



R5-MG Rev Limiter - Installation Instructions

R5-2014-MG

| Parts Included | Quantity |
|-----------------------------|----------|
| MG Rev Limiter Control Unit | 1 |
| Touch pad | 1 |
| Auto Reset Breaker (20 AMP) | 1 |
| Auto Reset Breaker Cover | 1 |
| 330k OHM Resistor | 1 |
| 68k OHM Resistor | 1 |

After you have installed the Valve as described in the Valve Installation Instructions, install the Rev Limiter Electrical Kit as detailed on the following pages:

- Install the Control Unit and Toggle Switch
- Set the Rev Limiter
- Test the Rev Limiter Setting
- Turning key off will disable RPM pulse, making the system manual activation if your pulse is taken from an OEM source.



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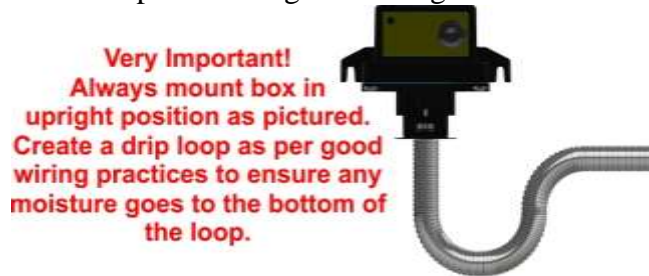
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Step 1: ELECTRICAL INSTALLATION

1. DISCONNECT BATTERIES

- Mount the Control Unit on the firewall of the engine compartment away from moving parts and heat sources so that it is accessible for set up and testing. Do not tighten the screws until after setup is complete.



- Connect ground (black) wire and power (red) wire directly to the battery or power supply cables to the cab. Install supplied 20 amp auto reset breaker (no fuses) in the power supply wire (red). Use crimp style heat shrink connectors only.

**DO NOT CONNECT TO FACTORY FUSE PANEL.
IMPROPER CONNECTIONS WILL VOID WARRANTY.**

- Install toggle switch on the left hand side of dash if possible, GROUND one side of the switch to the battery or cab ground post.
- Connect the harness as per the attached wiring diagram using crimp style heat shrink connectors.
- Pulse pickup locations
 - for light trucks see our website (under SUPPORT) for the chart of pulse locations. Supplied 68k resistor may be required if signal source is inadequate.
 - for heavy trucks, equipment and industrial equipment use a magnetic sensor mounted in the flywheel housing.
 - the alternator “R” (rectifier) terminal may be used but is **NOT RECOMMENDED**. The supplied 330K resistor should be installed if alternator signal is inadequate.

7. RECONNECT BATTERIES

Step 2: Set the Rev Limiter (RPM Upper Limit)

Set the Rev Limiter for one of the following, as described below:

- Variable Throttle
- Work or Pump Mode
- Constant Throttle



Control Unit: Set Button

Setting the Rev Limiter for a Variable Throttle

We recommend setting the shutdown RPM to a minimum of 20% above factory/OEM redline.

- Turn the ignition key to the **ON** position, but do not start the engine.
- On the Control Unit, press the **SET** button once. The **GREEN** LED on the front of the unit will illuminate.
- Start the engine.
- Raise the engine RPM to ½ (50%) of the desired shutoff RPM.
- While holding the engine RPM steady, press and release the **SET** button. The **GREEN** LED will flash three (3) times. Setup is now complete.

NOTE: The **RED** LED will strobe if no signal is detected. If so, check termination points and all connections, and then repeat the above steps.

Setting the Rev Limiter for Work Mode (PTO Switch or Park Brake)

This should only be set for Work Mode, but can be used in conjunction with a variable throttle.

1. Turn the ignition key to the **ON** position, but do not start the engine.
2. Close the Work Mode Switch (e.g. PTO switch or park brake button).
3. On the Control Unit, press the **SET** button once. The **GREEN** LED on the front of the unit will illuminate.
4. Start the engine.
5. Raise the engine RPM to ½ (50%) of the desired shutoff RPM.
6. While holding the engine RPM steady, press and release the **SET** button. The **GREEN** LED will flash three (3) times. Setup is now complete.

NOTE: The **RED** LED will strobe if no signal is detected. If so, check termination points and all connections, and then repeat the above steps.

Setting the Rev Limiter for a Constant Throttle (Welders, Generators, Compressors, etc.)

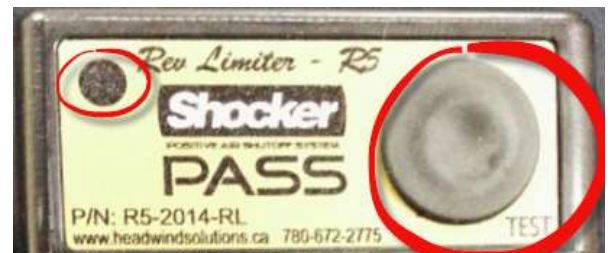
1. On the Control Unit, press and hold the **SET** button until the **GREEN** LED strobes. Release the button.
2. Start the engine, and allow the RPM to level off at the maximum work speed.
3. Press and release the **SET** button. The **GREEN** LED will flash three (3) times. Setup is now complete.

NOTE: The **RED** LED will strobe if no signal is detected. If so, check the termination points and all connections, and then repeat the above steps.

Step 3: Test the Rev Limiter Setting

Testing the Setting for a Variable Throttle

1. Start the engine.
2. On the Control Unit, press the **TEST** button once. The **RED** LED on the front of the unit will illuminate.
3. Throttle up the engine. The solenoid on the valve will trip at the setting you made in the previous section.
4. If using a manual-reset valve, reset the valve by turning the blue knob on it 90 degrees clockwise until it locks into position.
5. If using an auto-reset valve, it will automatically reset after the engine reaches and maintains 0 RPM for 17 seconds.



Control Unit: LED and Test Button

Testing the Setting for a Constant Throttle

1. On the Control Unit, press the **TEST** button once. The **RED** LED on the front of the unit will illuminate.
2. Start the engine. As the engine RPM rises, the solenoid on the valve will trip at 60% of the target RPM.
3. If using a manual-reset valve, reset the valve by turning the blue knob on it 90 degrees clockwise until it locks into position.
4. If using an auto-reset valve, it will automatically reset after the engine reaches and maintains 0 RPM for 17 seconds.

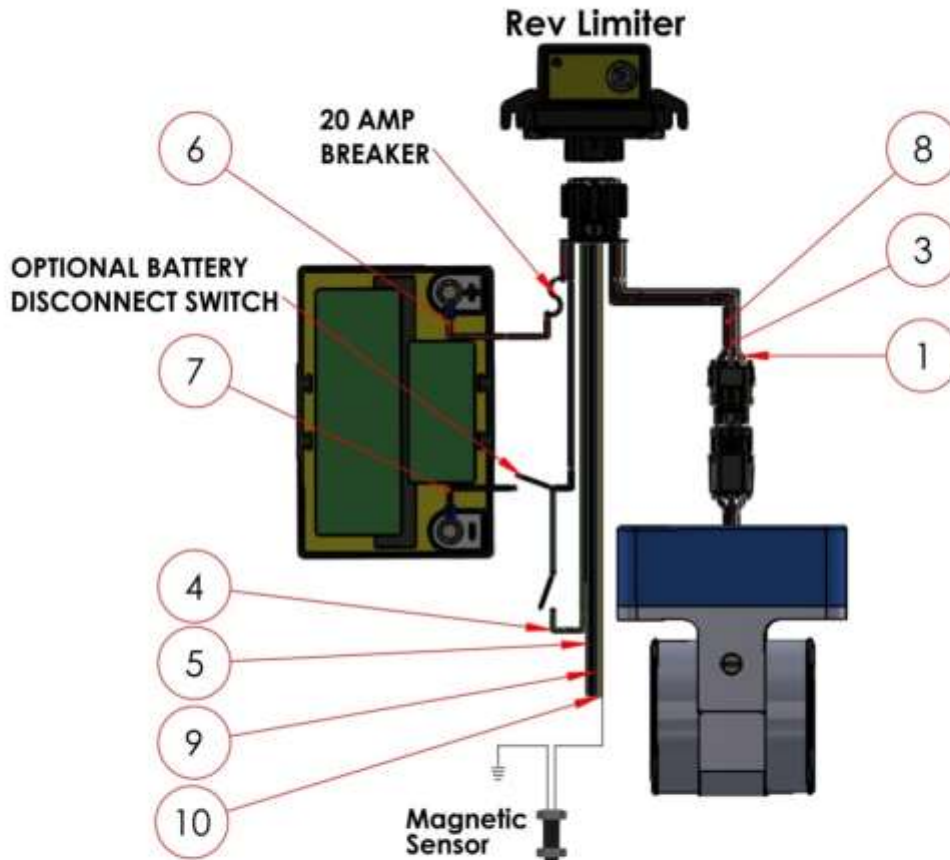
NOTES:

- The Valve will trip 7-10 times when activated by the Toggle Switch or at the preset RPM limit.
- The solenoid will close the valve for 17 seconds after 0 RPM has been reached.

Installation and testing are now complete.
Thank you for choosing Shocker brand products.

See other side for wiring diagram

MG Actuated Rev Limiter R5 WIRING HARNESS ASSEMBLY



| Pin | Use | AWG # | Color |
|-----|--------------------------------|-------|--------|
| 1 | MG Board Power | 12 | White |
| 2 | N/A | 16 | Purple |
| 3 | MG Board Power | 12 | Red |
| 4 | Manual Switch | 16 | Green |
| 5 | Work Mode Switch Lead | 16 | Brown |
| 6 | 12-24 V Battery Power (+) | 12 | Red |
| 7 | Battery Ground (-) | 12 | Black |
| 8 | MG Board Ground | 12 | Black |
| 9 | Optional Touch Pad Remote Test | 16 | Blue |
| 10 | RPM/Pulse Source | 16 | Yellow |

| WIRE SIZE RECOMMENDATION TABLE | | | | | |
|--------------------------------|-------|-------|-------|------|------|
| Maximum lead length (in feet) | | | | | |
| | 14 GA | 12 GA | 10 GA | 8 GA | 6 GA |
| 12 V DC | 9.5 | 15 | 24 | 38 | 60 |
| 24 V DC | 38 | 60 | 96 | 150 | 240 |

IMPROPER GROUNDING OR REMOVAL OF DELPHI PLUG CAN CAUSE DAMAGE TO COMPONENTS, VOIDING WARRANTY

**CONNECTORS MUST BE RATED 25 AMP MINIMUM.
DO NOT USE: DEUTSCH DT,DTM,DTMH,DTMN.**

Headwind Solutions Ltd. warrants the components of this device for a period of two (2) years from the date of purchase. The customer is responsible for the correct installation, setup and testing of the product, including: a) the location of all components; b) correct wiring connections and wire gauge; c) correct setup and testing of the installed product. This warranty is void if the product is incorrectly installed, set up or tested.