



ELECTRONIC POSITIVE AIR SHUTOFF

1036750	2007-2009 Dodge 6.7L
1036751	2010-2015 Dodge 6.7L
1036754	2008-2010 Ford 6.4L
1036755	2011-2014 Ford 6.7L
1036758	2008-2010 GMC 6.6L
1036759	2011-2015 GMC 6.6L

PLEASE READ ALL INSTRUCTIONS BEFORE INSTALLATION



An Information decal has been provided in this kit. This may allow safety personal and inspector's to quickly identify that your vehicle is equipped with a BD Positive Air Shut Down unit. Install this decal in a visible location on the inside glass of the vehicle.

BD Engine Brake Inc.

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K I T C O N T E N T S :

Please check to make sure that you have all the parts listed in this kit **before** you start the disassembly of your truck.


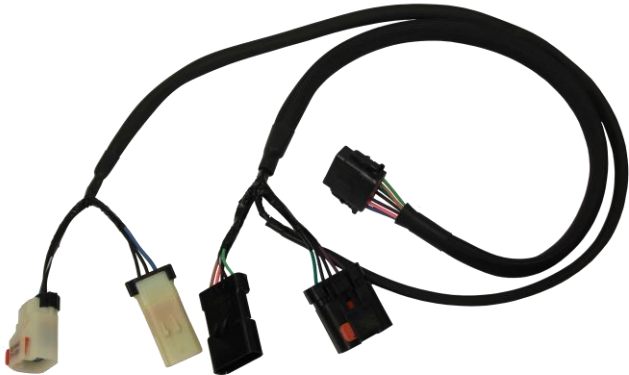
103675X Kit Contents			
1306730		1302380	
			
<i>Electronic Module</i>		<i>Switch Harness</i>	
Qty: 1		Qty: 1	
1302251	1306790	1302250-RG	1800060
			
<i>Switch Decal</i>	<i>Switch Guard Decal</i>	<i>Switch Guard</i>	<i>Velcro strips</i>
Qty: 1	Qty: 1	Qty: 1	Qty: 2 x 4"
1300131			1006701
			
<i>Cable Tie</i>			<i>Window Decal</i>
Qty: 12			Qty: 1

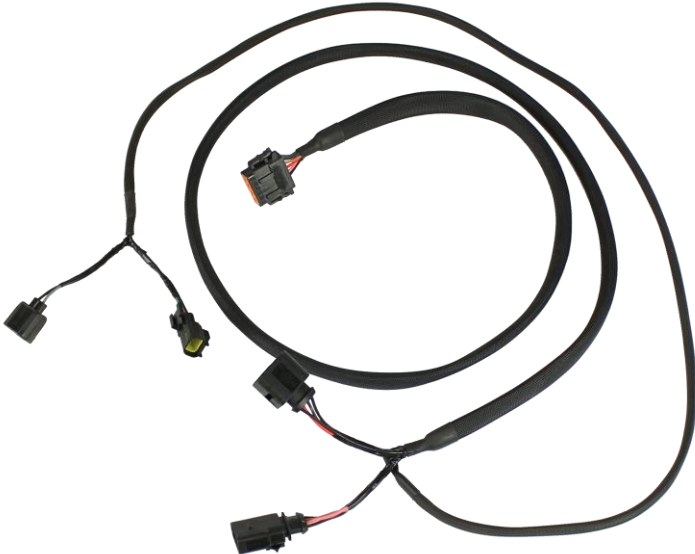

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1036750	1036751
1302381	1302382
	
<i>Dodge 2007-09 6.7L Harness</i>	<i>Dodge 2010-15 6.7L Harness</i>
Qty: 1	Qty: 1

1036754	1036755
1302388	1302389
	
<i>Ford 2008-10 6.4L Harness</i>	<i>Ford 2011-14 6.7L Harness</i>
Qty: 1	Qty: 1

1036758	1036759
1302385	1302386
	
<i>GM 2008-10 6.6L Harness</i>	<i>GM 2011-15 6.6L Harness</i>
Qty: 1	Qty: 1

Introduction

Most late model diesel engines incorporate an electronic throttle body into the intake manifold to partially restrict intake air to aid in EGR function and meet ever increasing emission standards. When controlled correctly, this valve can completely shut off the outside air supply to stop the engine. The BD Electronic Positive Air Shutdown kit connects to this valve to shut the engine down in emergency situations.

The BD Electronic PAS will automatically shut off the engine if it exceeds a preset engine RPM or if toggled manually with the supplied switch. The BD module also has an automatic reset feature which will reopen the valve once the engine has stopped. No longer does the operator need to open the hood to reset the valve after a system test.

The BD Electronic PAS is easier to install than previous PAS products as it is completely plug and play with existing parts on the vehicle.

Before you start

Ensure the intake valve on the vehicle will connect to the harness supplied with your kit, the connector may be different based on the year of manufacture of the vehicle and care must be taken to ensure the correct kit is ordered.

Required tools

- Drill
- 1/8" Drill Bit
- 1/2" Unibit
- Battery Terminal Wrench

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Installation



VEHICLE SHOULD BE SAFELY SECURED BEFORE INSTALLATION.

1. Locate the intake air valve on the motor and connect the supplied BD PAS wiring harness inline by connecting the BD harness directly to the valve and to the vehicles original electrical connector.

NOTE: If the vehicle has been re-tuned to no longer utilize the intake air valve and it is currently disconnected, connect the BD harness only to the intake valve and leave the OE connector disconnected.

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Intake valve locations

2007-2015 Dodge 6.7

Intake horn, pointing downwards on the driver side of the engine. The electrical connector is on the bottom of the valve. 2007-2009 have a 4 pin gray connector; 2010-2015 have a 5 pin black connector.



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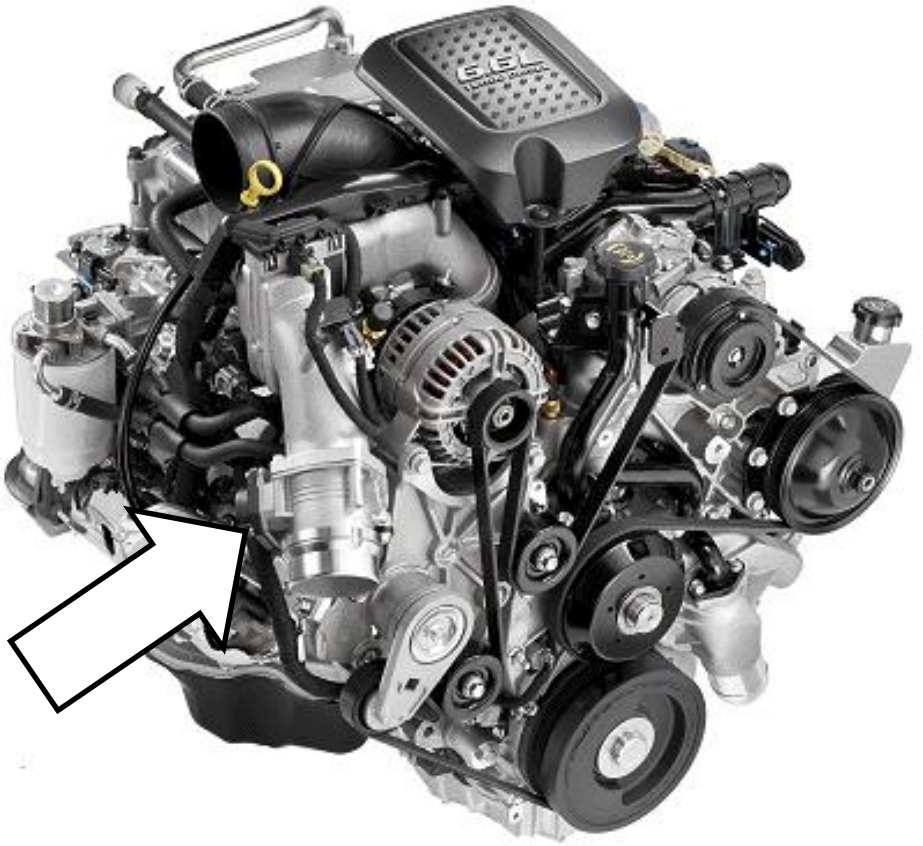
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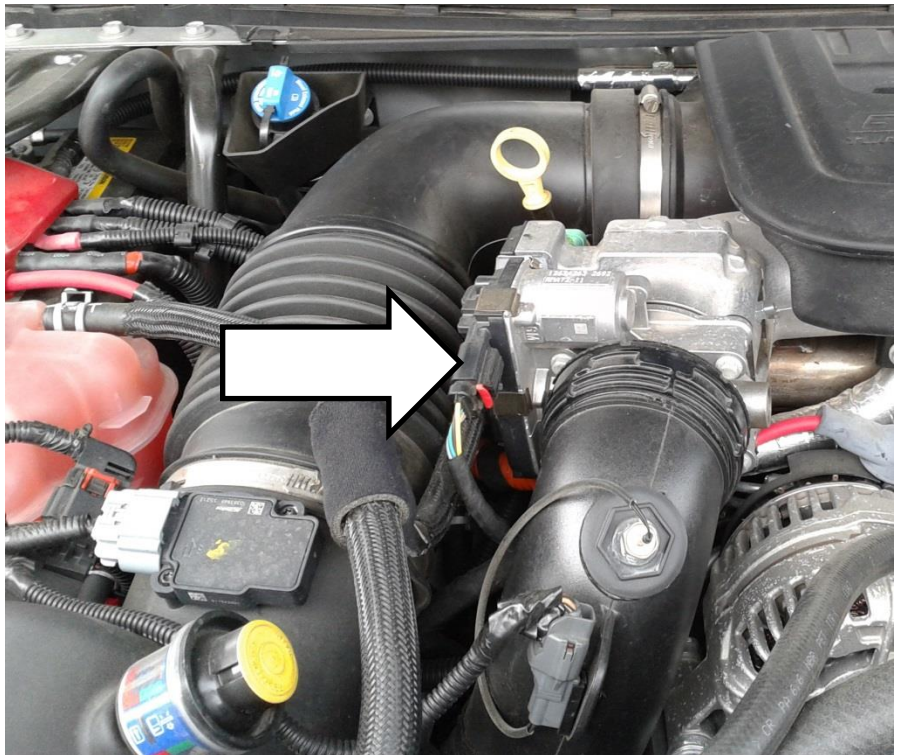
2008-2010 GMC 6.6

Passenger side of engine,
between the air box and the
alternator. The electrical
connector is on the bottom of
the valve.

**2011-2015 GMC 6.6**

Passenger top side of engine.
The electrical connector faces
the front of the vehicle.

NOTE: The red connector lock
tab must be engaged or
connector may come apart.



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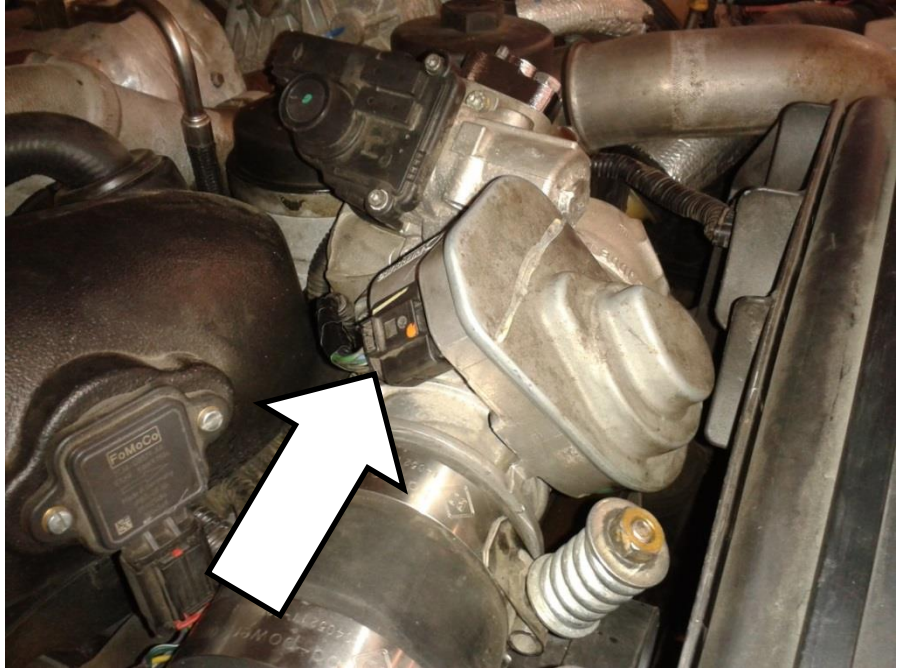
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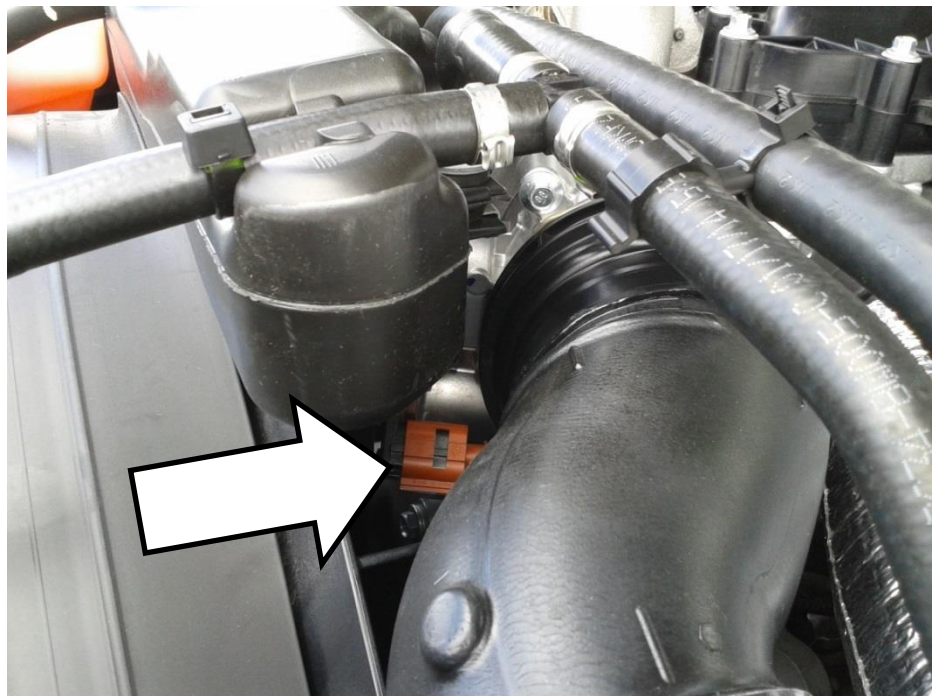
2008-2010 Ford 6.4

Front top of engine, behind the radiator fan shroud. The electrical connector is located on the back side of the valve.

**2011-2014 Ford 6.7**

Front top of engine, behind the radiator fan shroud. The light brown electrical connector is located on the bottom front side of the valve.

TIP: Removing the plastic charge air tube from the valve makes for easier access to the valves electrical connector.



2. Locate engine crankshaft position sensor on the motor. Connect the supplied BD PAS wiring harness inline so that the BD harness connects to the crankshaft position sensor and to the vehicles original wiring.

Crankshaft position sensor locations

2007-2015 Dodge 6.7

Driver side of engine just behind crankshaft drive belt pulley.

(Do not mistake for the camshaft position sensor located above)



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2008-2015 GMC 6.6

Passenger side of engine beside crankshaft drive belt pulley.

(Do not mistake for the camshaft position sensor located beside the water pump pulley)



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2008-2010 Ford 6.4

Passenger side of engine, bottom front. To gain better access, remove the bolt securing the passenger side of the upper steering stabilizer shock absorber and swing out of the way. A long handled screw driver or similar tool can help push the connector off once released.

(Do not mistake for the camshaft position sensor on the opposite side of the block).



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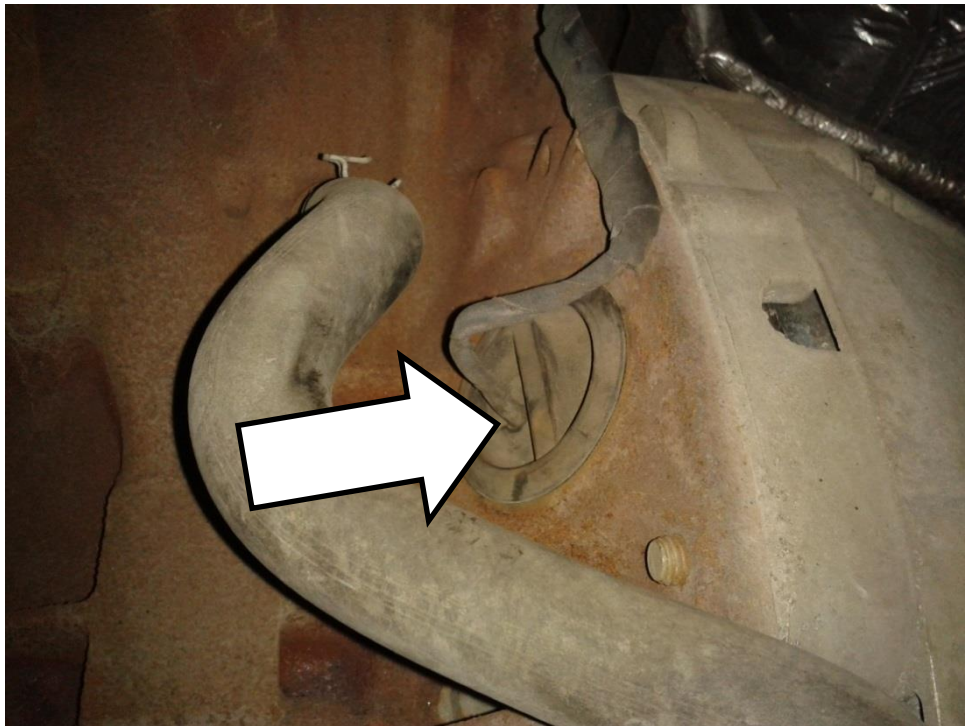
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2011-2014 Ford 6.7

Driver side of engine block in transmission to engine adapter flange. Remove rubber plug from access hole to reach the electrical connector behind it.



3. Remove the toggle switch from the supplied switch harness. Route the end of the switch wiring harness from within the engine bay, through the driver's side of the firewall to below the dashboard. Suggested pass through location is through a slit in the existing grommet for the engine to instrument panel wiring harness, otherwise a new hole may be drilled and a new grommet installed if necessary.
4. Route the battery connection ring terminals to the driver side battery. Connect BLACK wire ring terminal to the driver side battery negative or to body ground if desired. Leave the RED positive wire disconnected until end of installation.
5. Locate suitable location for BD PAS module so that it will reach both wiring harnesses. Attach it with supplied adhesive hook and loop tape or wire ties. Suggested mounting location is on top of the plastic fuse box cover on the driver side of the engine bay. If using hook and loop tape, thoroughly clean the mounting surface for good adhesion.

2007-2015 Dodge

Driver side front corner fuse box



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2008-2015 GMC

Fuse box on driver side of the engine bay



2008-2014 Ford

Driver side rear of the engine bay behind or beside the coolant bottle



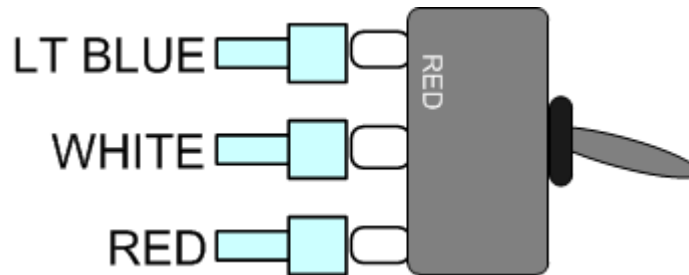
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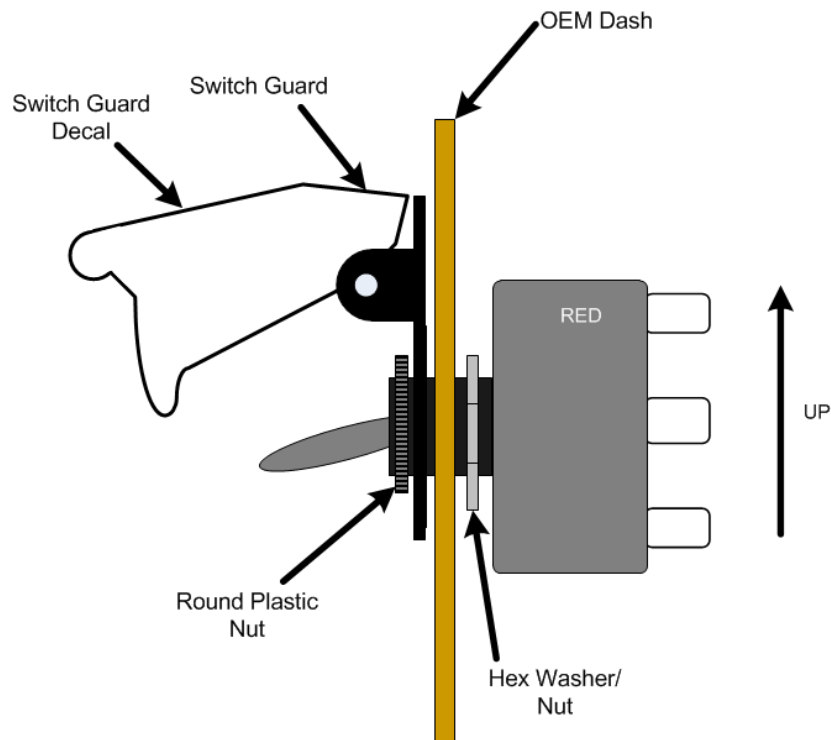
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6. Carefully secure all wiring within the engine bay with supplied wire ties to that it is away from moving parts, chafe hazards and heat sources. Use extra care with the crankshaft position sensor wiring due to the close proximity to belts, fans and road debris and potential consequences of a short or break in this wire.
7. Inside the cab, reconnect the toggle switch to the switch wiring harness in the same way they were removed. See below for reference. Double check the connections here as wiring the toggle switch incorrectly may damage the module.



8. Locate suitable spot to mount switch on the dashboard within reach of the driver and in a highly visible location. Ensure there is sufficient space behind the dash to mount the switch. Drill a 1/8" pilot hole, then using a stepper bit (unibit) drill a 1/2" hole in the dashboard. Install switch with the groove in the thread boss facing down. Install with either the supplied switch decal or with the supplied switch guard and apply decal to the switch guard. Secure wire below the dashboard using supplied wire ties.



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Switch decal



Switch Guard with decal applied.



9. Connect RED positive feed wire to the battery.
10. Test and verify system functionality.

Manual Activation Test: With the engine running at idle, momentarily toggle the PAS switch on the dashboard. The engine should stop within a few seconds. Wait at least 10 seconds before restart.

Automatic Activation Test: With engine not running, remove the cover from the module to access the circuit board. Keep away from metal objects that may cause a short circuit. Set the bottom switch to “1500 RPM TEST” mode. This will cause the module to shut the engine down if it exceeds 1500 RPM. Start the vehicle and slowly accelerate the engine, verify that it shuts down over 1500 RPM. Wait at least 10 seconds before restart.



NOTE: The BD E-PAS module is connected to constant battery power unless the harness fuse is removed. Use care when opening module to avoid short circuiting it against metal objects in engine bay.

11. Set the operation mode switch on the circuit board back to AUTOMATIC and Set the automatic RPM shutdown speed on the module according to the engine it is installed with. This must be above the normal engine redline to avoid accidentally setting it off during driving. Reinstall module cover and re-secure module.



Year/Make	RPM
2008-2015 Dodge 6.7L	4200 RPM
2008-2015 GM 6.6	4600 RPM
2008-2010 Ford 6.4L	5000 RPM
2011-2014 Ford 6.7L	4600 RPM

Electronic PAS system operation

The BD Electronic PAS module constantly keeps track of engine speed and will automatically stop the engine if it exceeds the preset maximum RPM. The air valve can be shut at any time even if the engine is not running by toggling the switch on the dash manually.

When the engine is off, the BD E-PAS module will go into a low power consumption state and the toggle switch on the dash will not be lit. Once the engine is started, the module will automatically begin monitoring engine RPM and the toggle switch on the dash will light up to show the system is ready.

If the system is triggered automatically or manually by the switch, the intake air valve will close and remain closed until the engine RPM has dropped to zero and for an additional 5 seconds afterward. During this time the toggle switch will flash to indicate a closed valve position. ***DO NOT ATTEMPT TO RESTART ENGINE WHILE VALVE IS CLOSED.*** The valve will automatically reset itself to the open position and the toggle switch light will turn off once shutdown process is complete.

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Troubleshooting

Valve does not close by manual toggle switch activation

No power to module. Check fuse at battery. If fuse is blown, inspect harnesses for short circuits or other problems. Remove cover from module and check that the POWER lamp is flashing every two seconds with engine off indicating it is powered and in standby.

Incorrect switch wiring. Carefully check the toggle switch wire connection is correct, incorrect connection may damage the module.

Intake air valve connectors not fully seated. An audible click should be heard when the connector is fully mated together. Tug on connector to ensure it does not come apart.

Valve closes by manual toggle, not automatically

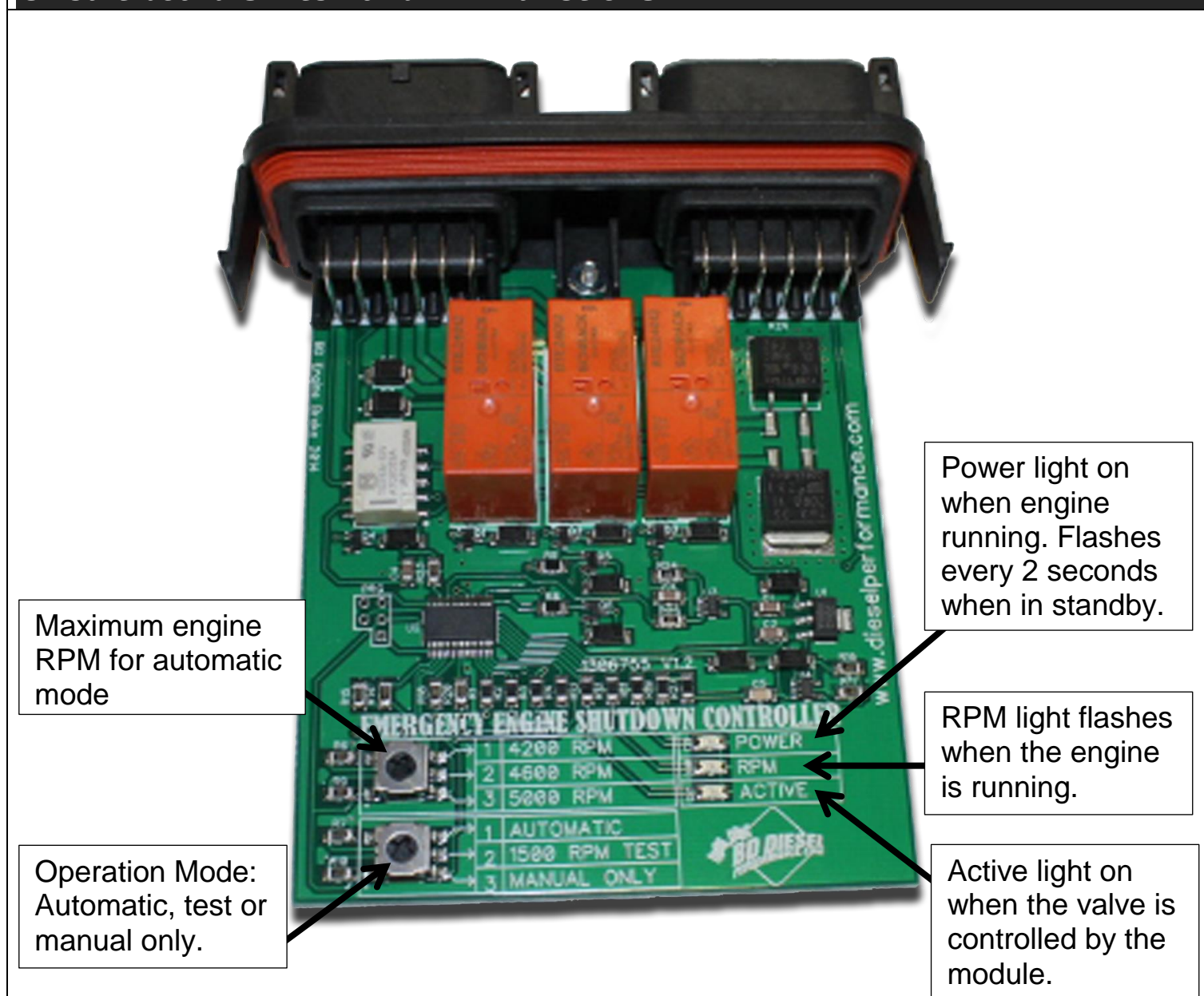
Incorrect module mode setting. If conducting low speed system test, verify that the lower switch on the module circuit board is set to the middle position, "1500 RPM TEST". For normal automatic operation, the switch should be fully counter clockwise, "AUTOMATIC" and RPM selector switch is set to the correct speed.

Harness connected to camshaft position sensor rather than crankshaft position sensor. Verify against pictures in installation section of this manual.

No RPM signal to module. Open module cover and start engine. Verify that RPM light is flashing when engine is running and POWER light is on solid. If it is not on or is intermittent, carefully check blue wire from the modules black connector (pin 7) to the crankshaft position sensor is not severed.

<p>Engine light on / fault codes set</p>	<p>Code set during installation. If the ignition switch was on or ECM had not powered down during installation, fault codes may be set by disconnecting air valve. Clear codes and recheck.</p> <p>Intake air valve connectors not fully seated. An audible click should be heard when the connector is fully mated together. Tug on connector to ensure it does not come apart.</p> <p>Black connector disconnected from BD E-PAS module. If the module is not currently being used, the black connector must still be plugged into the module or the valve connected back to stock configuration.</p>
<p>Engine does not start</p>	<p>Connectors not mated. Inspect crankshaft position sensor connector is correctly installed; an audible click should be heard when connected. Tug on connectors to verify they are correctly mated.</p> <p>Shorted crankshaft position sensor wire. Inspect the blue wire from the modules black connector (pin 7) to the crankshaft position sensor; if this wire is chaffed or broken it may short out the crankshaft position sensor signal.</p> <p>Intake air valve jammed shut or defective. Toggle the system manually while listening for valve movement. If suspect, remove the intake air tube from the valve and visually verify the intake air flap is not closed.</p>

Circuit board switch and LED functions



If you have any technical difficulties, concerns, comments, or complaints, please phone our Technical Support hotline at (800) 887-5030 between 8:30am-5:00pm PST (Pacific Standard Time) Monday to Friday

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