the positive (+) switched power source (to fuse), and the last wire to the positive (+) pump motor side.

![Diagram showing wire connections](image1)

7. Now, make one length on wire with a female end connector on one end and a female bullet nose connector on the other. Connect the female terminal connector to relay terminal 5 and the female bullet nose connector to the pump motor black (-) side.

![Diagram showing wire connections](image2)

8. Now, install vacuum switch clip connector onto the end of a length of wire.
9. Next, install a female end connector to the end of the wire and insert the vacuum switch clip connector into the vacuum switch connector as shown below.

NOTE: CONNECTOR PIN ONLY INSERTS INTO VACUUM SWITCH CONNECTOR ONE WAY. DO NOT FORCE THE PIN INTO THE BODY. MAKE SURE THAT THE CONNECTOR LINES UP WITH PIN ON VACUUM SWITCH WHEN CONNECTING.

Now, connect black vacuum switch connector to the top of the vacuum switch and connect female terminal to relay 1.

10. Lastly, make one wire as shown in the picture below. One end will have a female end connector connected to relay terminal 3. The other end will have a ring terminal. Splice
a wire to the ring terminal. Connect the ring terminal to the vacuum switch and the take the spliced-in wire and connect it to a good ground point on the vehicle.

11. Congratulations, you have completed the installation of the vacuum pump! Before you start the vehicle, review the simplified wiring diagram pictures below to make sure all of your connections are correct:

![Wiring Diagram](image-url)
## Possible Electrical Problems

<table>
<thead>
<tr>
<th>Fault</th>
<th>Possible Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pump doesn’t work</td>
<td>Blown fuse</td>
<td>Replace fuse</td>
</tr>
<tr>
<td></td>
<td>Switch not grounded</td>
<td>Check wiring and ground</td>
</tr>
<tr>
<td></td>
<td>Vacuum switch connector not connected</td>
<td>Check top of vacuum switch</td>
</tr>
<tr>
<td>Vacuum Pump won’t stop</td>
<td>Vacuum switch failure</td>
<td>Replace vacuum switch</td>
</tr>
<tr>
<td></td>
<td>Relay failure</td>
<td>Replace Relay</td>
</tr>
</tbody>
</table>
WIRING DIAGRAM

- Vacuum Switch
- Switch to Term. 1
- Relay Switch
- Red Wires
- Fuse to Term. 2
- Pump to Term. 5
- Pump to Term. 2
- Ring Con. to Term. 3
- To Ground
- Fuse to Positive or 12V
- Black Wire
- Pump

RELAY TERMINAL NUMBERS

HOSE DIAGRAM

- Vacuum Switch
- Vacuum Switch to Power Brake Booster
- Exhaust
- Pump to Vacuum Switch