




PERFORMAX



ELECTRONIC SIGNAL PROCESSOR (ESP) INSTALLATION INSTRUCTIONS

1  **Disconnect batteries.** Do not reconnect battery power until system is fully configured to avoid risk of shock or fire.

2  Mount the ESP box on the driver's side fender area. Box can be mounted anywhere but should be kept away from the exhaust, so that it is not exposed to extreme temperatures. ESP can be exposed to general under-hood temperatures without damage.


 **Maximum temperature to ESP should never exceed 125°C (257°F).**


3 The group of 5 wires is connected as follows:


- *Ground* – The brown wire should connect to a clean ground in the engine such as the battery negative terminal or a factory ground bolt.
- *Power* – The red wire should be connected to one wire of the included fuse holder using the included crimp splice, and the other wire of the fuse holder connected to a constant battery positive terminal that is not turned off with the key switch. An under-hood fuse box or the battery positive cable is a possible connection. Install the included 1 amp fuse in the fuse holder.




 **Do not use fuses over 3 amps, higher amperage fuses may cause damage to the gauge system or to the vehicle.**

- *Ignition* – The pink wire should be connected to one wire of the 2nd included fuse holder using the included crimp splice, and the other wire of the fuse holder connected to a circuit that switches on with the key switch. The under-hood fuse box is a possible location for such a circuit. If possible, this should be a circuit that stays on during engine cranking, as you may encounter a troubleshooting situation where you need to monitor gauges while cranking. Install the included 1 amp fuse in the fuse holder.

 **Do not use fuses over 3 amps, higher amperage fuses may cause damage to the gauge system or to the vehicle.**


- *Dimmer* – Connect the green wire to the factory gauge dimmer circuit by either tapping into the in-cab fuse block (see the next step for getting the wiring into the cab), or by connecting directly to the wire running from the dimmer on the headlight switch.
-  *Mode* – The blue wire connects to the optional mode button, and is used to customize the dimmer curve to match the factory lighting. Install a normally open (N/O) momentary switch between the mode button and ground, or temporarily route the wire into the cab to make a one-time adjustment to the backlighting.

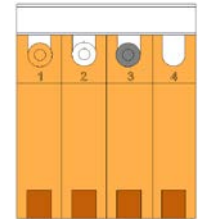
4  Run the remaining wires from the ESP into the cab. Look for existing plugs in the firewall, such as the plug for a clutch-pedal linkage on an automatic transmission equipped vehicle. If the plug is too large, drill a hole in the plug and add a grommet.


ICON KEY	
	CAUTION
	Tools may be required
	Shown in picture

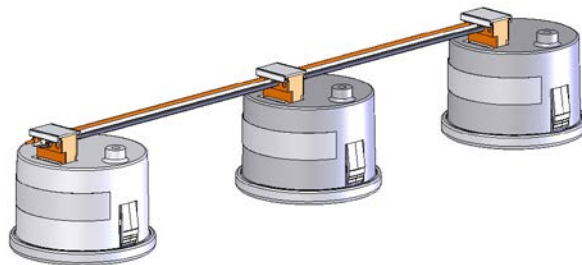
Form No. IS164 (Rev. C 09/03/2013)


- 5 Route the three (orange, white, and black) to-gauge wires through to the A pillar and stop there, or continue through to the overhead rearview mirror if the gauges are to be mounted there.
- 6 Run the wires up to each individual gauge and leave enough extra wire to pull the gauge out of its mount so it can be unplugged.

7  Once the length of the wires has been determined, at each gauge location install the three wires into the insulation displacement connector (orange connector). The orange, white, and black wires are the +7V, data, and ground output to gauges, and connect to cavities 1, 2, and 3 of the orange connector respectively. Install the three wires using the included wire insertion tool (R72023). Follow the directions with the tool. DO NOT strip the wire ends, the connector will pierce the wire insulation, and the insulation helps hold the wire into the connector. Each wire must be pushed completely to the bottom of its groove in the connector to ensure a good electrical connection.



8  Slide the white dust cover over each orange connector once the wires are securely installed, and plug the connectors into the gauges.



9  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.

Form No. IS164 (Rev. C 09/03/2013)


-
- 10** **OPTIONAL:** Adjust the backlighting to match the output of the factory gauges. This adjustment should be completed when it is dark outside the vehicle.
- Turn on the ignition, so that your Performax™ gauges are powered on.
 - Adjust the factory dimmer so that the factory instruments are at a comfortable lighting level.
 - Press and hold the mode button. After 5 seconds, the backlight level will begin to adjust, getting brighter initially (until it reaches the brightest setting), then getting dimmer until it reaches the dimmest setting, and repeating the cycle. Release the button when the Performax™ gauge lighting intensity matches the factory instrument lighting intensity.

The lighting setting will be automatically saved in the ESP, and will now be the default. The Performax™ gauge lighting will get brighter and dimmer as you change the factory dimmer adjustment.

If you are just making this adjustment one time to match the factory gauges, you can temporarily run mode switch wires outside the vehicle and into the cab (rather than permanently routing them through the firewall).

- 11** **TOTAL RECALL:** The Total Recall feature provides the ability to view the extreme values of all functions connected to the Performax system. For most functions, the stored value is the maximum value, but on fuel system pressure gauges (Fuel, HPOP, and Rail Pressure), the lowest value while under load is recorded (this requires the use of a Performax boost gauge). This allows you to focus on driving down the drag strip or pulling track, keeping it in the groove instead of trying to see if your fuel pressure is dipping at the end.

When in Total Recall mode, each Performax gauges will sweep to its most extreme value (see above for maximum vs. minimum values) recorded since the last time the memory was re-set. Please note that all temperature gauges (except pyrometers) will respond slowly as they move to the extreme value; these gauges utilize software filtering at the gauge to help ensure a steady response under normal conditions. The extreme values remain stored even if the battery is disconnected from the vehicle.

- 12**  **Installation Instructions:**
Connect a normally open momentary pushbutton or switch between ground and the yellow wire (pin #12) on the black connector to the ESP.

13 Operating Instructions:

Recall

When in normal (gauge display) operation, press and release the Total Recall button to toggle between Total Recall and normal display modes.

Re-set

To re-set the stored values, start with the extreme values displayed (press and release the button once if initially in normal mode), then press and hold the Total Recall button for 3 seconds. All the gauges should move to their minimum positions (except the aforementioned fuel-system related gauges, which will move to their maximum positions). When you release the button, the gauges will return to normal function.