



**2008-09 6.7 Dodge Cummins**  
**Positive Air Shutoff**

<b>P/N#</b>	<b>1036721</b>
<b>P/N#</b>	<b>1036721-M</b>

**PLEASE READ ALL INSTRUCTIONS BEFORE INSTALLATION**

# **KIT CONTENTS:**

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

<i>1036721 Kit Contents</i>			
<b>1302300</b>	<b>1302240</b>	<b>1405404</b>	
			
<i>Air Shutoff Valve</i>	<i>Wiring Harness</i>	<i>Silicone Boot</i>	
<b>Qty: 1</b>	<b>Qty: 1</b>	<b>Qty: 2</b>	
<b>1302280</b>	<b>1302282</b>	<b>1405212</b>	<b>1407030</b>
			
<i>3" PAS Bead Ring</i>	<i>PAS Drill Template</i>	<i>3.78" HD Clamps</i>	<i>3.50" Clamps</i>
<b>Qty: 1</b>	<b>Qty: 1</b>	<b>Qty: 2</b>	<b>Qty: 2</b>
<b>1800060</b>	<b>1301381</b>	<b>1306719</b>	<b>1302285</b>
			
<i>Velcro strips</i>	<i>Heat Shrink</i>	<i>6.7 Electronic Module</i>	<i>Solder</i>
<b>Qty: 2 x 4"</b>	<b>Qty: 3"</b>	<b>Qty: 1</b>	<b>Qty: 5"</b>

BD ENGINE BRAKE, INC.

Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

US Shipping Address: 88-446 Harrison St, Sumas, WA 98295 US Mailing Address: PO Box 231, Sumas, WA 98295

Phone: 604-853-6096 Fax: 604-853-8749 Internet: [www.bd-power.com](http://www.bd-power.com)

<i>1036721-M Kit Contents</i>					
<b>1302300</b>		<b>1302240</b>		<b>1405404</b>	
					
<i>Air Shutoff Valve</i>		<i>Wiring Harness</i>		<i>Silicone Boot</i>	
<b>Qty: 1</b>		<b>Qty: 1</b>		<b>Qty: 2</b>	
<b>1302280</b>	<b>1302282</b>	<b>1405212</b>	<b>1407030</b>		
					
<i>3" PAS Bead Ring</i>	<i>PAS Drill Template</i>	<i>3.78" HD Clamps</i>	<i>3.50" Clamps</i>		
<b>Qty: 1</b>	<b>Qty: 1</b>	<b>Qty: 2</b>	<b>Qty: 2</b>		

## *WELCOME*

Thank you for purchasing a BD positive air shutoff. This manual is divided into different areas to assist you with your installation and operation of your positive Air shutoff.

This product is a safety product and should be tested often.

Installation should occur on a vehicle properly secured to prevent rolling.

## **TABLE OF CONTENTS**

1036721 Kit Contents.....	2
1036721-M Kit Contents .....	3
REQUIRED TOOLS .....	4
MAINTENANCE .....	5
INSTALLATION with OVER SPEED ELECTRONICS (1036721) .....	5
INSTALLATION without OVER SPEED ELECTRONICS (1036721-M) .....	15
WIRING DIAGRAM with OVER SPEED ELECTRONICS (1036721) .....	23
WIRING DIAGRAM without OVER SPEED ELECTRONICS (1036721-M) .....	24
BEAD RING AND DRILL JIG INSTALLATION.....	25
RESETTING THE VALVE .....	26
SETUP, TESTING AND VERIFICATION with OVER SPEED ELECTRONICS.....	27
Automatic Mode (Pre Configured RPM) .....	27
Manual Mode (User Configured RPM) .....	29
TESTING FLOW CHART with OVER SPEED ELECTRONICS.....	32
TESTING FLOW CHART without OVER SPEED ELECTRONICS.....	33
LED OPERATION .....	34

## *REQUIRED TOOLS*

- Frequency/Voltmeter (Optional)
- Drill
- 1/8" Drill Bit
- 11/32" Drill Bit
- Needle Nose Pliers
- 1/2" Unibit
- Electrical Tape
- Reciprocating saw
- Soldering Iron
- Air or Manual Ratchet
- 7/16", 1/2" Sockets
- Wire Strippers
- Heat Gun
- Center Punch
- Band Saw/ Cutoff Wheel or

BD ENGINE BRAKE, INC.

Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

US Shipping Address: 88-446 Harrison St, Sumas, WA 98295 US Mailing Address: PO Box 231, Sumas, WA 98295

Phone: 604-853-6096 Fax: 604-853-8749 Internet: [www.bd-power.com](http://www.bd-power.com)

**MAINTENANCE**

No maintenance is needed other than check to make sure the valve is acting correctly. Please see the testing section later in the manual for the correct procedure.

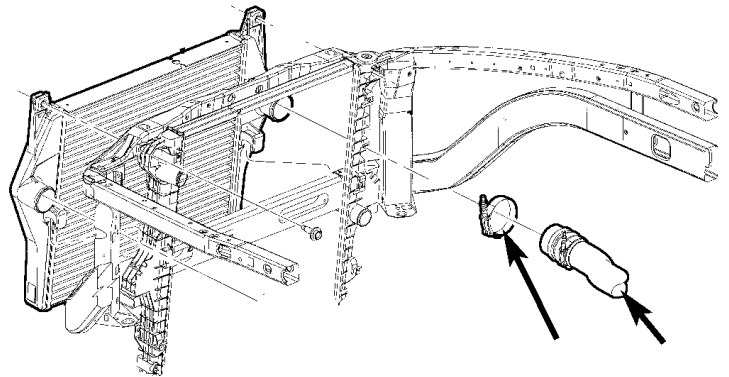
**INSTALLATION with OVER SPEED ELECTRONICS (1036721)**

**VEHICLE SHOULD BE SAFELY SECURED BEFORE INSTALLATION.**

1. Block the wheels of the vehicle to prevent the vehicle from rolling.

Open the hood.

2. Remove passenger's side charge air cooler (CAC) pipe and CAC silicone boot using a 7/16" socket and ratchet.



3. With pipe removed you will need to cut 3.5 inches from the CAC side of the pipe. Clean and debur the cut.

Cut 3.5" from CAC side of pipe.



BD ENGINE BRAKE, INC.

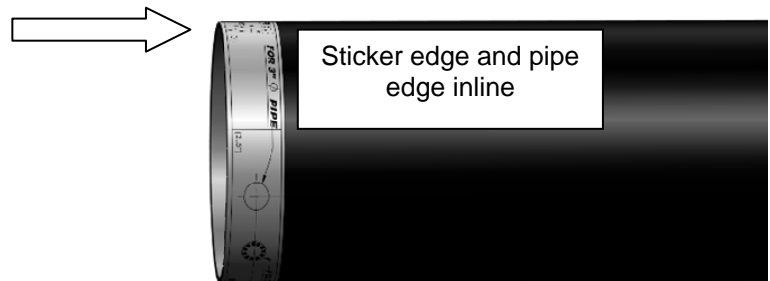
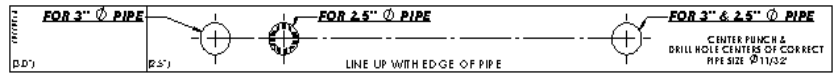
Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

US Shipping Address: 88-446 Harrison St, Sumas, WA 98295 US Mailing Address: PO Box 231, Sumas, WA 98295

Phone: 604-853-6096 Fax: 604-853-8749 Internet: www.bd-power.com

4. Remove backing from drill Jig sticker and wrap around pipe. The edge of the sticker should line up with the edge of the pipe.

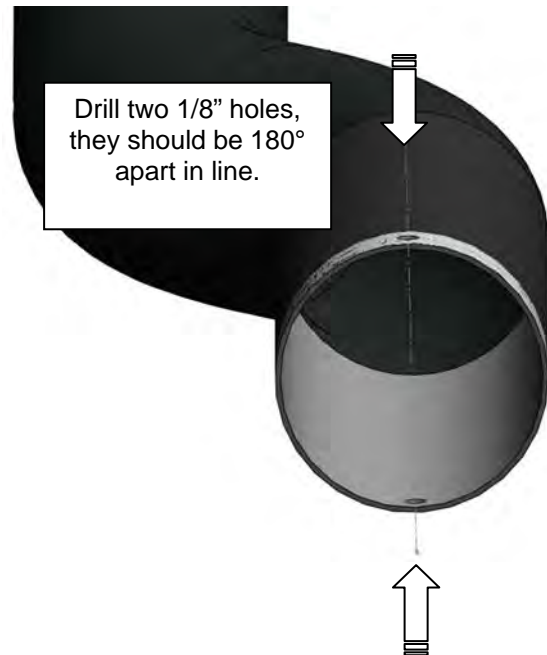
For the 3" pipe the sticker should wrap perfectly around the pipe, the start of the sticker should meet the end of the sticker.



5. With the sticker in place use a center punch and then use a  $\text{\O}1/8$ " drill bit and drill a hole in the center of the holes marked "For 3 $\text{\O}$ ".

There will be two holes and they should be perfectly 180° inline with each other through the pipe.

**DO NOT DRILL COMPLETELY THROUGH THE PIPE AND OUT THE OTHER END. YOU WILL NEED TO DRILL ONE SIDE THEN ROTATE, AND THEN DRILL THE OTHER SIDE.**



BD ENGINE BRAKE, INC.

Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

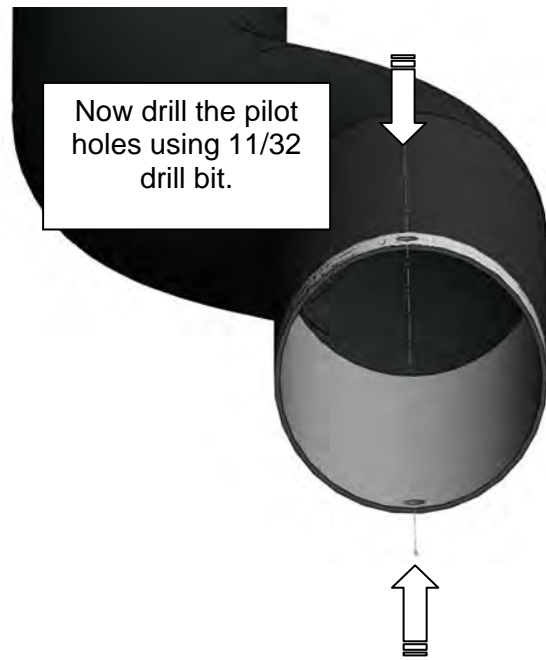
US Shipping Address: 88-446 Harrison St, Sumas, WA 98295 US Mailing Address: PO Box 231, Sumas, WA 98295

Phone: 604-853-6096 Fax: 604-853-8749 Internet: [www.bd-power.com](http://www.bd-power.com)

6. Once the pilot holes are drilled you will need to drill an  $\text{\O}11/32$ " hole through the pilot holes.

You can now remove the sticker.

**You must deburr the inside of the drilled holes.**



7. Once the holes are drilled, install the ring bead around the pipe. Lock each end of the ring bead into each hole.

You can use a needle nose plier to tweak or adjust the ring fit slightly.

Be careful not to bend the ring bead to much as you will weaken it.

Note the ring bead does not have to be perfectly tight or snug around the pipe, as we will be installing a silicone boot over top of it.

With the ring bead in place, you should not be able to pull the ring bead off axially from the tube.



BD ENGINE BRAKE, INC.

Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

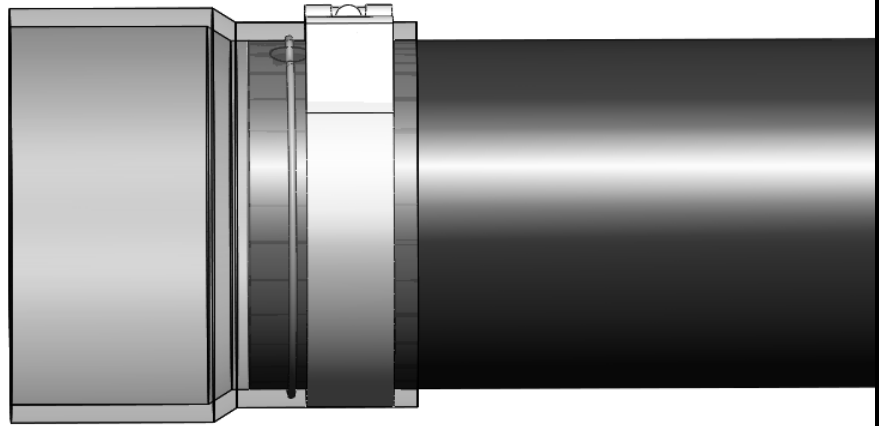
US Shipping Address: 88-446 Harrison St, Sumas, WA 98295 US Mailing Address: PO Box 231, Sumas, WA 98295

Phone: 604-853-6096 Fax: 604-853-8749 Internet: [www.bd-power.com](http://www.bd-power.com)

8. Now slip the 3" side the 1405404 over the bead ring and pipe assembly.

Secure the boot with the provided 3.5" clamp (1407030). Note that there should be about  $\frac{3}{4}$ "-1" of silicone material after the bead ring.

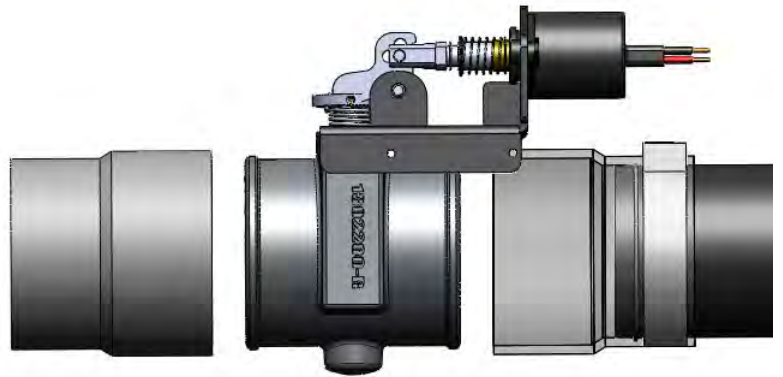
Tighten the clamp till the spring bottoms out.



9. You can now install the valve into the open 3.5" section of the boot. Use the 1405212 (3.78") spring clamp to secure this connection.

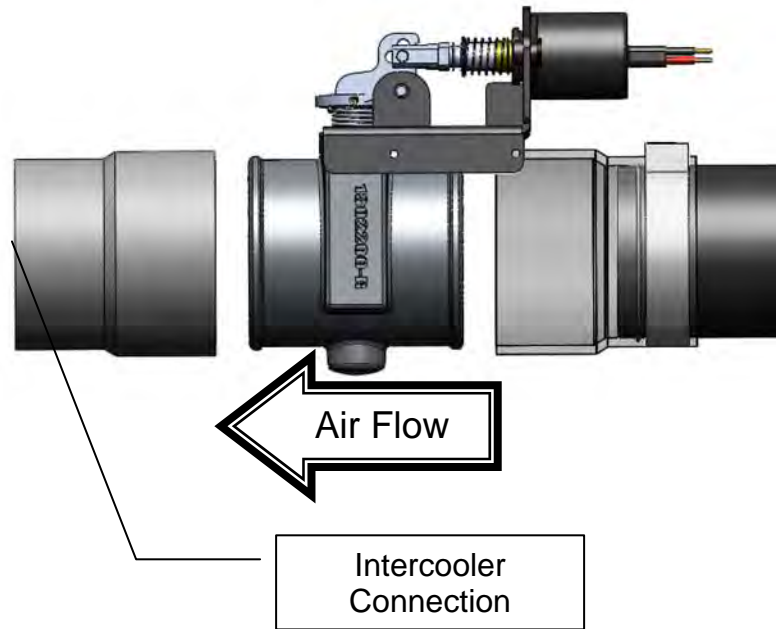
Install the 2<sup>nd</sup> 1405404 boot on the other side of the valve. Secure this connection again with the 1405212 (3.78") spring clamp.

Tighten all clamps until the spring bottoms out.





10. Finally, reinstall the PAS and pipe assembly back into the truck, secure the intercooler end first using the supplied 3.5" clamp. Then secure the turbocharger connection end.



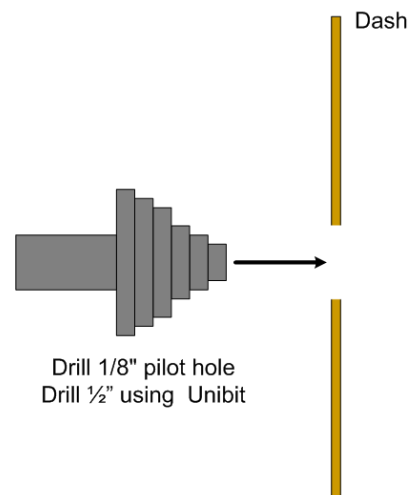
11. Lay out supplied harness over top of the driver's side of the engine.

You will then need to route the switch wires through the firewall (note you will need to remove the switch from the harness to accomplish this).

Choose a highly visible location for the switch and mount it to the dash.

**Using a 1/8" drill, drill a pilot hole in the location you have selected for the switch to be mounted.**

**Finally using a 1/2" UNIBIT drill bit, drill an exact 1/2" round hole.**



BD ENGINE BRAKE, INC.

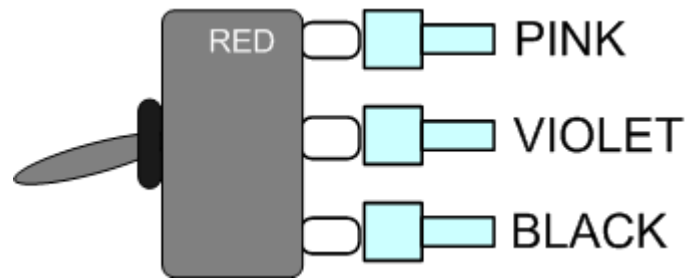
Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

US Shipping Address: 88-446 Harrison St, Sumas, WA 98295 US Mailing Address: PO Box 231, Sumas, WA 98295

Phone: 604-853-6096 Fax: 604-853-8749 Internet: [www.bd-power.com](http://www.bd-power.com)

12. Once you have the mounting hole drilled, insert the switch from the backside.

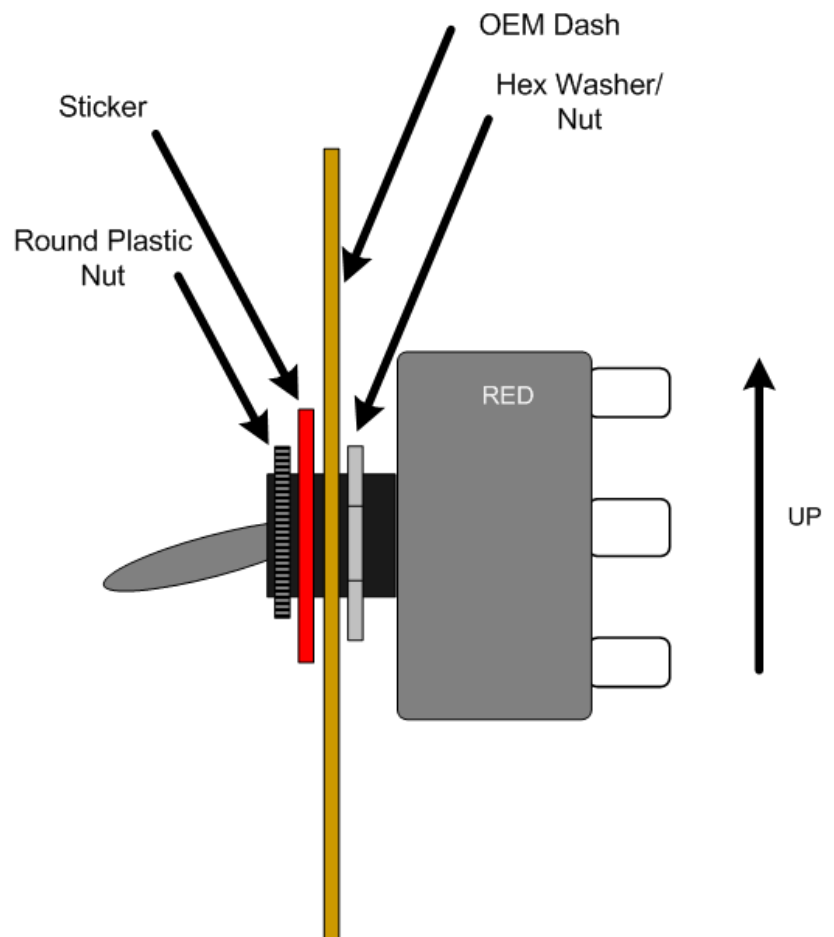
Reinstall the correct wires to the correct switch terminals.



13. Mount the switch so that the groove on thread boss is facing down.

Adjust the HEX washer/nut so that the switch threads do not protrude an unsightly amount.

Then apply the supplied sticker and finally install the round plastic nut.



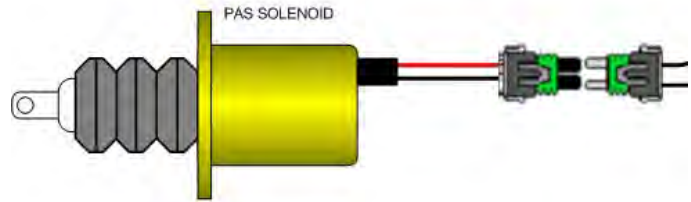
BD ENGINE BRAKE, INC.

Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

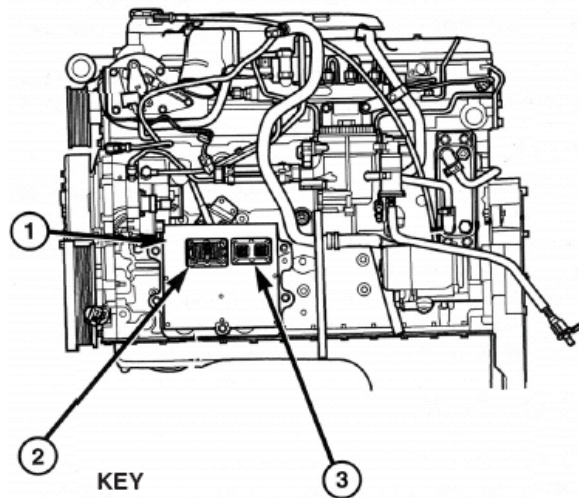
US Shipping Address: 88-446 Harrison St, Sumas, WA 98295 US Mailing Address: PO Box 231, Sumas, WA 98295

Phone: 604-853-6096 Fax: 604-853-8749 Internet: [www.bd-power.com](http://www.bd-power.com)

14. Locate and connect the weather pack connector on the wiring harness to the solenoid on the PAS valve.

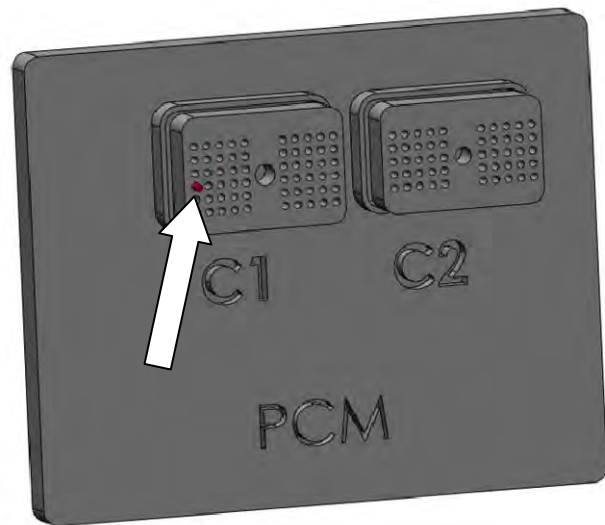


15. On the driver's side of the engine near the bottom, locate the ECM. Then locate connector C1 (closest to front of engine).



Locate Pin 31 (CKP Sensor), the wire will be Brown w/ Light Blue Tracer or on some trucks Light Blue w/ Brown tracer.

**Pin 31**      **Brown w/Light Blue**



16. Being that the RPM signal is critical you will need to solder the connection.

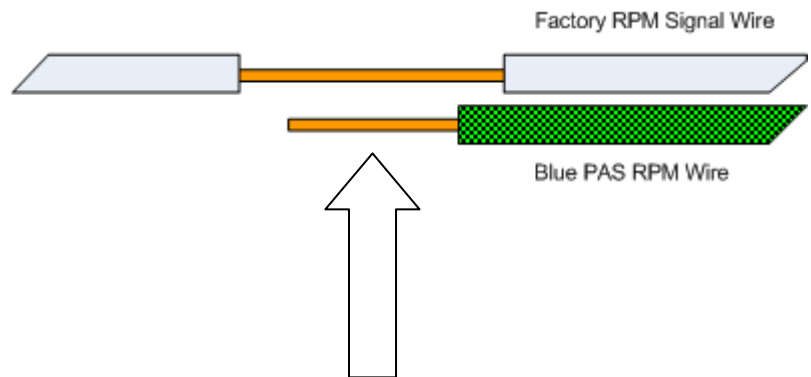
Using wire strippers create a 1" window/gap in insulation of the wire.

Then strip about 1" of insulation of the RPM signal wire of the BLUE wire from the PAS wiring harness.

Wrap the copper wire around the factory RPM signal wire and solder this connection.

Then use electrical tape to wrap this connection so that it is water tight.

You can also cut the factory crank signal wire and use heat shrink tubing if you would like.



Solder the connection and then wrap and seal with electrical tape

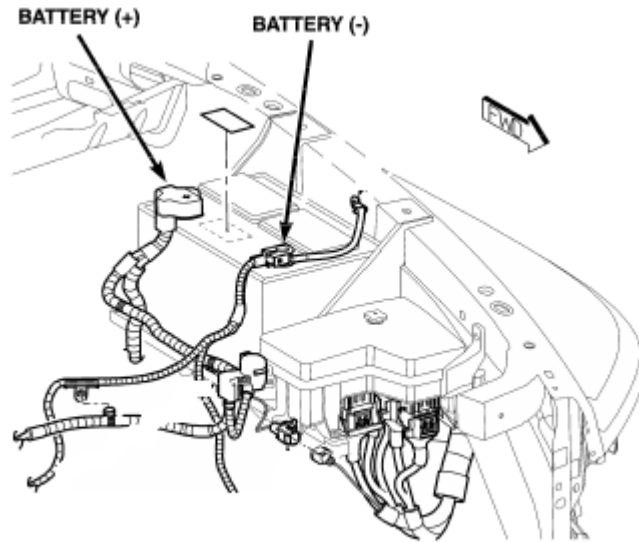
BD ENGINE BRAKE, INC.

Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

US Shipping Address: 88-446 Harrison St, Sumas, WA 98295 US Mailing Address: PO Box 231, Sumas, WA 98295

Phone: 604-853-6096 Fax: 604-853-8749 Internet: [www.bd-power.com](http://www.bd-power.com)

17. Next on the wiring harness connection the BLACK and RED wires to the respective battery connections (Driver's Side Battery).

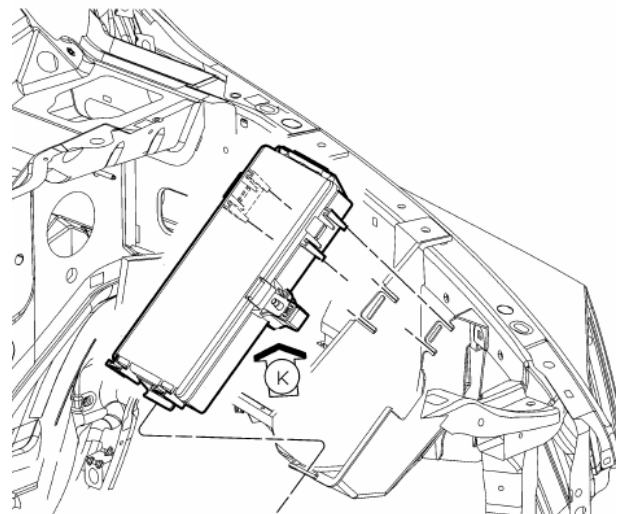
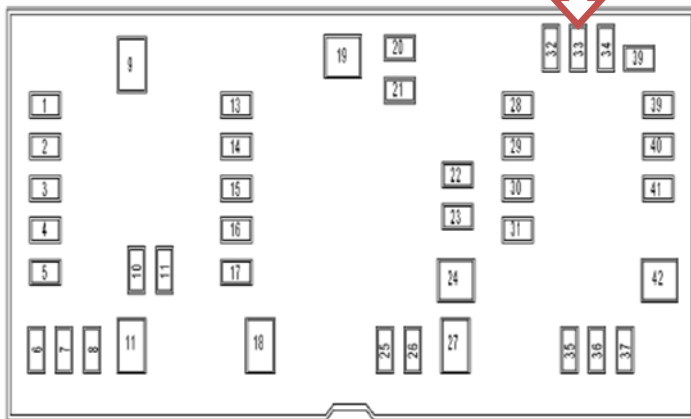


18. For the last connection you will need to locate ignition power. This will power the automatic over speed control box LED switch. Note that they unit can still be activated manually with the switch at any time.

Locate the fuse panel in front of the driver's side battery. Remove the cover.

Locate appropriate fused ignition power circuit (see table below). Install fuse tapper on to fuse, reinstall fuse. Connect yellow lead wire with flag connector to this new connection. Route wire out of fuse box and close lid.

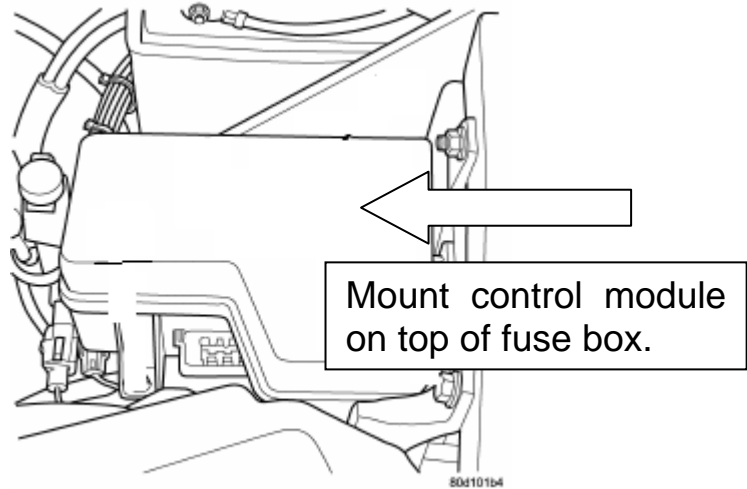
2008-09 Model Year



Fuse # 33 (10Amp)

19. With the fuse box closed, mount the control module on top of it using the supplied Velcro.

Be sure to clean both surfaces with rubbing alcohol before apply velcro.



20. Double check all wiring connections and ensure wires are routed away from any heat sources and moving parts.

BD ENGINE BRAKE, INC.

Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

US Shipping Address: 88-446 Harrison St, Sumas, WA 98295 US Mailing Address: PO Box 231, Sumas, WA 98295

Phone: 604-853-6096 Fax: 604-853-8749 Internet: [www.bd-power.com](http://www.bd-power.com)

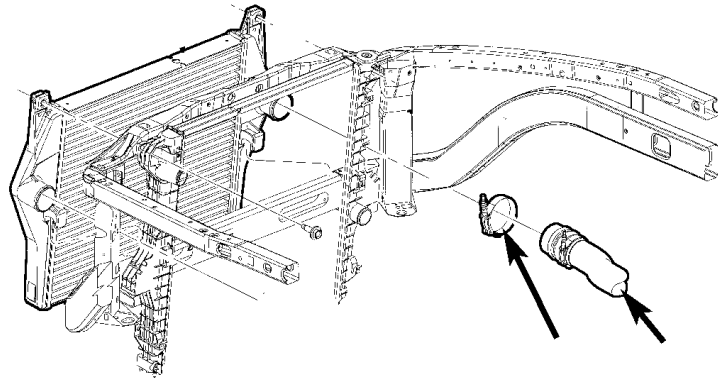
**INSTALLATION without OVER SPEED ELECTRONICS (1036721-M)**

**VEHICLE SHOULD BE SAFELY SECURED BEFORE INSTALLATION.**

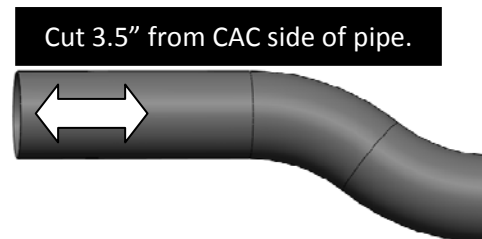
1. Block the wheels of the vehicle to prevent the vehicle from rolling.

Open the hood.

2. Remove passenger's side charge air cooler (CAC) pipe and CAC silicone boot using a 7/16" socket and ratchet.

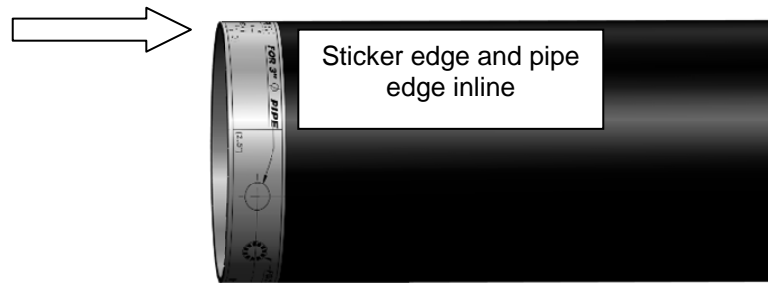
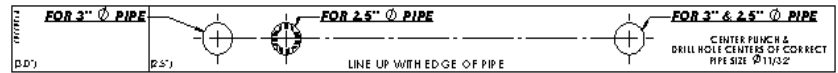


3. With pipe remove you will need to cut 3.5 inches from the CAC side of the pipe. Clean and debur the cut.



4. Remove backing from drill Jig sticker and wrap around pipe. The edge of the sticker should line up with the edge of the pipe.

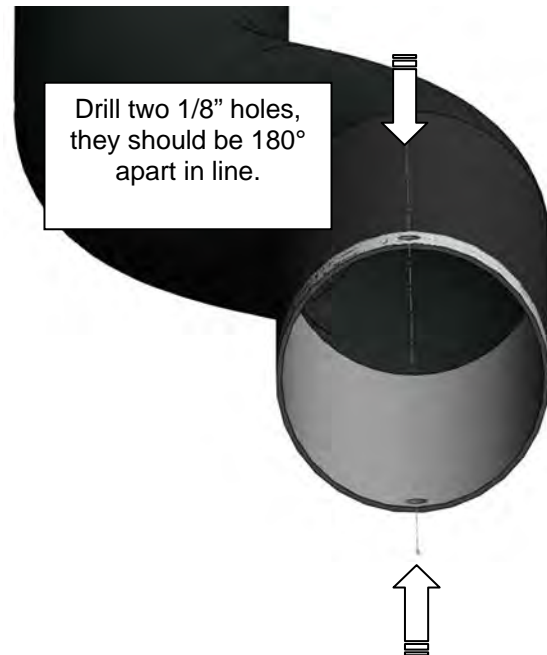
For the 3" pipe the sticker should wrap perfectly around the pipe, the start of the sticker should meet the end of the sticker.



5. With the sticker in place use a center punch and then use a  $\text{\O}1/8$ " drill bit and drill a hole in the center of the holes marked "For 3 $\text{\O}$ ".

There will be two holes and they should be perfectly 180° inline with each other through the pipe.

**DO NOT DRILL COMPLETELY THROUGH THE PIPE AND OUT THE OTHER END. YOU WILL NEED TO DRILL ONE SIDE THEN ROTATE, AND THEN DRILL THE OTHER SIDE.**

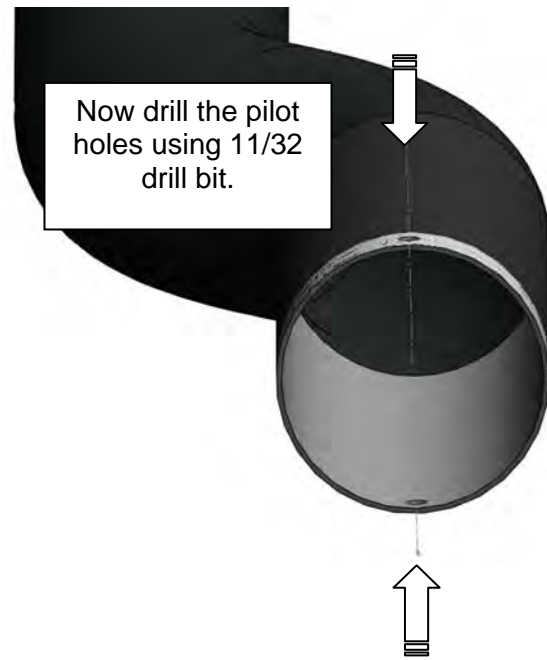




6. Once the pilot holes are drilled you will need to drill an  $\text{\O}11/32$ " hole through the pilot holes.

You can now remove the sticker.

**You must deburr the inside of the drilled holes.**



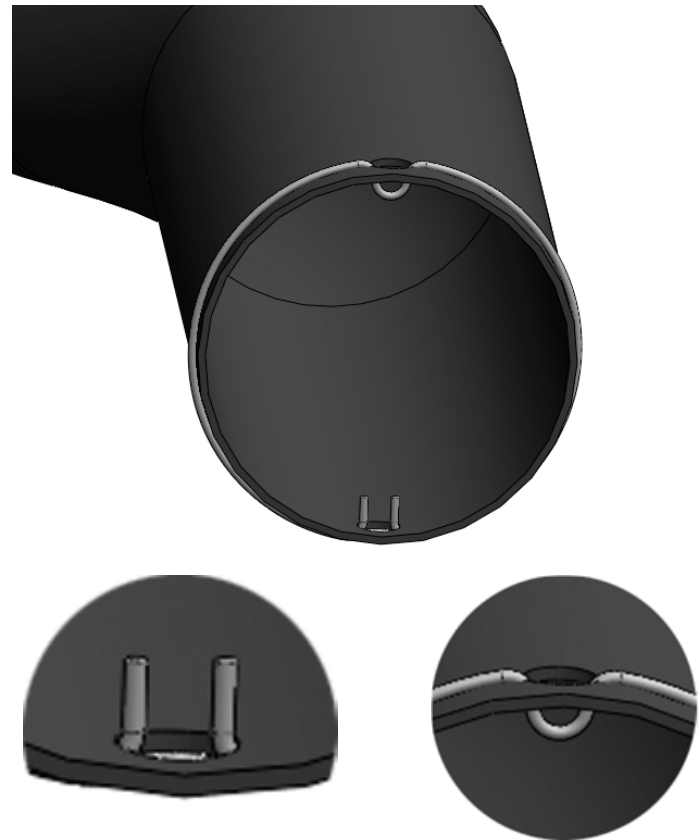
7. Once the holes are drilled, install the ring bead around the pipe. Lock each end of the ring bead into each hole.

You can use a needle nose plier to tweak or adjust the ring fit slightly.

Be careful not to bend the ring bead to much as you will weaken it.

Note the ring bead does not have to be perfectly tight or snug around the pipe, as we will be installing a silicone boot over top of it.

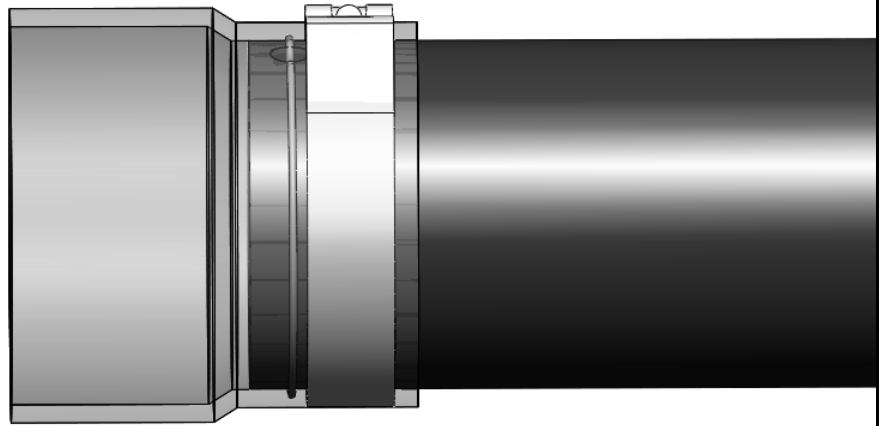
With the ring bead in place, you should not be able to pull the ring bead off axially from the tube.



8. Now slip the 3" side the 1405404 over the bead ring and pipe assembly.

Secure the boot with the provided 3.5" clamp (1407030). Note that there should be about  $\frac{3}{4}$ "-1" of silicone material after the bead ring.

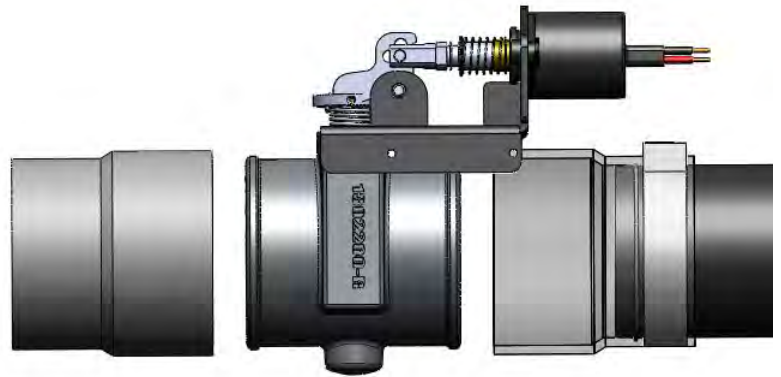
Tighten the clamp till the spring bottoms out.



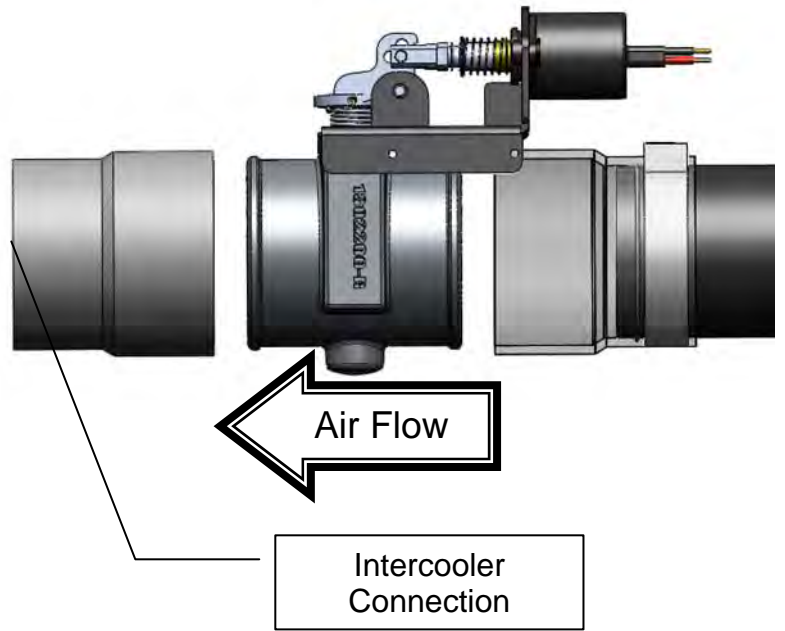
9. You can now install the valve into the open 3.5" section of the boot. Use the 1405212 (3.78") spring clamp to secure this connection.

Install the 2<sup>nd</sup> 1405404 boot on the other side of the valve. Secure this connection again with the 1405212 (3.78") spring clamp.

Tighten all clamps until the spring bottoms out.

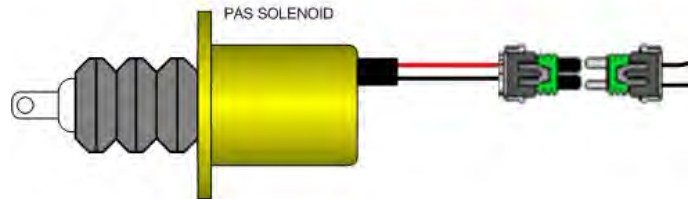


Finally, reinstall the PAS and pipe assembly back into the truck, secure the intercooler end first using the supplied 3.5" clamp. Then secure the turbocharger connection end.



11. Lay out supplied harness over top of the driver's side of the engine.

Locate and connect the weather pack connector on the wiring harness to the solenoid on the PAS valve.



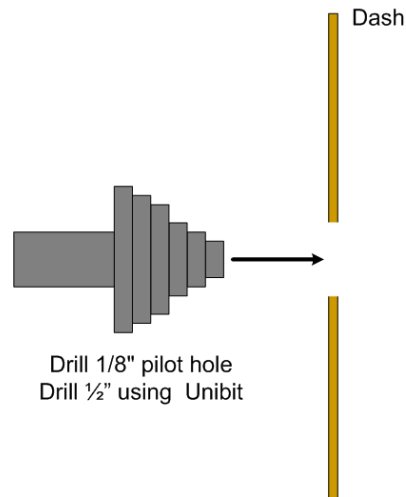
12. You will then need to route the switch wires through the firewall (note you will need to remove the switch from the harness to accomplish this).

Choose a highly visible location for the switch and mount it to the dash.

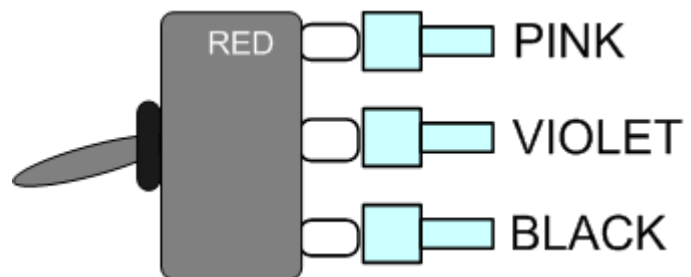
**NOTE:** You may need to trim the switch wires to length once you have located where the switch is to be mounted.

**Using a 1/8" drill, drill a pilot hole in the location you have selected for the switch to be mounted.**

**Finally using a 1/2" UNIBIT drill bit, drill an exact 1/2" round hole.**



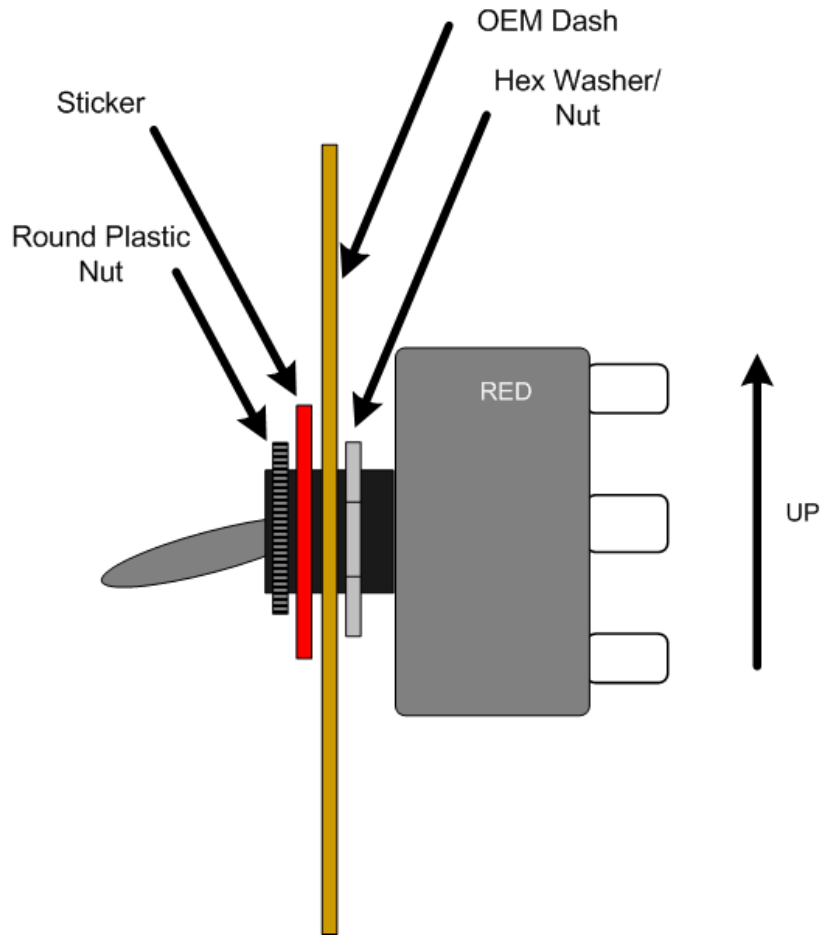
13. Once you have the mounting hole drilled, crimp the switch connectors to the switch wires and install the correct switch wires to the correct switch terminals, then insert the switch into the dash from the backside.



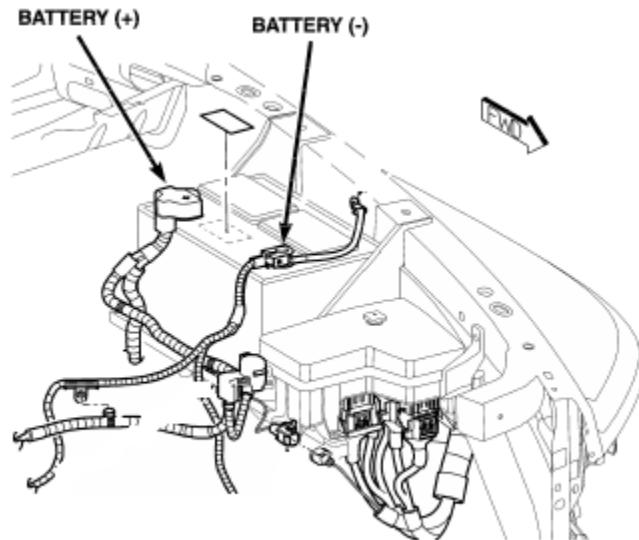
14. Mount the switch so that the groove on thread boss is facing down.

Adjust the HEX washer/nut so that the switch threads do not protrude an unsightly amount.

Then apply the supplied sticker and finally install the round plastic nut.



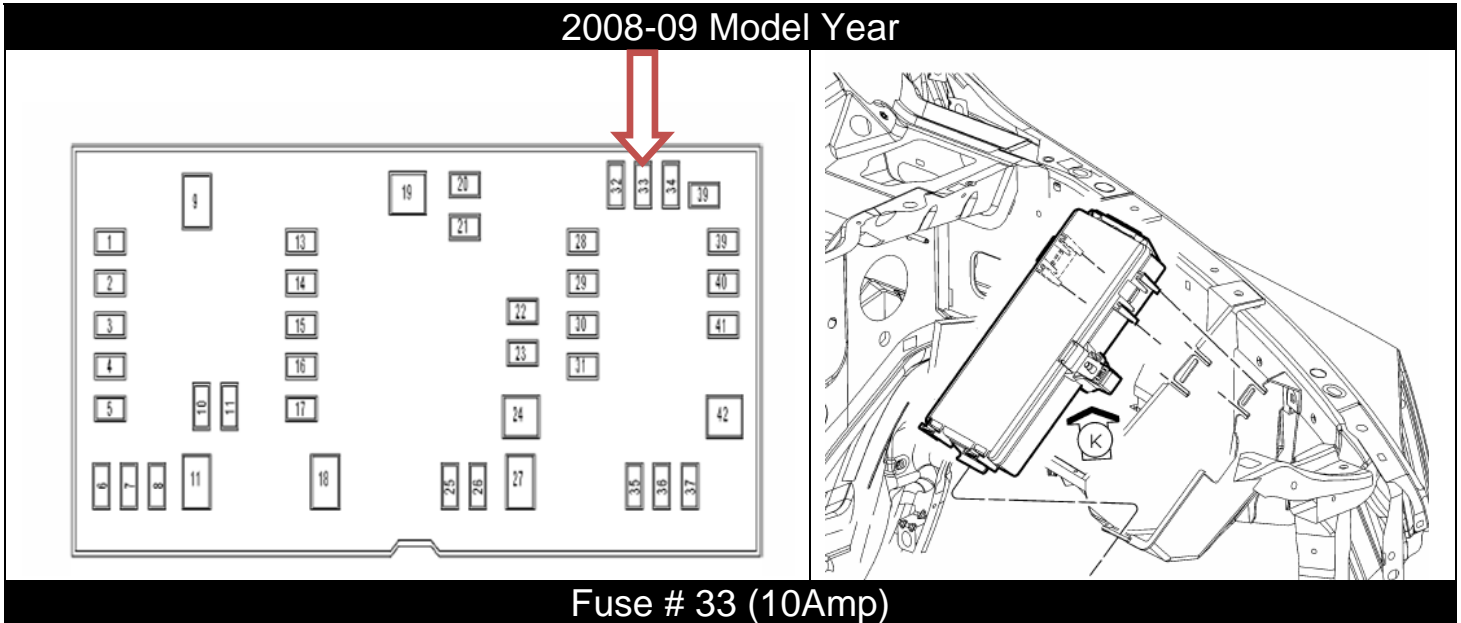
15. Next trim the wires to length and crimp the ring terminals to the BLACK and RED wires to connect to the respective battery connections. (Driver side battery)



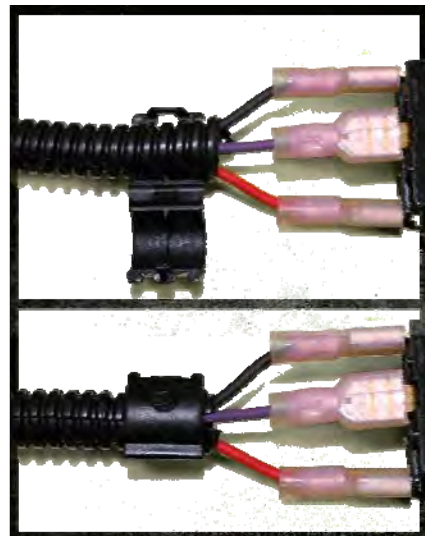
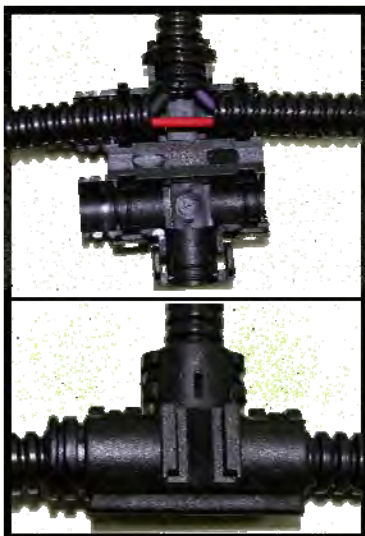
16. For the last connection you will need to locate ignition power.

Locate the fuse panel in front of the driver's side battery. Remove the cover.

Locate appropriate fused ignition power circuit (see table below). Install fuse tapper on to fuse, reinstall fuse. Trim the pink wire to length and crimp the flag connector to the wire and connect the pink lead wire with flag connector to this new connection. Route wire out of fuse box and close lid.

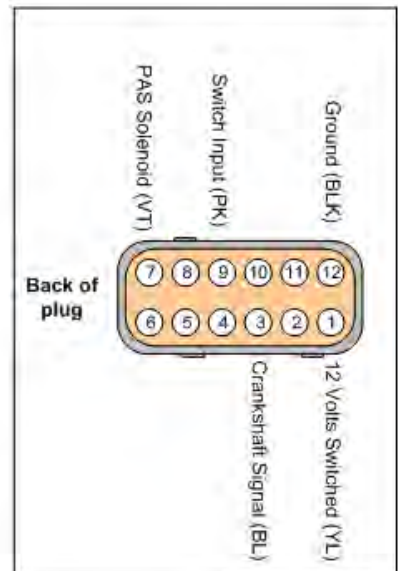
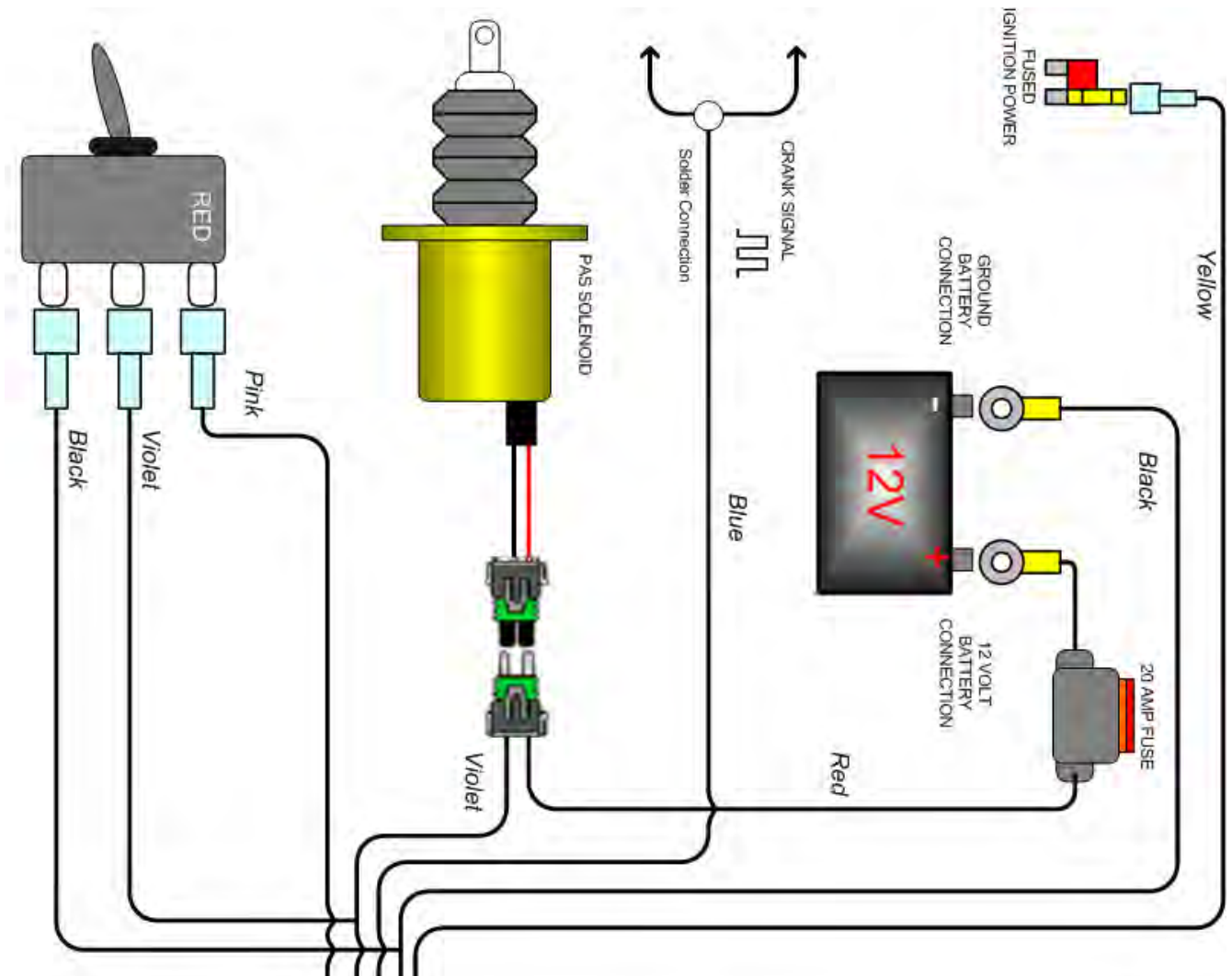


17. Double check all wiring connections and ensure wires are routed away from any heat sources and moving parts. Then install the loom with the supplied tee connector and clips for the loom ends and continue to the testing flow chart without over speed electronics in this manual.



INSTALLATION without OVER SPEED ELECTRONICS

**WIRING DIAGRAM with OVER SPEED ELECTRONICS (1036721)**



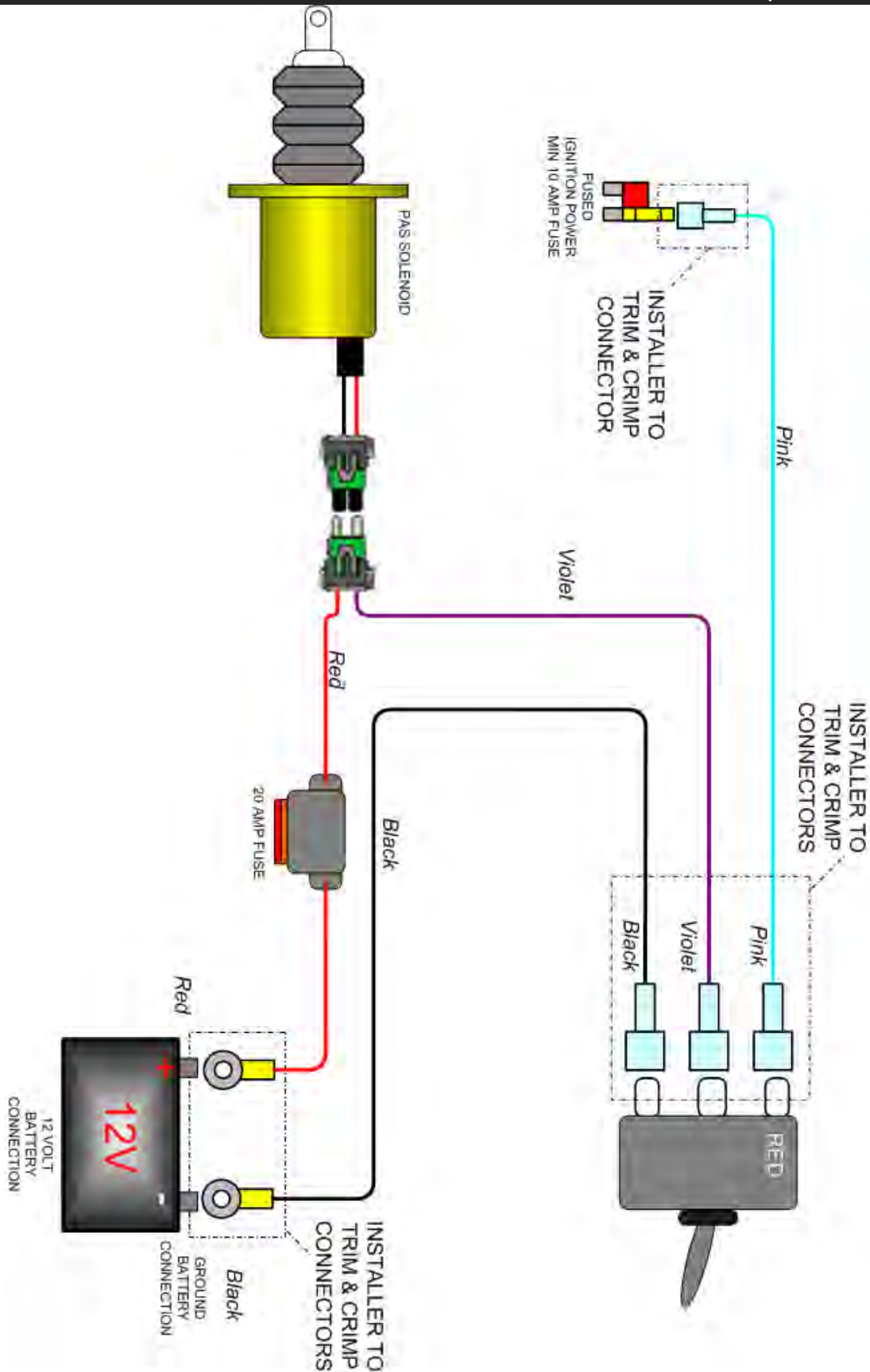
- POSITION 1 = Pre Programmed Automatic Mode (Vehicle Specific)
- POSITION 2 = Pre Programmed Test Mode
- POSITION 3 = Full Manual Mode (User must set)

The electronic control unit features a 'Set' button and a gauge. It has several terminals labeled:

- Power
- RPM Sel
- RPM Signal
- RPM Ground Sense
- Activator

Application	Cutout RPM	Freq. Hz
Dodge Cummins 2003-09	4200	4200
Dodge Cummins 1998, 5, 02	4200	2100
Ford 6L Powerstroke	5000	5000
Ford 7.3L Powerstroke	4900	4900
GM Duramax	4600	4600

**WIRING DIAGRAM without OVER SPEED ELECTRONICS (1036721-M)**



BD ENGINE BRAKE, INC.

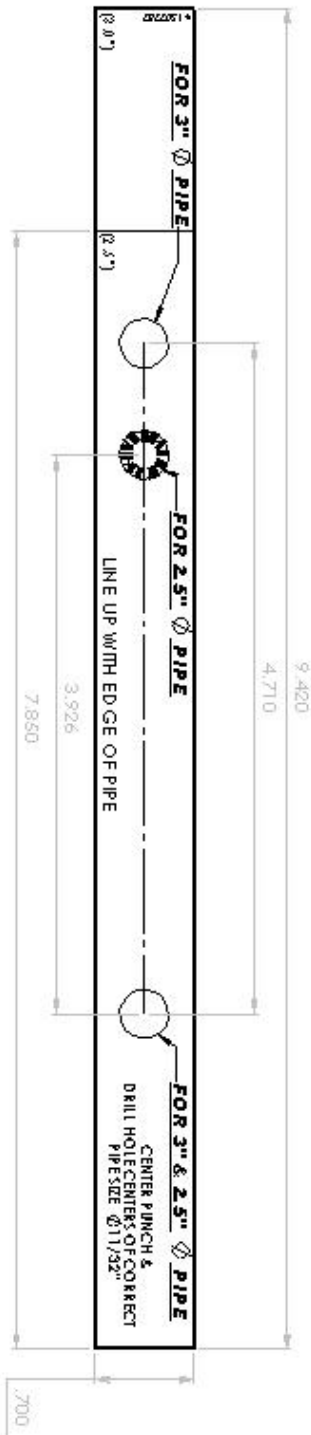
Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

US Shipping Address: 88-446 Harrison St, Sumas, WA 98295 US Mailing Address: PO Box 231, Sumas, WA 98295

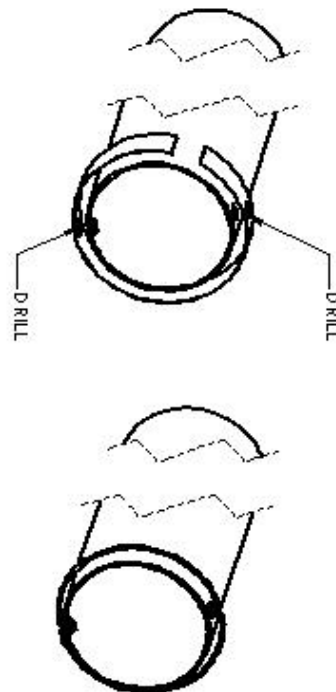
Phone: 604-853-6096 Fax: 604-853-8749 Internet: www.bd-power.com



# BEAD RING AND DRILL JIG INSTALLATION



- WRAP CORRECT STICKER AROUND PIPE. LINE UP STICK EDGE WITH EDGE OF PIPE. MAKE SURE STICKER IS SQUARE AROUND PIPE AND BOTH ENDS CONNECT
- CENTER PUNCH CENTER OF MARKED HOLES
- USE CORRECT SIZE DRILL BIT AND DRILL THROUGH PIPE. ROTATE PIPE AND DRILL THROUGH SECOND MARKED HOLE. THE HOLES SHOULD BE PERFECTLY STRAIGHT
- REMOVE STICKER AND DEBURR INSIDE AND OUTSIDE OF PIPE
- THEN WRAP WIRE BEAD AROUND TUBE. YOU MAY NEED TO FORMAT IT SLIGHTLY. IF DONE CORRECTLY THE BEAD WILL NOT PULL OFF OF TUBE
- INSTALL SILICONE BOOT AND CLAMP AS YOU WOULD NORMALLY



BD ENGINE BRAKE, INC.

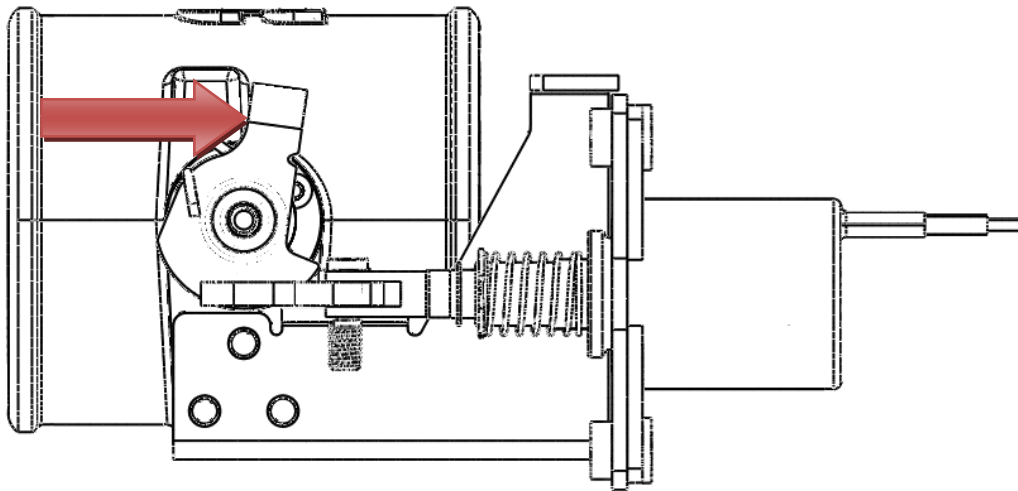
Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

US Shipping Address: 88-446 Harrison St, Sumas, WA 98295 US Mailing Address: PO Box 231, Sumas, WA 98295

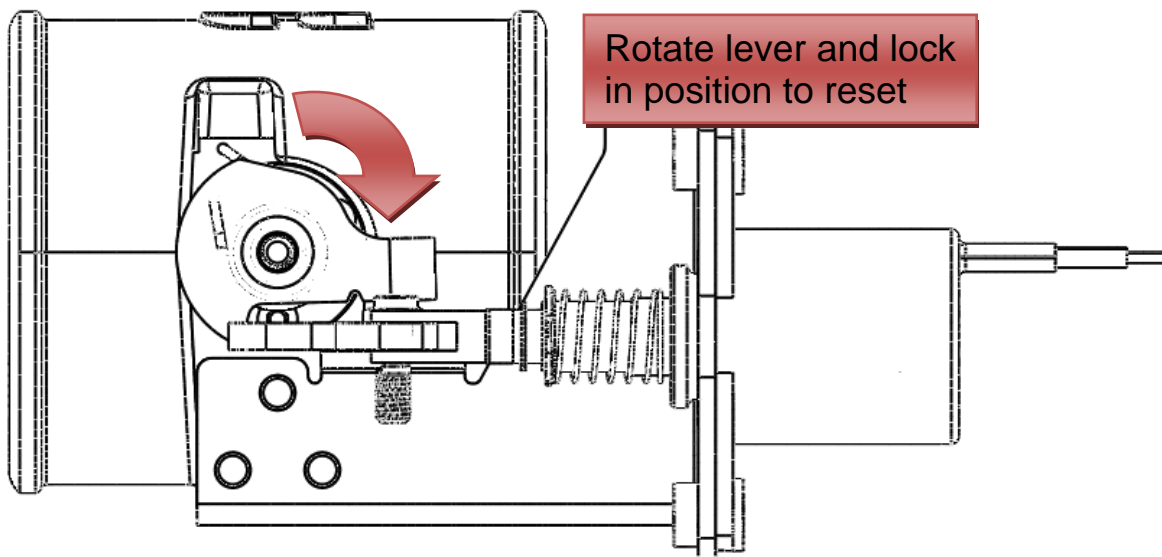
Phone: 604-853-6096 Fax: 604-853-8749 Internet: www.bd-power.com

# RESETTING THE VALVE

## Valve Activated (Closed)



## Valve Reset (Open)



BD ENGINE BRAKE, INC.

Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

US Shipping Address: 88-446 Harrison St, Sumas, WA 98295 US Mailing Address: PO Box 231, Sumas, WA 98295

Phone: 604-853-6096 Fax: 604-853-8749 Internet: [www.bd-power.com](http://www.bd-power.com)

**SETUP, TESTING AND VERIFICATION with OVER SPEED ELECTRONICS**

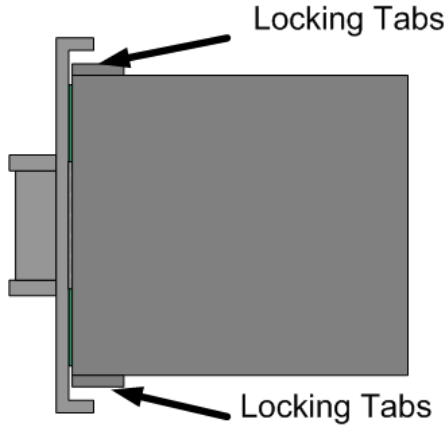
Each unit is specifically configured for each model of truck. As in the case of different model years and makes the engine RPM frequency is different.	<b>Engine Idle Speed Frequency</b>
	<b>03-09 Dodge Cummins</b>

600-800 Hz  
(1:1) ratio

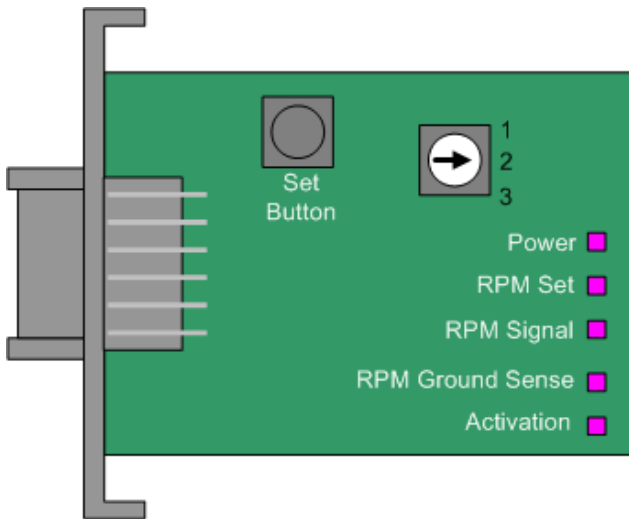
2003-2009 Dodge Cummins	Activation RPM	Activation Freq. (Hz)
PAS Switch Position #1 (Automatic Mode)	4200	4200
PAS Switch Position #2 (Test Mode)	1200	1200
PAS Switch Position #3 (Manual Mode)	User Configured	User Configured

<b>Automatic Mode (Pre Configured RPM)</b>	
Action	Failure/Fix/Notes
1. Turn the ignition key to the on position. You should see the RED light illuminate on the toggle switch.	If the LED does not illuminate, check the wiring to the back of the switch first. Then check entire circuit.
2. Next, start the engine. 3. With the engine idling, activate the toggle switch. You should hear the solenoid activate and the valve close. The engine should die. Once the engine dies the switch should flicker ON and OFF indicating a trip condition.	If the engine does not die, check to make sure the valve actuated. If the valve did not actuate check switch and ground wiring. If valve did actuate but the engine is still running, ensure nothing has contacted the valve mechanism
4. You can now reset the valve, by rotating the upper lever and engaging the solenoid stop.	

5. With the valve reset, remove the outer enclosure from the control module. There are two locking tabs on the sides of the enclosure.



6. Change the position selection switch to position #2 (Auto Test). Slide enclosure cover over circuit board.



7. Start the vehicle, with the vehicle in park step on the throttle increasing the engine RPM. At 1200RPM the PAS should engage itself automatically, and the engine should stall. Like with all activations the

If the engine did not stall, check to make sure the valve actuated. If the valve did not actuated, double check the engine RPM electrical connection. Check the RPM Signal LED on the circuit

toggle switch should flash.	board, it should flash proportionally to the engine RPM.
<p><b>8. Reset the valve and reset the mode position switch to position #1</b></p>	
<p>You are now complete and the unit should function correctly. This test cycle should be completed once a year.</p>	

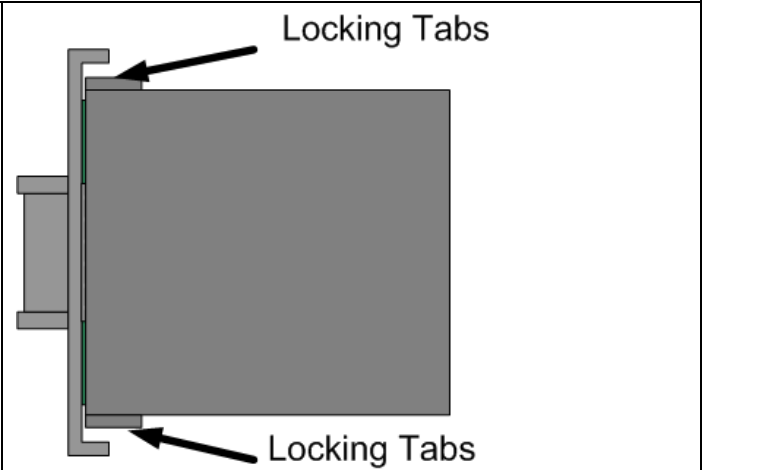
**Manual Mode (User Configured RPM)**

**Setup**

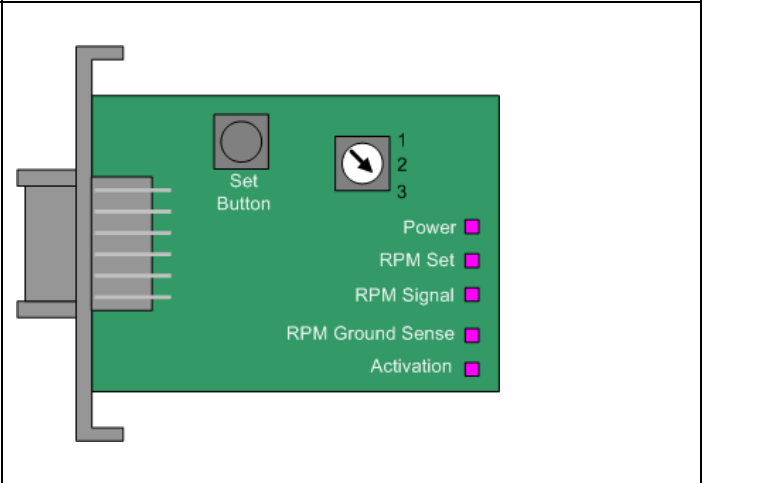
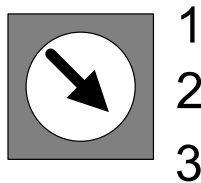
With the control unit, the user/installer has the ability to set their own activation RPM. It is necessary that you chose a low activation RPM first to test the units is operating correctly. Once it has, you will need to set the high limit RPM activation.

Note: When you press the Set button the module will add 25% to the set speed.

1. Open electronic enclosure, by releasing the two locking tabs on the side of the unit.



2. Adjust the position switch to Position #3.



3. Start the engine.

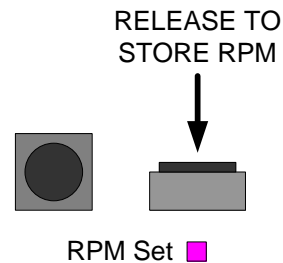
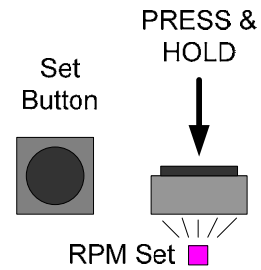
4. Press and hold the RPM SET button.

When you push the SET RPM button will see the "RPM Set" LED illuminate.

5. With another person helping you, have them step on the accelerator with the vehicle in park. Raise the engine RPM to 1200 RPM.

6. Release the SET RPM button.

Upon releasing the button the unit will store the RPM + 25%. So for this example the unit has stored 1200RPM + 25% = 1500RPM.



You should see the RPM signal flash proportionally to engine RPM.

7. Now increase the RPM of the engine to test the activation circuit is working correctly. As in this example the valve should activate at 1500RPM.

You should see the ACTIVATION LED flash ON/OFF on activation.

If the valve does not activate check the wiring.

If the valve activates but the engine does not stall, ensure nothing has contacted the valve linkage.

8. With the valve activated the engine should die. Reset the valve and restart the engine.

9. Press and hold the RPM SET button.

When you push the SET RPM button will see the "RPM Set" LED illuminate.

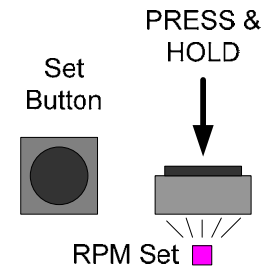
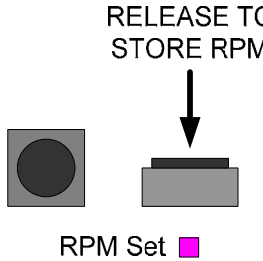
10. With another person helping you, have

BD ENGINE BRAKE, INC.

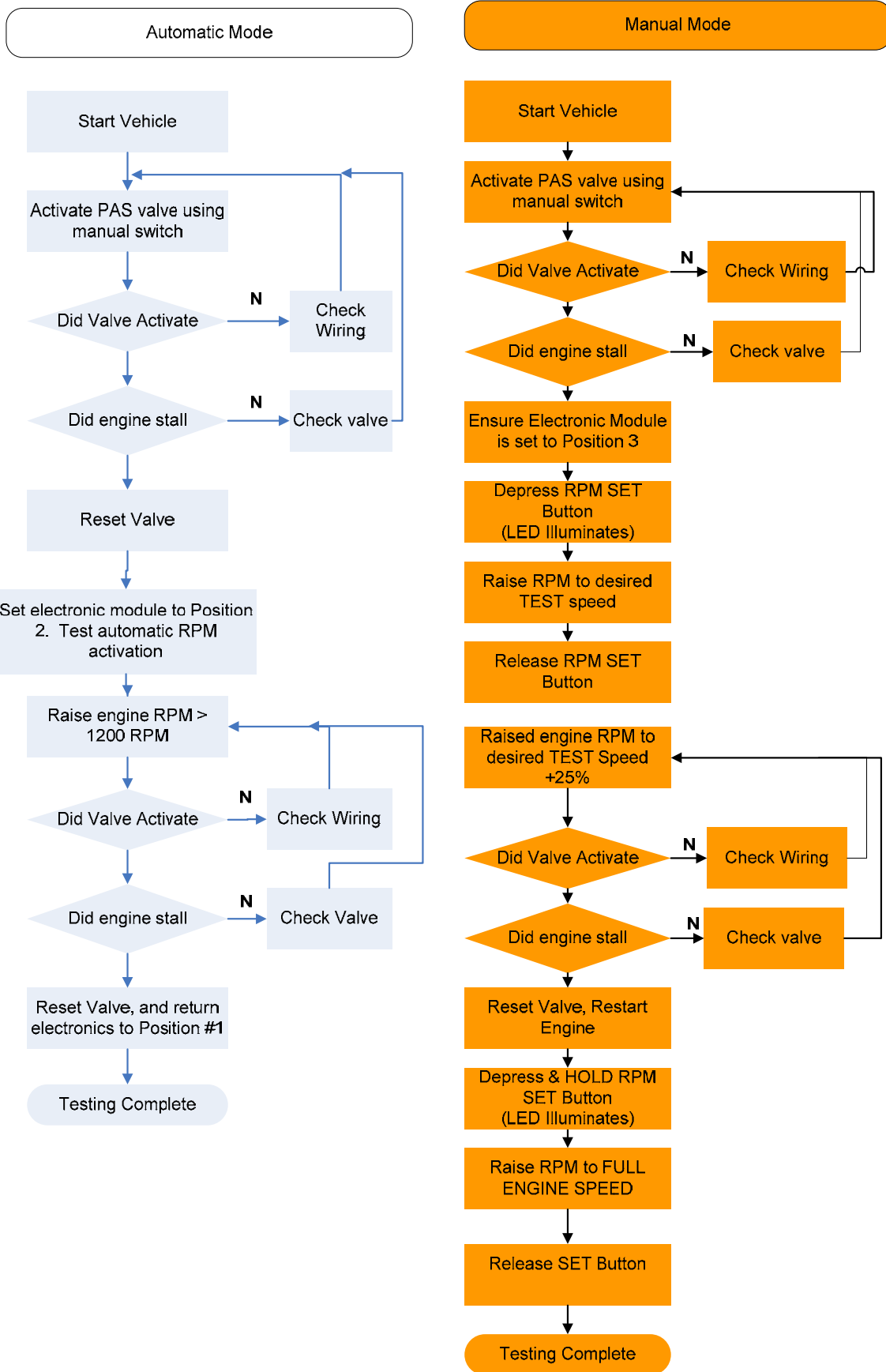
Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

US Shipping Address: 88-446 Harrison St, Sumas, WA 98295 US Mailing Address: PO Box 231, Sumas, WA 98295

Phone: 604-853-6096 Fax: 604-853-8749 Internet: www.bd-power.com

<p>them step on the accelerator with the vehicle in park. Raise the engine RPM to MAXIMUM engine RPM.</p> <p>11. Release the SET RPM button.</p> <p>Upon releasing the button the unit will store the RPM + 25%. So for this example the unit has stored MAXIMUM engine RPM + 25%.</p>	 
<p>12. You can now put the electronic enclosure back together and secure it the fuse box.</p>	
<p>13. With the engine running you will need to test to make sure the manual activation switch is functioning correctly.</p> <p>14. With the engine running, lift the activation switch and the engine should die.</p> <p>15. Reset the valve and you are now complete.</p>	<p>If valve does not activate check the wiring.</p> <p>If the valve activates and the engine does not die ensure nothing has contacted the linkage.</p>
<p>You are now complete the installation, please be sure to complete the test once a year to make sure the unit is functioning correctly.</p>	

# TESTING FLOW CHART with OVER SPEED ELECTRONICS



BD ENGINE BRAKE, INC.

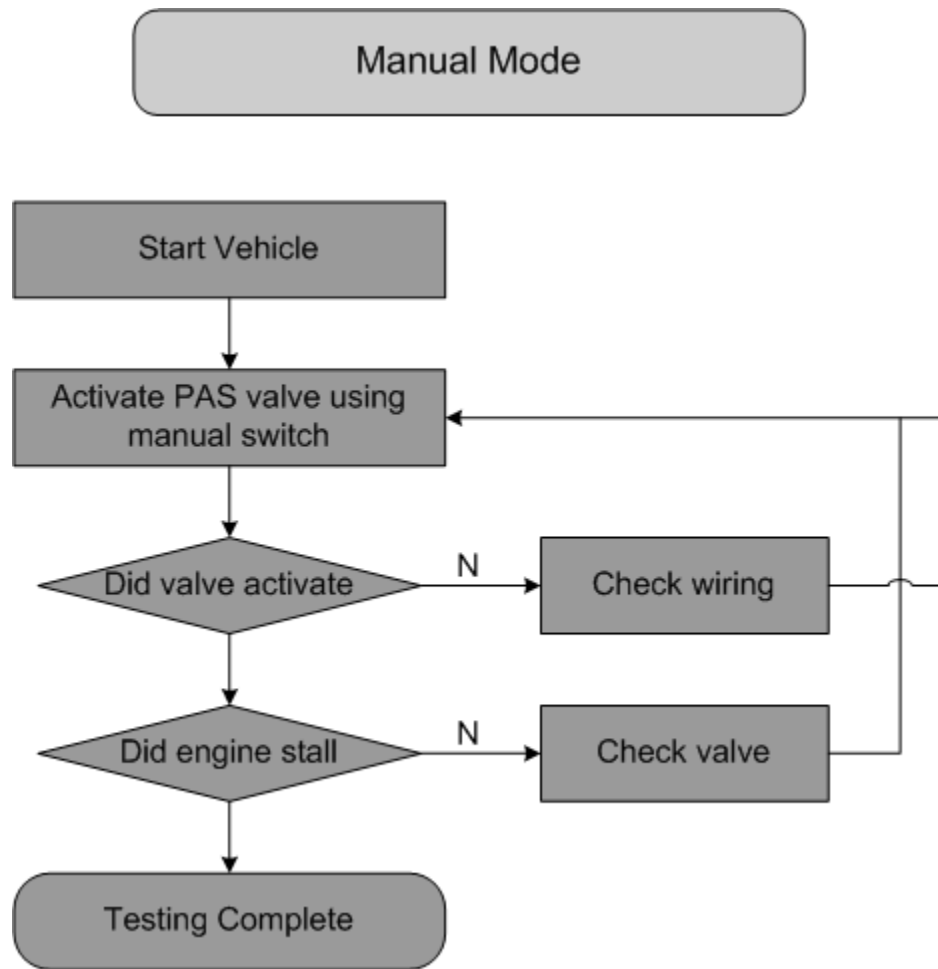
Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

US Shipping Address: 88-446 Harrison St, Sumas, WA 98295 US Mailing Address: PO Box 231, Sumas, WA 98295

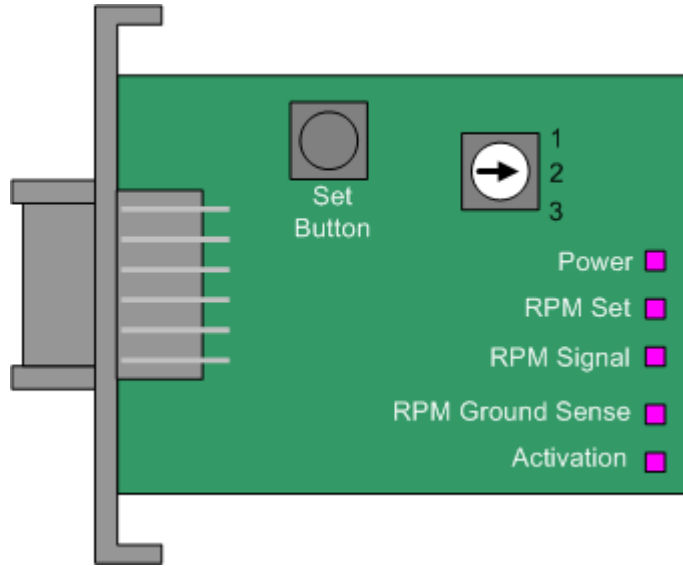
Phone: 604-853-6096 Fax: 604-853-8749 Internet: www.bd-power.com



**TESTING FLOW CHART without OVER SPEED ELECTRONICS**



**LED OPERATION**



LED	Description
POWER	Illuminates when unit is POWERED
RPM SET	Illuminates when SET Button is Pressed
RPM Signal	Flashes proportional to Engine RPM
Ground Sense	Illuminates when a GROUND signal is sensed on the activation line
Activation	Flashes when a valve activation is command manually (switch) or automatically
Toggle Switch LED	The LED will flash indicating either a problem with the system (Loss of RPM or Power) or an activate valve activation.



Visit our Internet forums at <http://www.dieselperformance.com> and share your comments or technical support questions with some of the industry's leading experts in the diesel field.

**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, or post a message on the BD Discussion Forums located at:**

**<http://forum.bd-power.com/>**