



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.








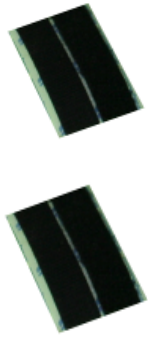
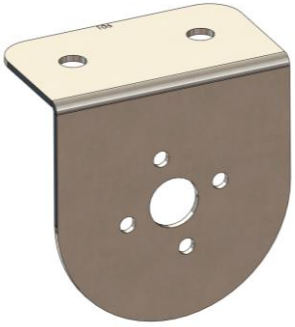


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KIT CONTENTS:

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

2100002		2001121		2001120	
					
<i>Module</i>		<i>Switch Wiring Harness</i>		<i>Main Wiring Harness</i>	
Qty: 1		Qty: 1		Qty: 1	
1505016		1330052		1330053	
					
<i>M6 Nut</i>		<i>Screw</i>		<i>Alcohol Swab</i>	
Qty: 1		Qty: 2		Qty: 1	
1300131	1800060	2000106	1330051	2000103	
					
<i>Cable Ties</i>	<i>Velcro</i>	<i>Switch Bracket</i>	<i>Switch Bracket Velcro</i>	<i>Switch Decal (3 POS)</i>	
Qty: 6	Qty: 2 X 4"	Qty: 1	Qty: 2 x 1.5"	Qty: 1	

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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
LBZ	D	2001020
LMM	6	2001030
LML	8	Not Applicable

Please check your VIN and cross reference the table below 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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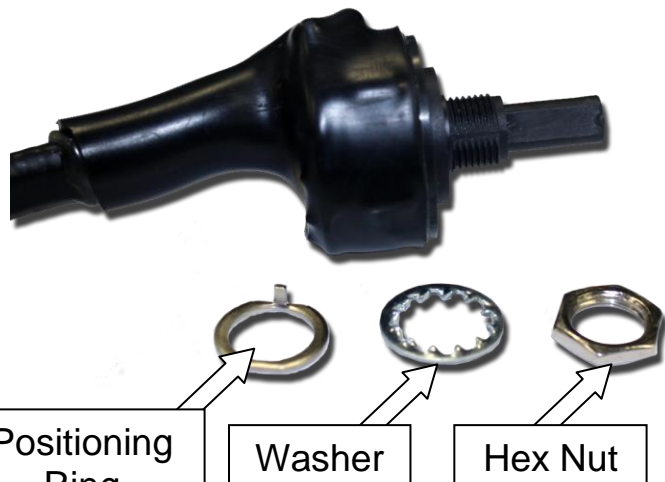
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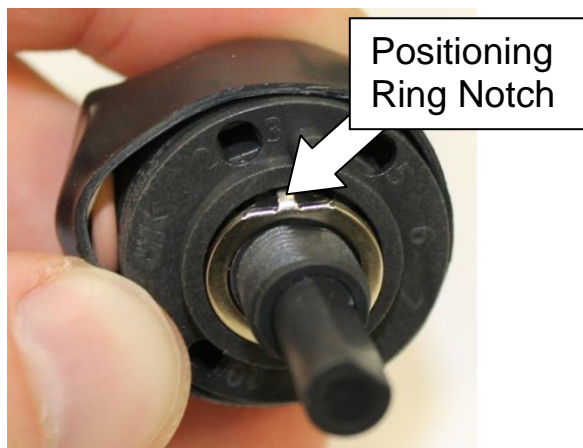
Switch Positioning

Your switch should come from the factory with the default two positions. If your switch clicks to more than 2 positions you will need to adjust the positioning ring.

1. Remove the hex nut and washer.
NOTE: the positioning ring should just fall off as well.



2. Turn the switch to the farthest left position (position 1). Locate the notch into slot #3, place the washer and hex nut back onto the switch and continue with the installation.



Installation

1. Secure vehicle by blocking the wheels then disconnect negative battery terminals on both batteries.

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.



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Methods for mounting the switch to the dash

Mounting Switch with Bracket

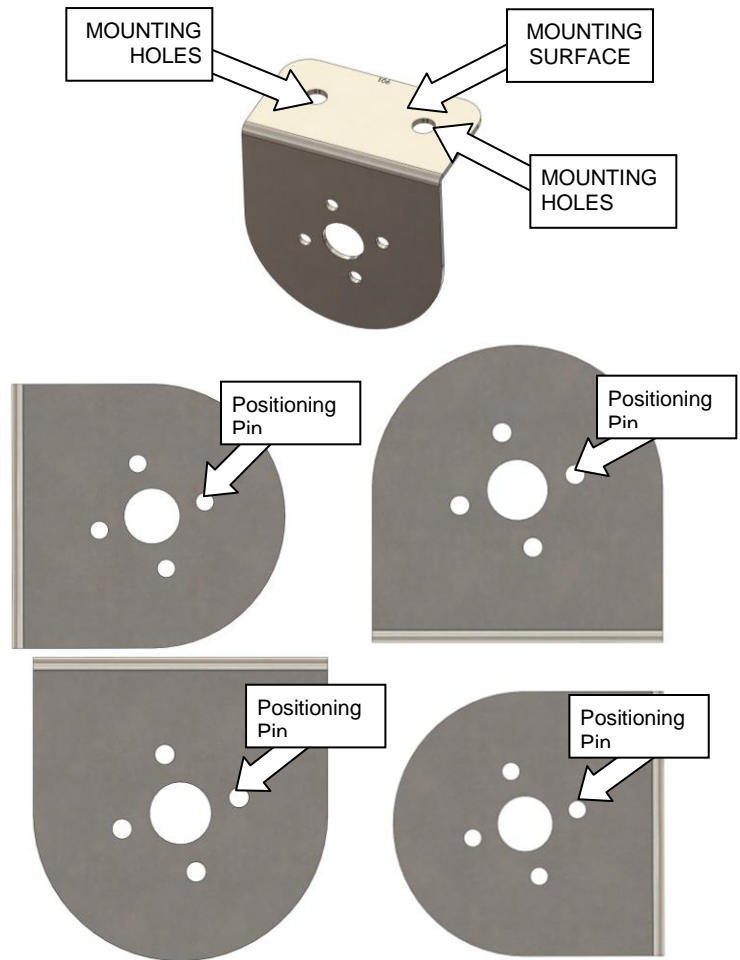
4. Velcro: To mount the switch bracket using the 3M dual lock. Prep both surfaces with the supplied alcohol swab. Then remove backing from dual lock and press firmly, one onto the dash location and one onto the switch bracket mounting surface.

OR

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

Note the plate can be mounted to the dash in four positions to accommodate any location. Skip to step 7 for mounting the switch.

Warning: Before mounting the plate to the dash ensure the area behind the dash is clear.



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Mounting switch *into* dash

5. 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 drill clearance.

A good location we suggest is to drop the driver's side kick panel down and install the switch on the top ledge (reference photo's).

NOTE: You will require a small saw to make a relief cut to allow clearance for the back side of the switch.



Shown with the kick panel dropped.



Completed Switch Install

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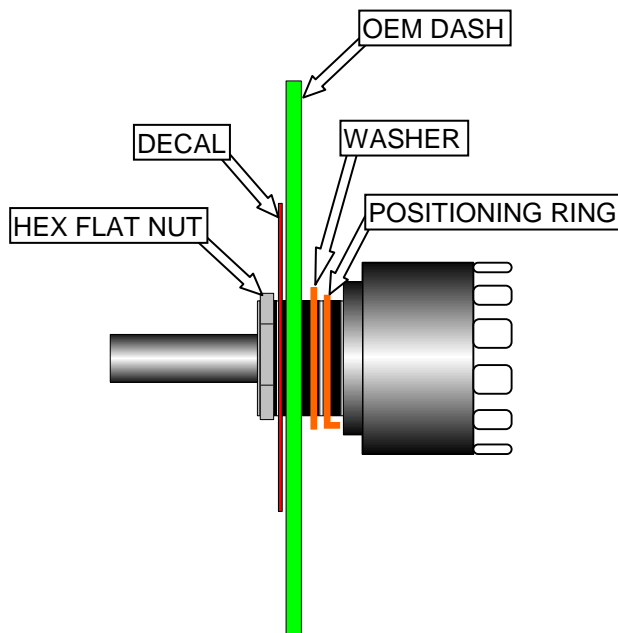
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6. Using the decal as a template, drill center hole using a 3/8" unibit and locator hole using a 1/8" unibit (1/8" unibit is recommended but a standard drill bit will do).



7. Install switch from back side of panel and secure with nut using 5/16" wrench. Install knob and tighten the 2 set screws with a 1/16" allen wrench.

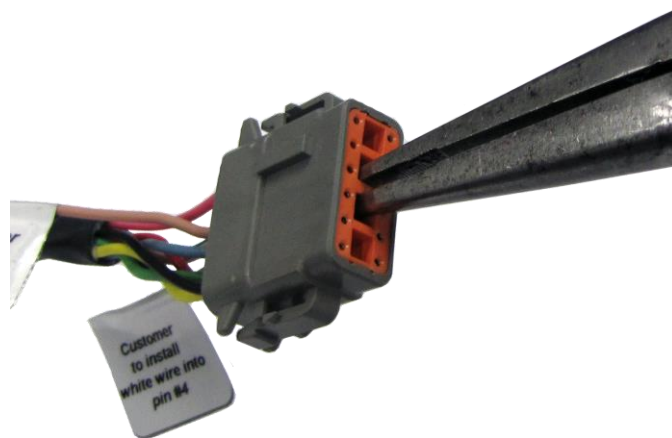
NOTE: The set screw on the right side should fasten to the flat spot on the switch shaft to align the knob line to the decal marks.



8. Route switch harness under dash, through firewall and to main VVB harness connector.

Here you will need to follow steps 9 through 11 to connect the switch harness to the main harness.

9. To extract the wedge lock out of the connector use needle nose pliers into the middle of the wedge lock and with your other hand grasping the grey connector housing and gently pull.



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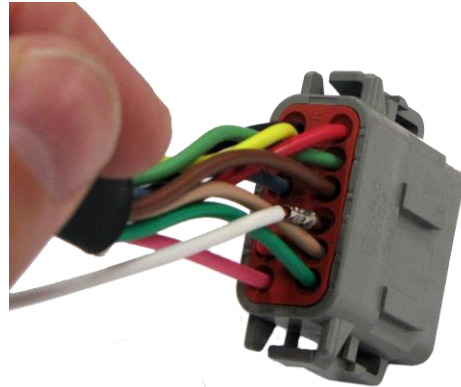
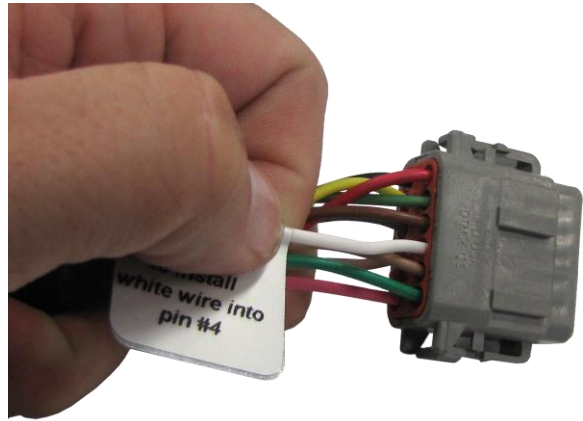
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10. Remove the flagged white wire from the connector and discard. Insert the white wire from the switch harness into pin #4.

Remove the flagged tan wire from the connector and discard. Insert the tan wire from the switch harness into pin #9.

(NOTE: The pins will click into the connector once into position.)



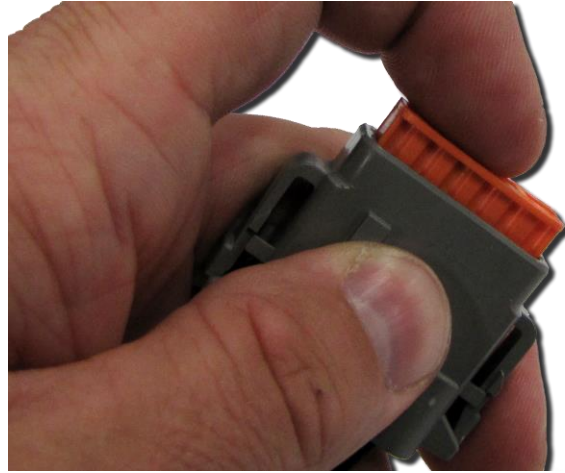
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11. Once both pins are in place reinsert the wedge lock back into the connector.



12. Plug the harness into the module and secure both harnesses using the supplied cable ties.



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



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14. Install ground wire from the main harness onto driver's side negative battery terminal stud then reconnect the negative battery terminals.



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

Level/Position 0: Off

Level/Position 1: Will close vanes and cause a down shift when throttle is released.

Level/Position 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 main switch or main power is disconnected the vehicle will revert back to stock and the brake will not function.

TROUBLE SHOOTING GUIDE

<u>PROBLEM</u>	<u>SOLUTION</u>
The brake does <u>not</u> function.	<ul style="list-style-type: none"> • Check fuse • Check battery connections • Check switch harness connections & pinout connections.

Testing the Brake

To test if the brake is functioning.

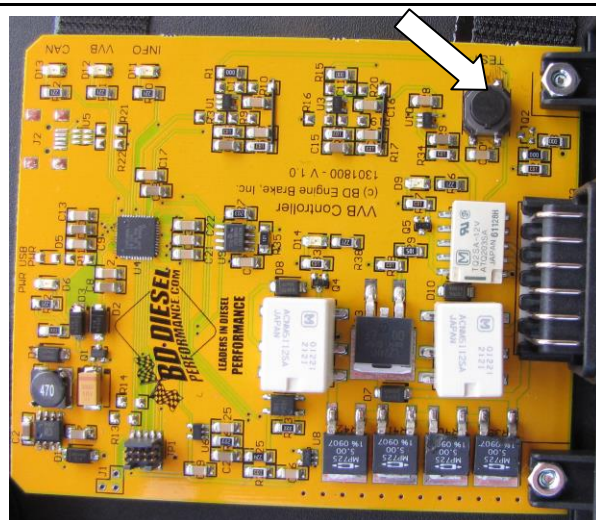
1. Release the 2 outer tabs on module with flat blade screw driver and slide board out of case.
2. Set switch to the off position. Start vehicle and idle.
3. Depress test button on module and the INFO led will quickly flash 3 times. Vanes will activate there will be a change in the vehicles running sound, 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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