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## **GMC/CHEVY LMM DURAMAX (2007.5-10)**

**FOR 2500 & 3500 SERIES PICKUPS**

### **Variable Vane Exhaust Brake**

**Installation Instructions**

**P/N# 2001030**

**PLEASE READ ALL INSTRUCTIONS BEFORE INSTALLATION**

**UNLESS AN EO# IS LISTED, THIS PRODUCT IS LEGAL IN CALIFORNIA FOR RACING VEHICLES ONLY, WHICH MAY NEVER BE USED UPON A HIGHWAY.**

BD Engine Brake Inc.

Plant Address: 33541 MacLure Rd. Abbotsford, BC, Canada V2S 7W2




U.S. Shipping Address: 1124 Fir Avenue, Blaine, WA 98230 U.S. Mailing Address: P.O. Box 231, Sumas, WA 98295


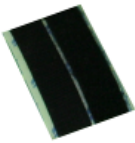


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# KIT CONTENTS

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

2100002-B	1301810	2001120-A
		
<i>Module</i>	<i>Push Button Switch</i>	<i>Main Wiring Harness</i>
<b>Qty: 1</b>	<b>Qty: 1</b>	<b>Qty: 1</b>

2000107	1301812	1330053
		
<i>Switch Bracket</i>	<i>Switch Decal</i>	<i>Alcohol Swab</i>
<b>Qty: 1</b>	<b>Qty: 1</b>	<b>Qty: 1</b>

1300131	FT-10910-03116	1330052	1330054
			
<i>Cable Ties</i>	<i>Velcro</i>	<i>Screw</i>	<i>Tape; DS</i>
<b>Qty: 6</b>	<b>Qty: 2 pcs</b>	<b>Qty: 2</b>	<b>Qty: 1</b>

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## Vehicle Compatibility

<i>Duramax Engine Model</i>	<i>8th Digit of VIN</i>	<i>VVB Application #</i>
LB7	1	Not Applicable
LLY	2	Not Applicable
LBZ	D	2001020
LMM	6	2001030
LML	8	Not Applicable

Please check your VIN and cross reference the table above to ensure you have the correct model for your application.

Note: We cannot guarantee compatibility with all aftermarket products that have a permanent connection to the OBDII plug inside of the cab.

- Older Edge Attitude displays have a known compatibility issue & the newer Edge CTS and CS are not compatible at this time.
- H&S Mini Max are not compatible at this time.

## Tools Required

- Socket 8,10mm / 5/16"
- Drill
- Drill Bit 1/8" & 3/8"
- Wrench 5/16"
- Allen Wrench 1/16"
- Needle Nose Pliers
- Side Cutters
- Blade Screw Driver

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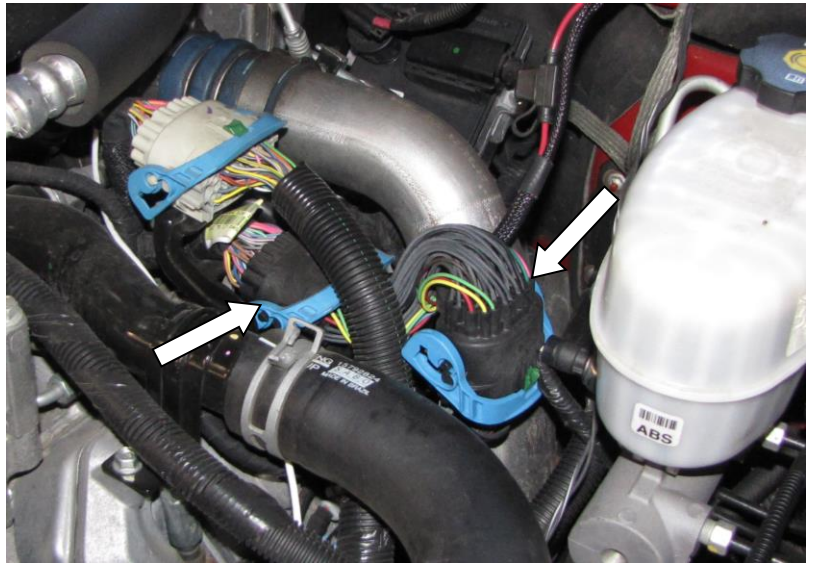
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## Installation

1. Secure vehicle by blocking the wheels for safety, then disconnect negative battery terminals on both batteries to avoid setting fault codes during installation.

2. Disconnect lower main engine harness connector at top driver side of engine.
3. Connect VVB main harness inline of lower main engine connector and route VVB harness behind the brake master cylinder to top of fuse box.



4. Connect the ground wire from the module to the body ground on the firewall, or to another body ground.



5. Route the VVB switch wire through the firewall from the engine bay into the vehicle cab.



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## Methods for mounting the switch to the dash

### Mounting Switch with Bracket

6. Apply the EXHAUST BRAKE decal to the metal bracket

**Tape:** Install the switch in the bracket. To mount the bracket using the 3M DS tape, prep both surfaces with the supplied alcohol swab. Then remove backing from one side and adhere to dash then remove the backing on the other side and adhere the bracket to the dash.

OR

**Screws:** The switch bracket can also be mounted using the supplied self-tapping screws with a 5/16" socket. Install the screws, then insert the switch into the bracket.

Skip to step 7 for mounting the switch in the dash.



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### Mounting switch *into* dash

7. Locate a suitable location on the driver's side of the dash to mount the switch. Using the decal as a reference for spacing, double check behind panel for sufficient clearance for switch body and the electrical connector.

The suggested location is the top of the knee bolster, as shown.

NOTE: You may require a small saw to make a relief cut to allow clearance for the back side of the switch against the other dash panel.

TIP: Use the supplied bracket as a guide for the switch hole. Use a stepped uni-bit to make the hole, and use a file to create the locator notch.



8. Plug the white connector from the VVB harness into the back of the switch and secure wiring with supplied zip ties under the dash.

9. Plug the harness into the module and secure the engine bay wiring with the supplied zip ties.



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10. Mount module to fuse box using the Velcro provided.



11. The vehicle is now ready to be road tested. Switch positions are as follows:

Level 0: Off

Level 1: Will close vanes when throttle is released.

Level 2: Will close vanes and cause a downshift when throttle is released.

### **General Notes**

- On long descents with the exhaust brake engaged you may hear a momentary release/relief or discharge of pressure. No need to worry it is the EGR valve cycling briefly, which is a normal operational characteristic.
- If the module is turned off, or the fuse is removed from the harness the truck will revert to stock operation and all factory signals will be passed through.
- When the vehicle is put in 4x4 low range, the VVB will automatically turn off and remain off until back in high range (four wheel drive trucks only).

### **Troubleshooting Guide**

<b>PROBLEM</b>	<b>SOLUTION</b>
Switch not illuminated	<ul style="list-style-type: none"> <li>• Check fuse.</li> <li>• Check ground wire.</li> <li>• Open module cover, check for module power.</li> </ul>
Pressing switch does not change modes	<ul style="list-style-type: none"> <li>• In 4x4 low range the VVB automatically turns off.</li> <li>• Switch stuck down because mounting hole too tight, remove switch from hole and re-test.</li> </ul>
The brake does <u>not</u> function	<ul style="list-style-type: none"> <li>• Check that switch is working, indicating the module is powered and functional.</li> <li>• Check the CAN light on the module is on or flickering showing the module is getting data from the vehicle.</li> </ul>

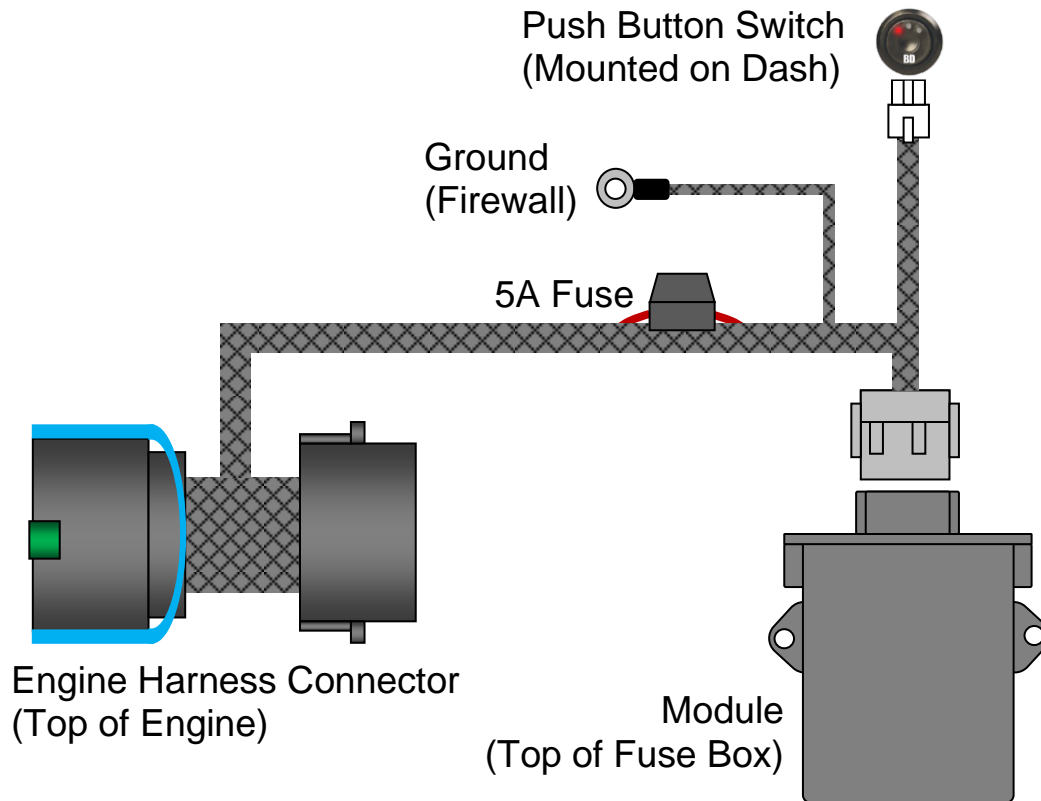
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## Wiring Layout



## Version Info

Module version 4.0 and up are not backwards compatible in kits previously using module version 1.0 – version 3.0.

Version 4.0 uses a push button rather than a rotary switch as used in version 3 and older. No parts are compatible between the newer and older kits.

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## Testing the Brake

To test if the brake is functioning.

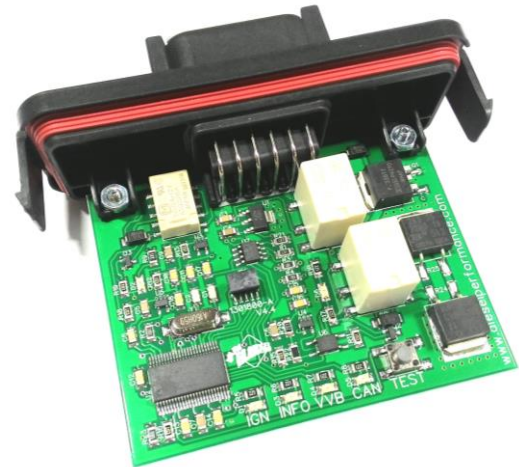
1. Release the 2 outer tabs on module with flat blade screw driver and slide board out of case.
2. Set switch to the off position. Start vehicle and idle.
3. Press test button on module and the INFO, VVB, CAN LEDs will quickly flash 3 times. Vanes will activate there will be a subtle change in the vehicles exhaust sound, as well the VVB led will remain constant during the test.

NOTE: The LED's at the two relays will also light up when the turbo vanes are engaged.

During regular operation the INFO led will blink a number of times every five seconds to indicate switch position.

Switch position OFF	Once every 5 sec
Switch position 1	Twice every 5 sec
Switch position 2	3 times every 5 sec

4. Reinstall board into case until tabs lock into place. Set case back onto Velcro.
5. Road test vehicle.



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