

# EXHAUST BACKPRESSURE GAUGE AND SENSOR INSTALLATION INSTRUCTIONS

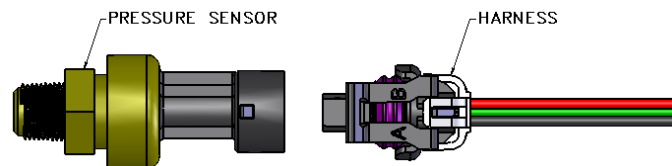


**Models: R11100 R11122 R11144 R11155 R11166 R12100  
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R17100 R17122 R17144 R17155 R17166**

ICON KEY	
	CAUTION
	Tools may be required
	Shown in picture


- Disconnect batteries.** Do not reconnect battery power until system is fully configured to avoid risk of shock or fire.
- Find a location where exhaust backpressure can be measured without the sensor exceeding 275° F. This typically requires at least a 12" length of metal tubing (typically 3/16" or larger copper) connected to a tapped hole in the exhaust manifold, with the sensor installed in the other end of the tubing. If a factory Exhaust Backpressure sensor is used, you may be able to install a Tee fitting (obtain from your local automotive supply store) to accommodate this sensor in the same location.
- Install the new sensor. Pressure sensor threads are 1/8" NPTF.  
 Many Emission Control Devices are connected to OEM sensors or switches. Be careful not to disable these when installing a sensor.
- If leakage occurs at the sensor, tighten one-quarter turn at a time until leakage stops. If necessary, thread sealant such as Teflon tape may be used.  
 When using a torque wrench, tighten approximately 20nm/15 lb-in. or slightly more, if leakage occurs. Do not use the body of the sensor to tighten! Use only the hex and the correct wrench. Do not over tighten!
- Connect the pressure sensor to the pressure sensor harness by pressing the connector into the slot.


**Figure 1:** Pressure sensor and harness.




- Route the sensor harness to the intended gauge mounting location, using grommets as appropriate when passing through the firewall. Connect the sensor harness to the gauge connector as follows:


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**7**  Trim wires to desired length. The red/yellow, green, and black wires are the +5V, sensor, and ground connection, and connect to cavities 4, 5, and 6 of the orange connector respectively (see Figure 2).

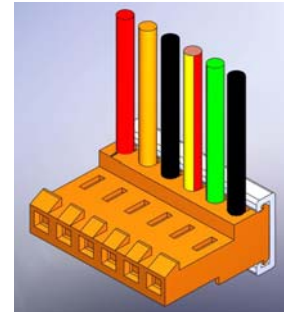
 Install the three wires into the insulation displacement connector (orange connector). Carefully lay the wires across the connector cavities, hold the connector steady with a vice or pliers and press the wires into each cavity with a small screwdriver. Each wire must be pushed completely to the bottom of its groove in the connector, to ensure a good electrical connection.

**8**  An optional wiring harness is available (ISSPRO P/N R72022) to simplify wiring and provide a potentiometer for reducing the brightness of the gauge lights while still following the vehicle dimmer level. If this dimming function is not required, you can substitute your own 18 gauge wires in place of the harness, using a single wire in place of the orange and orange/black wires. Connect one end of each of these wires as follows:

- *Ground* – The black wire should connect to a clean ground on the vehicle such as the battery negative terminal or a factory ground bolt.
- *Ignition* – The red wire should be connected to a circuit that switches on with the key switch.

 **Wire should be fused so as not to exceed 3 amps. If the circuit does not have a fuse, or the existing fuse is higher than 3 amps, use an inline fuse.**


- *Dimmer* – Connect the orange/black wire to the factory gauge dimmer circuit by either tapping into the in-cab fuse block or by connecting directly to the wire running from the dimmer on the headlight switch.




**Figure 2:** Connector.


1	Red	Ignition
2	Orange	Dimmer
3	Black	Ground
4	Red/Yellow	+5V
5	Green	Sensor
6	Black	Ground

Connect the red, orange and black wires to the orange connector as described above, in positions 1, 2, and 3 respectively. Slide the white dust cover over the orange connector once the wires are securely installed. **NOTE:** The gauge backlighting will only illuminate if both the ignition supply AND the backlighting circuits are on.

 **The lighting harness is designed to be used with Performax EV<sup>2</sup>™ gauges. DO NOT attempt to use this harness and potentiometer with any other gauge types.**

OPTIONAL: Daisy Chain Your Gauges – If multiple Performax EV<sup>2</sup>™ gauges are being installed in one location (such as a pod), you may use a single set of the Ignition, Ground, and Dimmer wires to connect all of the gauges. Simply pass the wires from one orange connector to the next one in a “daisy chain” configuration.

**9**  Install the connector onto the back of the gauge (angled portion on end of connector pointing up as in Figure 2), and then secure the gauge in its mounting location. If drilling a mounting hole in a panel to mount this gauge, the hole size should be 2.040”. Mounting Kit R19999 is available for larger mounting holes up to 2.200”.

**10**  Secure all wiring so that it does not interfere with moving parts or chafe on sharp edges. This may be accomplished by routing the wiring within the factory wire harness sheath, using wire ties and sheathing, and using appropriate grommets when passing through the firewall.

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