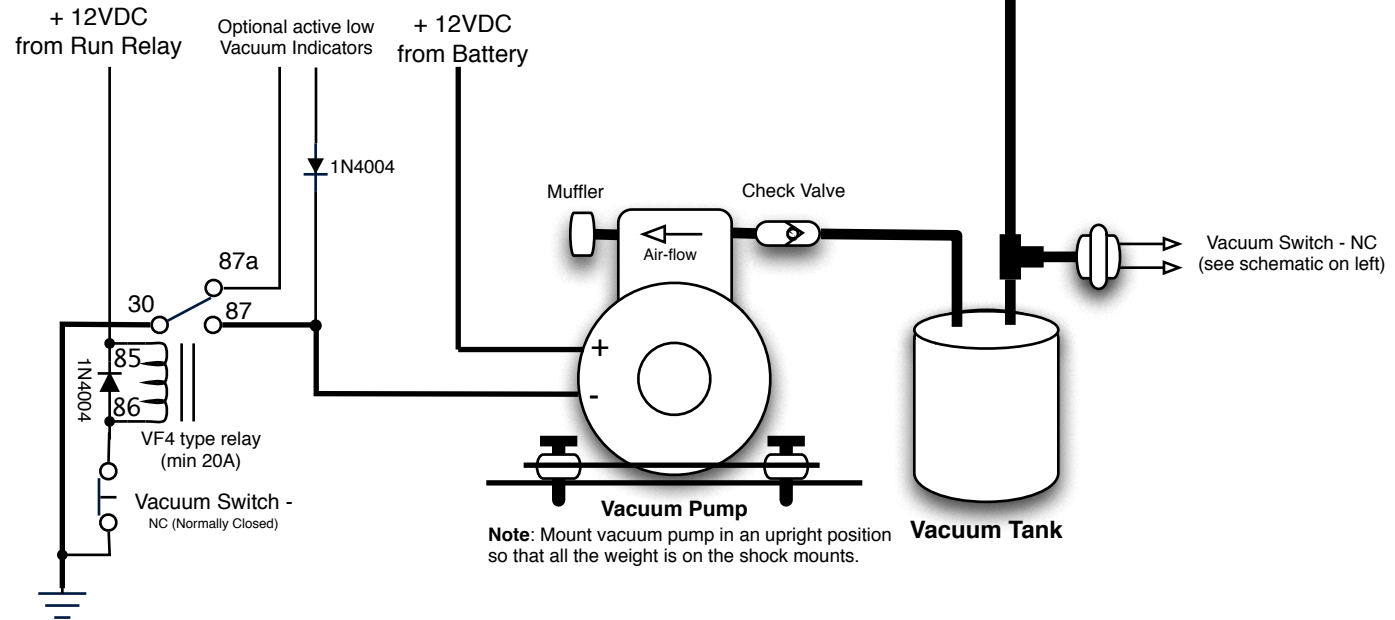


**Note:** Optional active low indicators.  
 87a - Active low when vacuum is sufficient.  
 87 - Active low when pump is running.

**Note:** The 1N4004 rectifier diode between relay terminal 87 and indicator is recommended if driving an existing in-dash indicator. It will prevent current in the negative motor wire from feeding back into the dash when relay is off.

Rectifier is not required on terminal 87a.

**Note:** +12VDC can optionally come from the run relay/key switch as long as the source can deliver enough current (20 A) to run the pump.



**Note:** Mount vacuum pump in an upright position so that all the weight is on the shock mounts.

**Disclaimer**

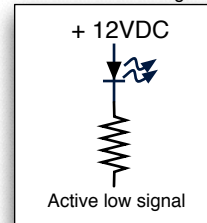
Please understand that this drawing is for my own installation and is only being provided for reference.

While I have taken every precaution to make sure this diagram is accurate and functional -- it is up to you to verify that it will be appropriate and safe for your needs.

I am not a Professional Engineer and therefore am not qualified to certify the validity of this diagram.

**Example Active Low Indicator**

LED with current limiting resistor.



<b>1996 Saturn EV Conversion</b>	
Vacuum Pump Diagram	
30 November 2009	
Gregg Witmer	<a href="http://www.zuglet.com">http://www.zuglet.com</a>