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GMC/CHEVY LBZ DURAMAX (2006-07)

FOR 2500 & 3500 SERIES PICKUPS

VARIABLE VANE EXHAUST BRAKE

Installation Instructions

P/N# 2001020

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.

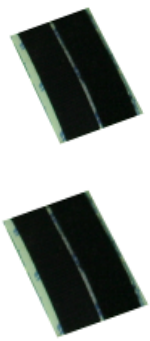
BD Engine Brake Inc.
Plant Address: 33541 MacLure Rd. Abbotsford, BC, Canada V2S 7W2
U.S. Shipping Address: 1124 Fir Avenue, Blaine, WA 98230 U.S. Mailing Address: P.O. Box 231, Sumas, WA 98295
Phone: 604-853-6096 | Fax: 604-853-8749 | Internet: www.bddiesel.com

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.

2100001	2001121	2001110
		
Module	***Switch Wiring Harness***	***Main Wiring Harness***
Qty: 1	**Qty: 1**	**Qty: 1**

1505016	1330052	1330053
		
M6 Nut	*Screw*	*Alcohol Swab*
Qty: 1	**Qty: 2**	**Qty: 1**

1300131	FT-10910-03116	2000106	1330054	2000103
				
Cable Ties	***Velcro***	***Switch Bracket***	*Tape; DS*	***Switch Decal***
Qty: 6	**Qty: 2**	**Qty: 1**	**Qty: 1**	**Qty: 1**

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Vehicle Compatibility

Duramax Engine Model	8th Digit of VIN	VVB Application #
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.

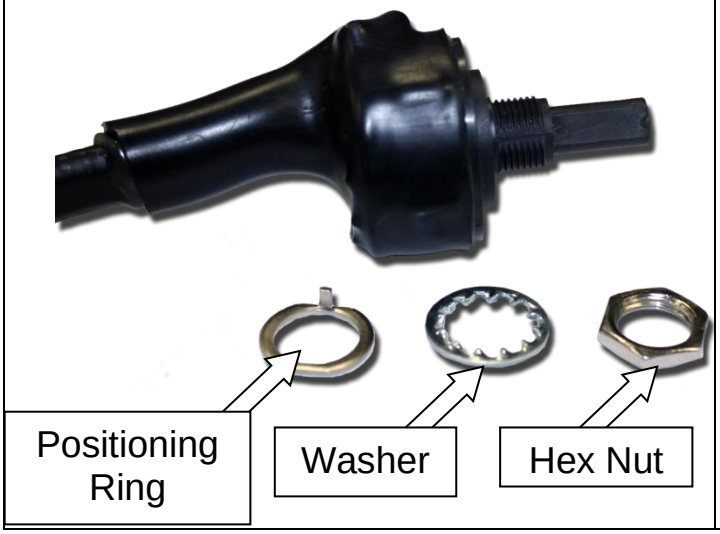
Tools Required

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

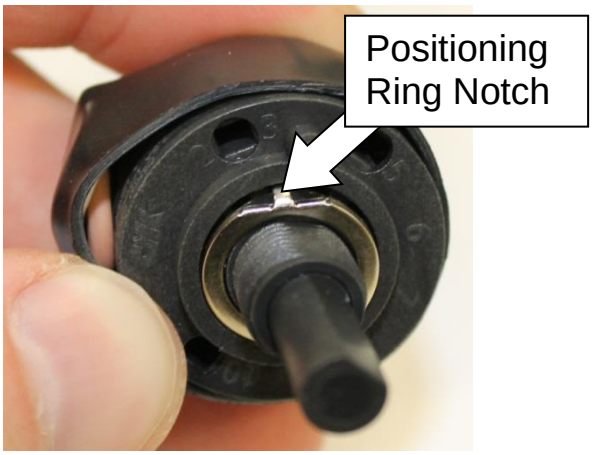
Switch Positioning

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.



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Installation

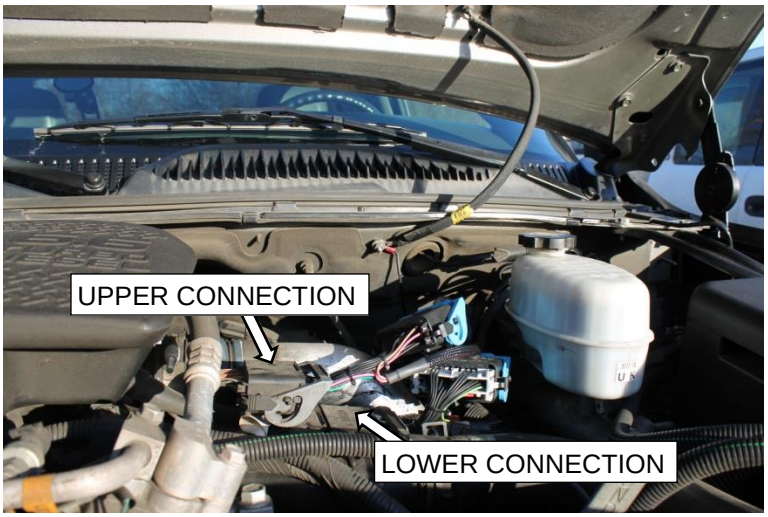
1. Secure vehicle by blocking the wheels then disconnect negative battery terminals on both batteries.

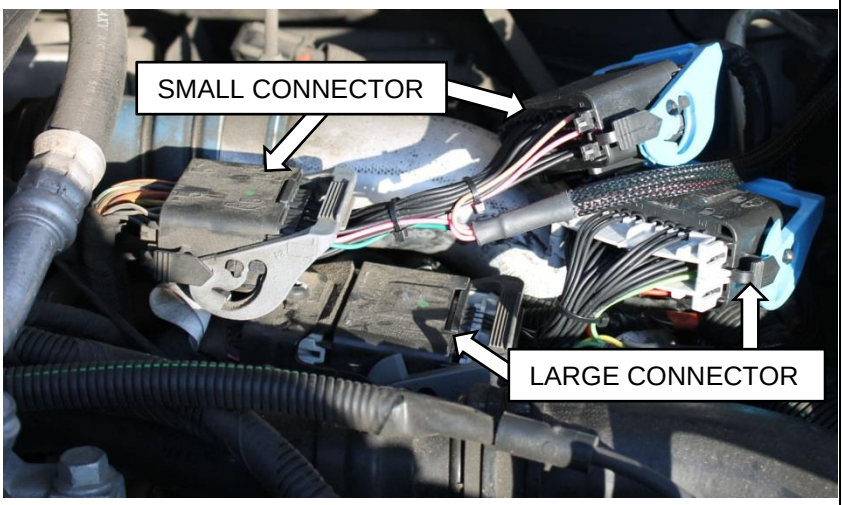
2. Disconnect upper & lower main engine harness connectors located at top driver side of engine.

3. Connect the large connector of the VVB main harness inline with the lower engine connection.

   Then connect the smaller connector of the VVB harness inline with the upper engine connection.

   Once completed ensure the locking levers are clicked into position. Route VVB harness behind the brake master cylinder to top of fuse box.





4. Install ground wire onto stud at firewall using the supplied nut (1505016).



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Methods for mounting the switch to the dash

Mounting Switch with Bracket

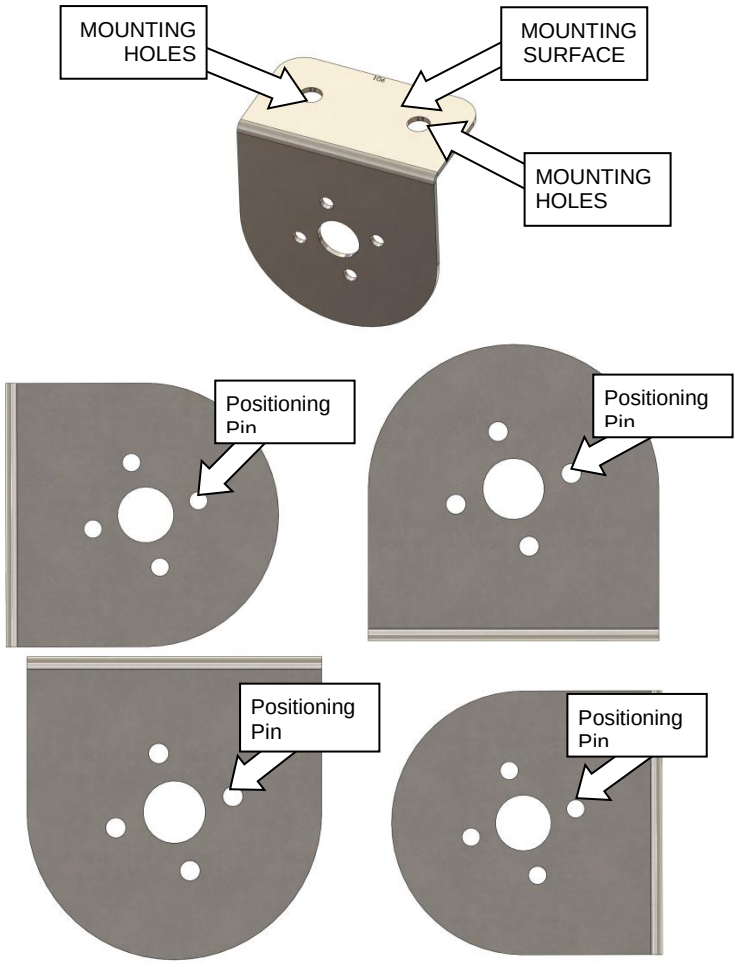
5. ***Tape:*** To mount the switch bracket using the 3M DS tape. Prep both surfaces with the supplied alcohol swab. Then remove backing from one side and adhere to dash then remove the backing on the other side and adhere the bracket to the dash.

OR

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

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.



Mounting switch *into* dash

6. Locate a suitable location on the driver’s side of the dash (fig 6. for placement recommendations) to mount switch. Using the decal as a reference for spacing, double check behind panel for sufficient clearance for switch body and drill clearance.



Fig 6.

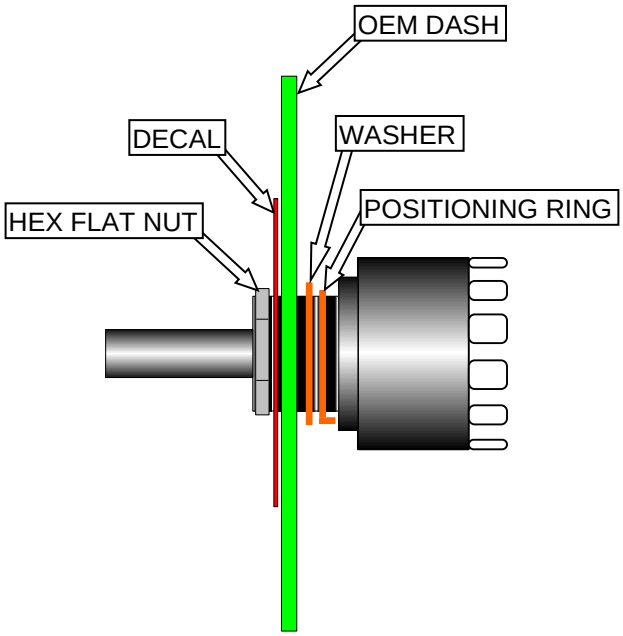
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7. Using the decal as a template, drill center hole using a 3/8” unibit and locator hole using a 1/8” unibit (1/8” unitbit is recommended but a standard drill bit will do).



8. 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.

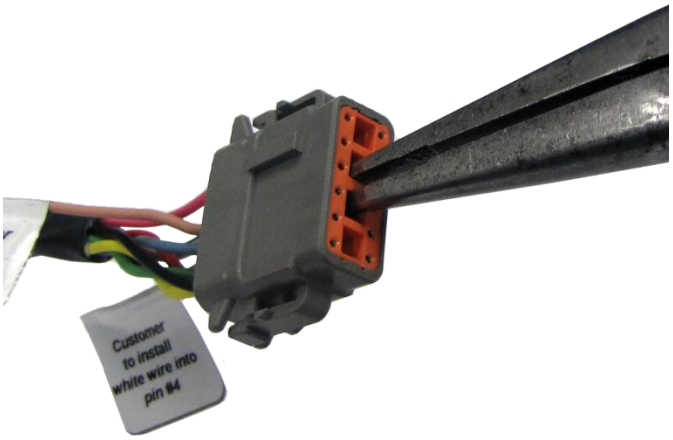
NOTE: The set screw on the right side should fasten to the flat spot on the switch shaft to align the knob line to the decal marks.



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

Here you will need to follow steps 10 through 12 to connect the switch harness to the main harness.

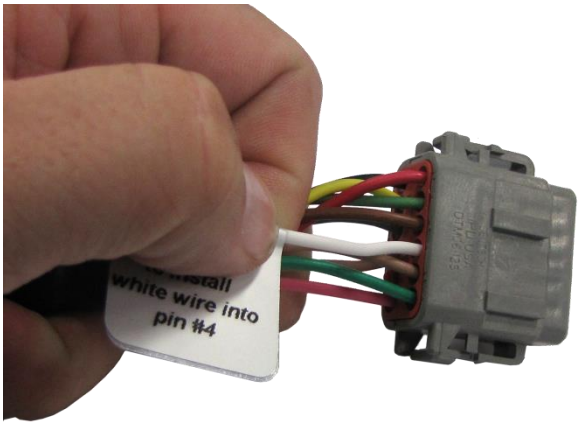
10. To extract the wedge lock out of the connector use needle nose pliers into the middle of the wedge lock and with your other hand grasping the grey connector housing and gently pull.

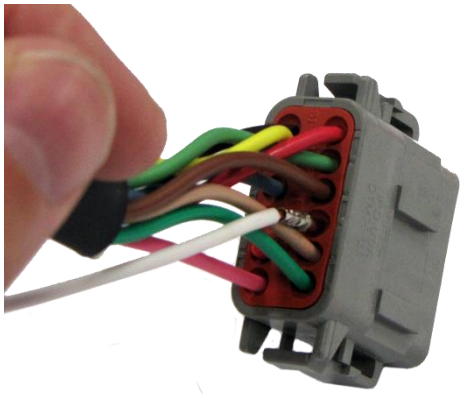


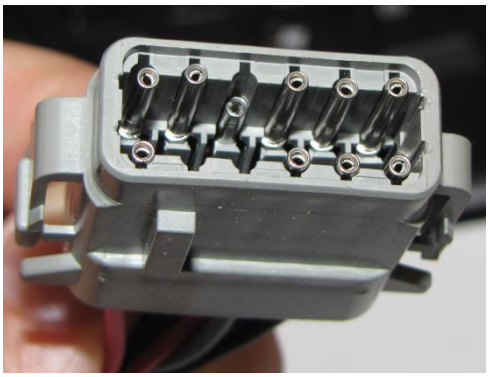
11. Remove the flagged white wire from the connector and discard. Insert the white wire from the switch harness into pin #4.

    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.)







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



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



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



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

Level/Position 0: Off
Level/Position 1: Warm up below 5°C, VVB active in tow/haul mode or manual mode.
Level/Position 2: Warm up below 5°C, VVB active all the time.

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

PROBLEM	SOLUTION
The brake does not function.	• 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. Then the module will activate the vanes. Once vanes are activated there will be a change in the vehicles running sound, and the VVB LED will turn on as follows based on which version you have.

V1.00-	LED will flash 3 times.
V2.00+	LED will remain constant during test.
Note: Module version can be found on the back side of the printed circuit board.	

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.





