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3.5-4" GENERIC POSITIVE AIR SHUTOFF

P/N#	1036732	P/N#	1036732-M
P/N#	1036733	P/N#	1036733-M

PLEASE READ ALL INSTRUCTIONS BEFORE INSTALLATION PAS FOR 12V SYSTEMS ONLY



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.

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.

1036732 (3.5") KIT CONTENTS						
1302400-A			13023			302423
Air S	Shutoff Valve		Wiring F	larness	3.5-4"	Silicone Boot
	Qty: 1		Qty	: 1		Qty: 2
1306	740	140	5212	1405	207	1302285
POSITIVE AND	POSITIVE AIR SHUTDOWN POSITIVE AIR SHUTDOWN MARK B parenteer 1,800,887,5030		A COLORED		NOTES IN	
PAS M	lodule	0378	Clamps	4.12-4.44	4 Clamps	Solder
Qty	:1	Qt	y: 2	Qty	: 2	Qty: 5″
FT-10910- 1302283 03116			1302279		1301381	
			AND 2 - 2 - 200 			
Velcro strips	3.5" PAS B		3.5-4" PAS Drill Template		Heat Shrink	
Qty: 2 pcs Qty: 2			Qty: 2		Qty: 3″	

1036732-M (3.5") KIT CONTENTS					
1302400-/	4	13	02351-M-A	1302423	
Air Shutoff V	alve	Wir	ring Harness	3.5-4" Silicone Boot	
Qty: 1		Qty: 1		Qty: 2	
1302283	1302	279	1405212	1405207	
		्र कार्या कार्यात्र			
3.5" PAS Bead Ring	3.5-4" PAS Drill Template		0378 HD Clamp	s 4.12-4.44 Clamps	
Qty: 2	Qty		Qty: 2	Qty: 2	

1036733 (4") KIT CONTENTS			
1302400-A	1302351-A	1405222	
BD Engine Brake Inc.			

BD Engine Brake Inc. 1-800-887-5030 | https://www.bddiesel.com

				and the second sec	
Air S	Shutoff Valve		Wiring Harness	4" Sil	icone Boot
	Qty: 1		Qty: 1	Qty	/: 2 x 4″
13	606720		1405207	_	1302285
PD Prover POSITITE ALL SHUTDOVIN POSITITE ALL SHUTDO					\bigcirc
	ric Module				Solder
Q	ty: 1		Qty: 4		Qty: 5″
1800060	1302284		1302279		1301381
Velcro strips	4" PAS Bead Rin	g	3.5-4" PAS Drill Tel	mplate	Heat Shrink
Qty: 2 x 4"	Qty: 2		Qty: 2		Qty: 3"

1036733-M (4") KIT CONTENTS			
1302400-A 1302351-M-A 1405222			

Air Shutoff	Valve	Wiring Harness	
Qty: 1		Qty: 1	Qty: 2 x 4″
1302284		1302279	1405207
		UNE OF MALE DOE OF FREE	
4" PAS Bead Ring	3.5-4" PAS Drill Template		4.12-4.44 Clamps
Qty: 2	Qty: 2		Qty: 4

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.

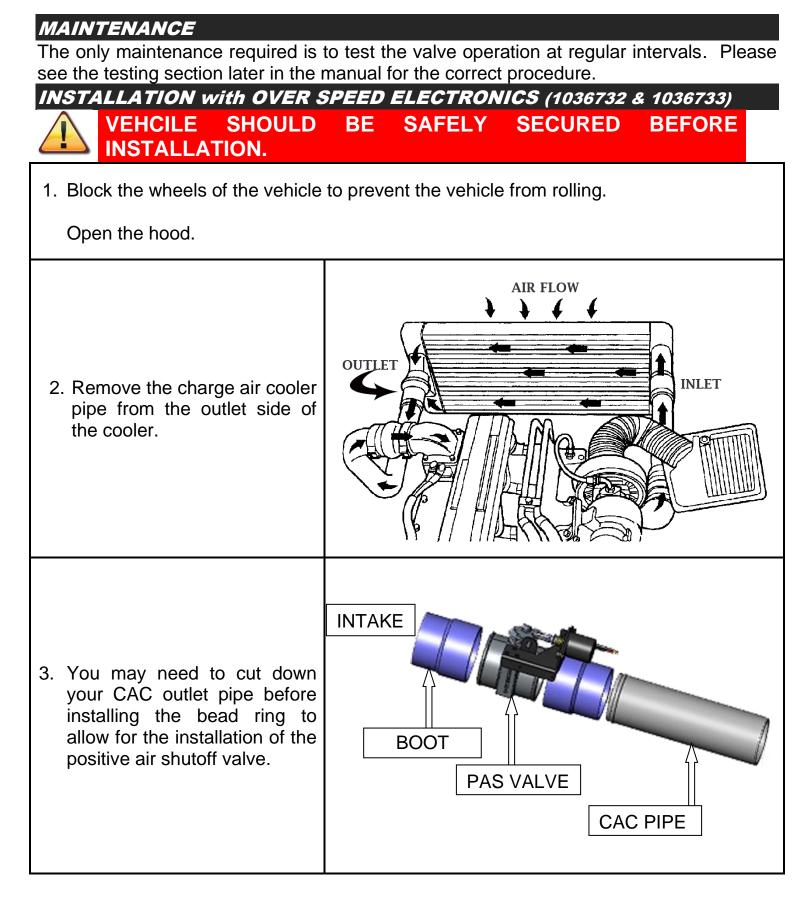
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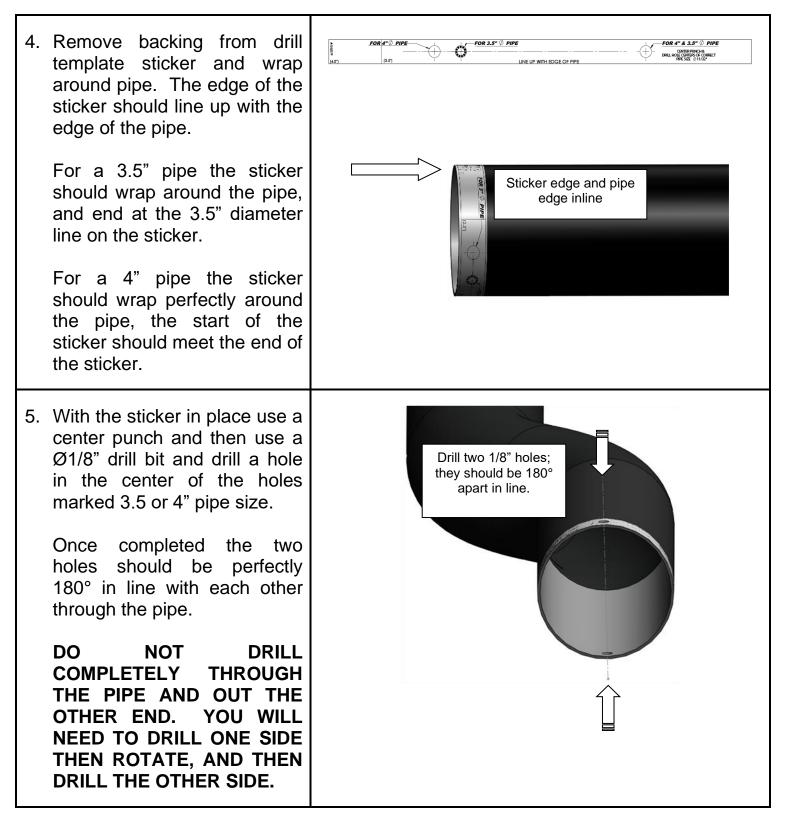
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1036733 (4") KIT CONTENTS	
1036733-M (4") KIT CONTENTS	
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&1036733-M)	36
LED OPERATION Bookmark not define	∋d.

REQUIRED TOOLS

- Frequency/Voltmeter (Optional)
- Drill
- 1/8"/ 11/32" Drill Bit
- 1/2" Unibit
- Electrical Tape
- Soldering Iron

- Air or Manual Ratchet
- 7/16", 1/2" Sockets
- Wire Strippers/Cutters
- Wire Crimpers
- Heat Gun
- Rubbing Alcohol
- Round File





 Once the pilot holes are drilled you will need to drill a Ø11/32" hole through the pilot holes.

You can now remove the sticker.

You must deburr the inside of the drilled holes.

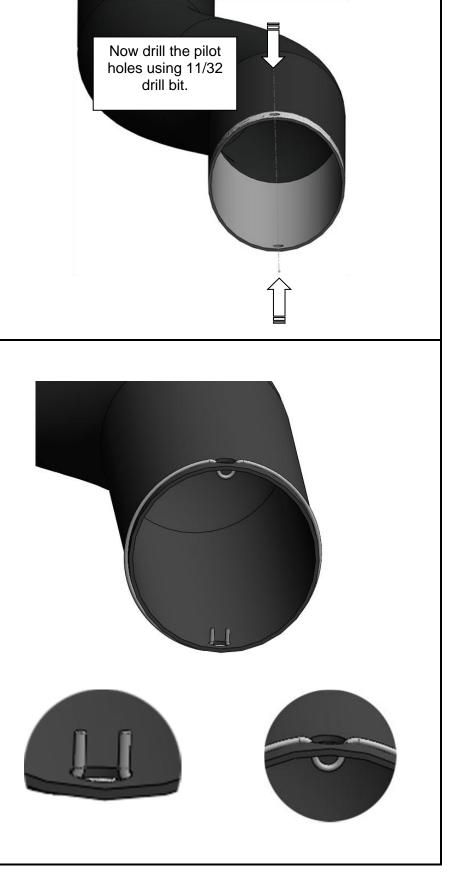
 Once the holes are drilled, install the bead ring around the pipe. Lock each end of the bead ring into each hole.

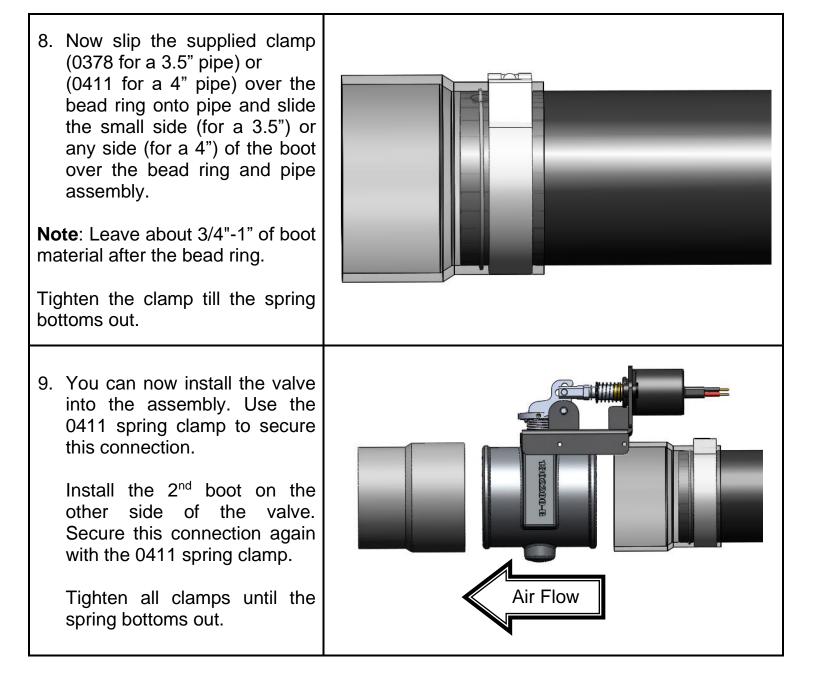
You can use needle nose pliers to tweak or adjust the ring fit slightly.

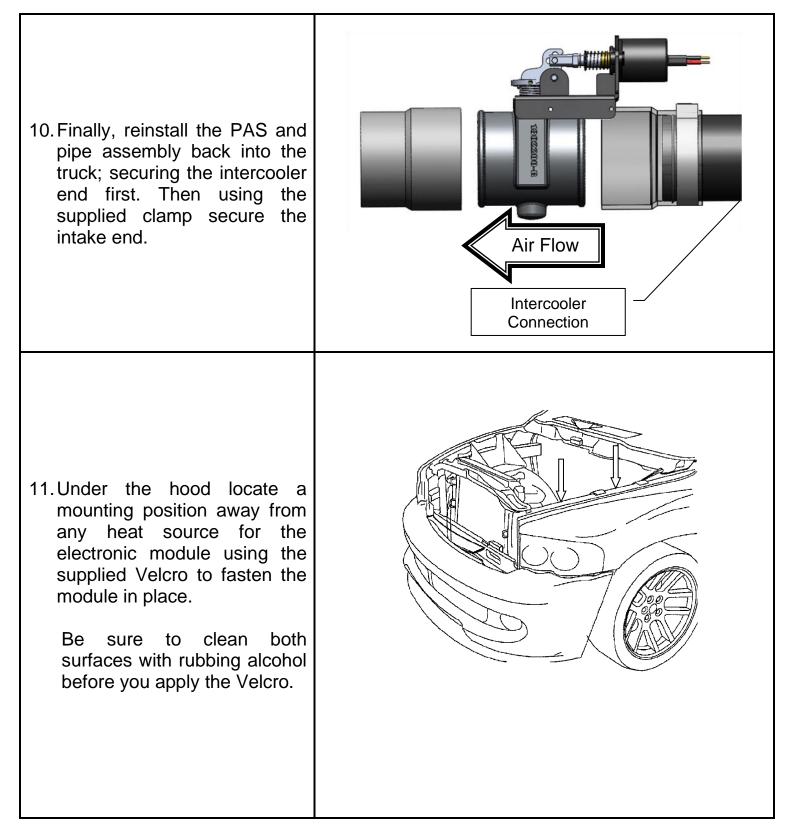
Be careful not to bend the bead ring too much as you will weaken it.

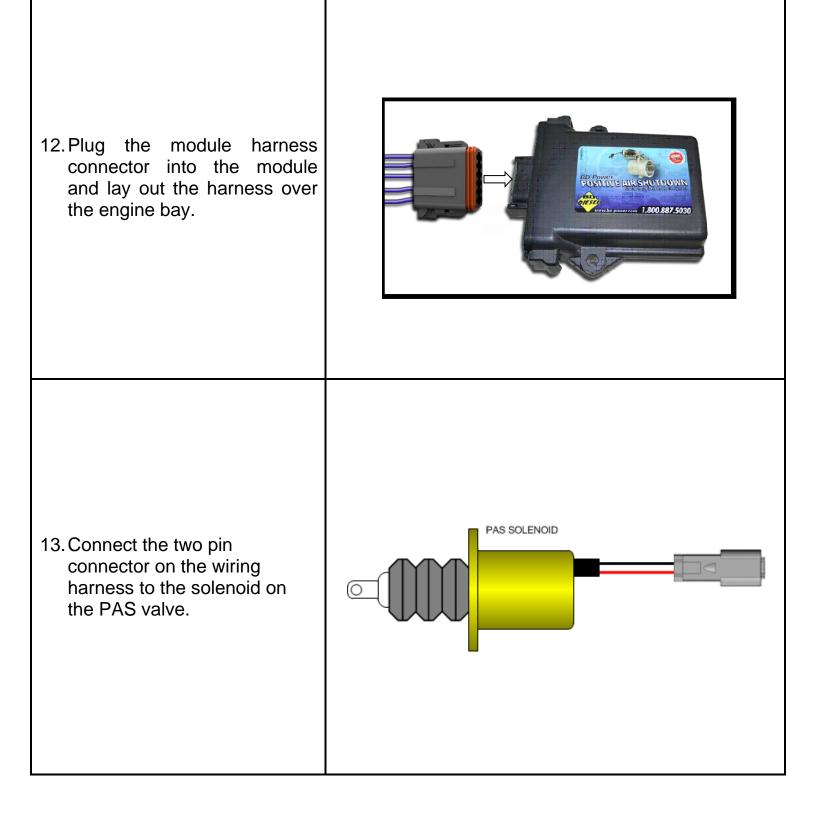
Note the bead ring does not have to be perfectly tight or snug around the pipe, as we will be installing a silicone boot over top of it.

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

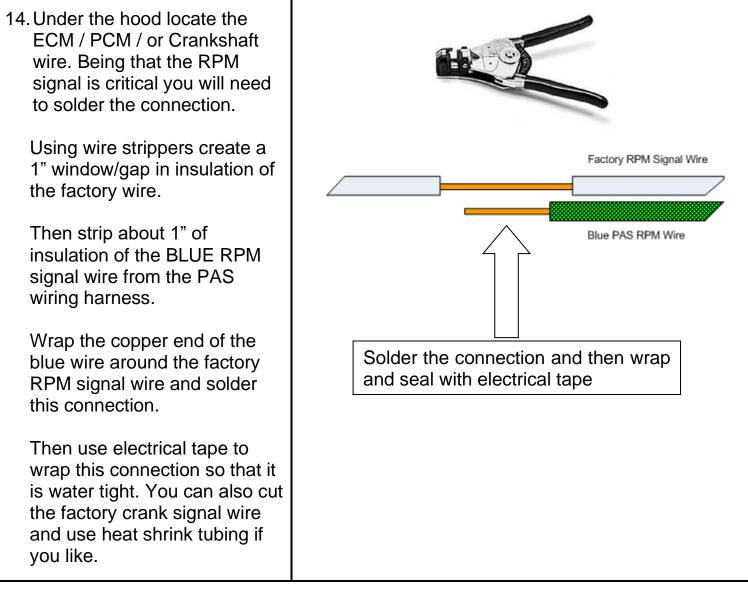




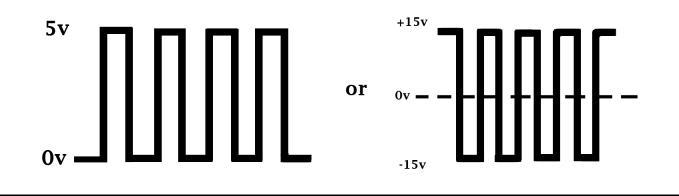








If you do not know which wire to tap for the crank signal you may check the wires at the crank sensor to determine the signal wire. The sensor will put out an alternating signal as shown below. The signal frequency will increase and decrease according to RPM. A multi meter which is capable of measuring AC hertz (frequency) will be required to measure the signal frequency.



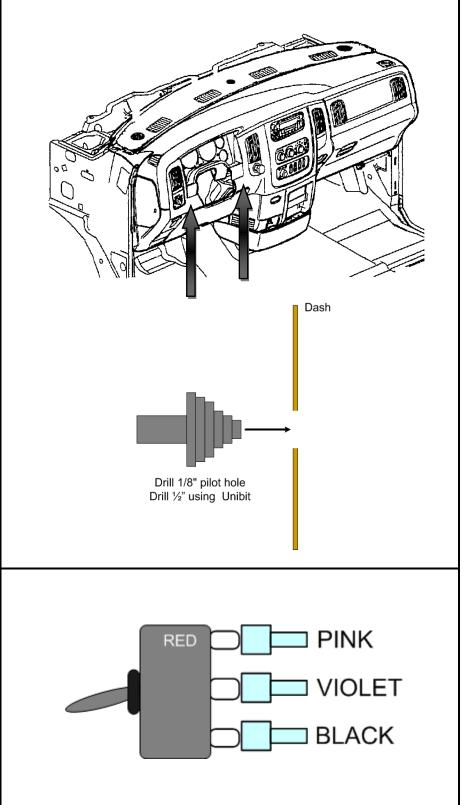
15. Next route the switch wires through the firewall, choosing a highly visible location so the switch is easily accessible by the driver.

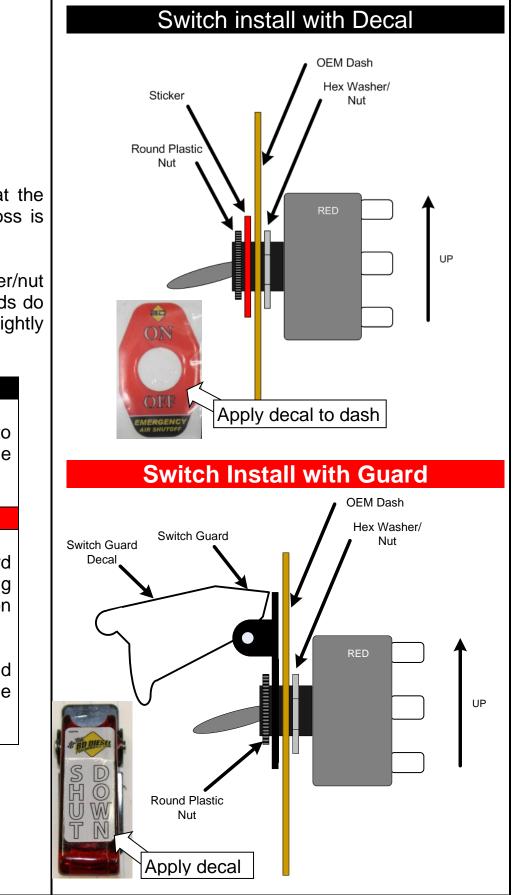
<u>NOTE</u>: you may need to trim the switch wires to length once you have located where the switch is to be mounted.

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.

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





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

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

Switch install with decal

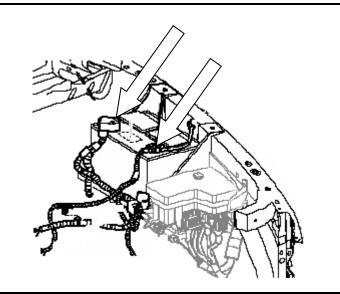
Apply the supplied decal to the dash and tighten the round plastic nut.

Switch install with Guard

Install the switch guard onto the switch by aligning the tab with the groove on the thread boss.

Then tighten on the round plastic nut and apply the decal to the switch guard.

18. Next locate the black wire from the module and the red wire from the solenoid then trim the wires to length and crimp the ring terminals to the BLACK and RED wires to connect to the respective battery connections.

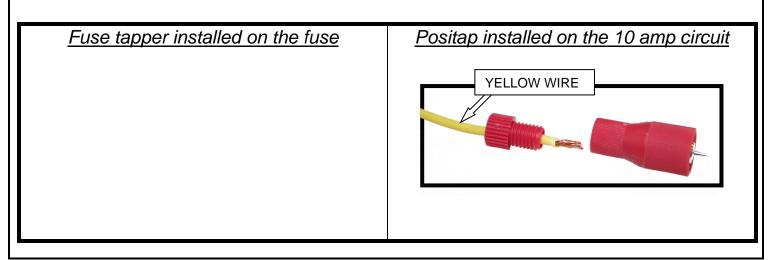


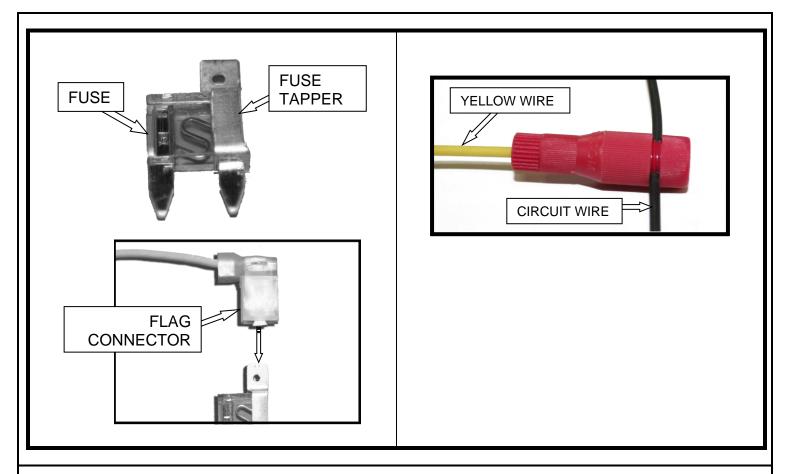
19. For the last connection you will need to locate the vehicles ignition power. This will power the automatic over speed control box LED switch. Note that the unit can still be activated manually with the switch at any time.

Locate the fuse panel. Remove the cover.

Locate the appropriate 10 amp fused ignition power circuit, and install the fuse tapper on to the 10 amp fuse, and reinstall fuse (*Important* : Ensure the tapper is installed on the hot side of the circuit). Trim the yellow wire to length and crimp the flag connector to the wire and connect the yellow lead wire with flag connector to this new connection. Route wire out of fuse box and close lid.

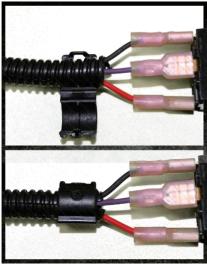
If you are unable to access the desired fuse use the supplied positap in place of the fuse tapper. Trim the yellow wire to length then strip the end to connect to the small side of the positap then with the large side tap into the desired 10 amp circuit. **Important** the positap is <u>not</u> water proof.

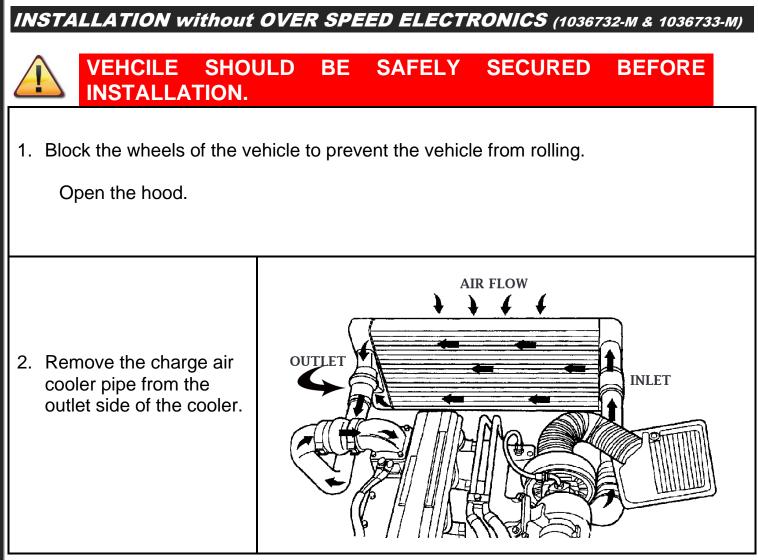




20. Double check all wiring connections and ensure wires are routed away from any heat sources and moving parts. Then install the loom with the supplied tee connector and clips for the loom ends and continue to the Setup, Testing and Verification with Over Speed Electronics section in this manual.

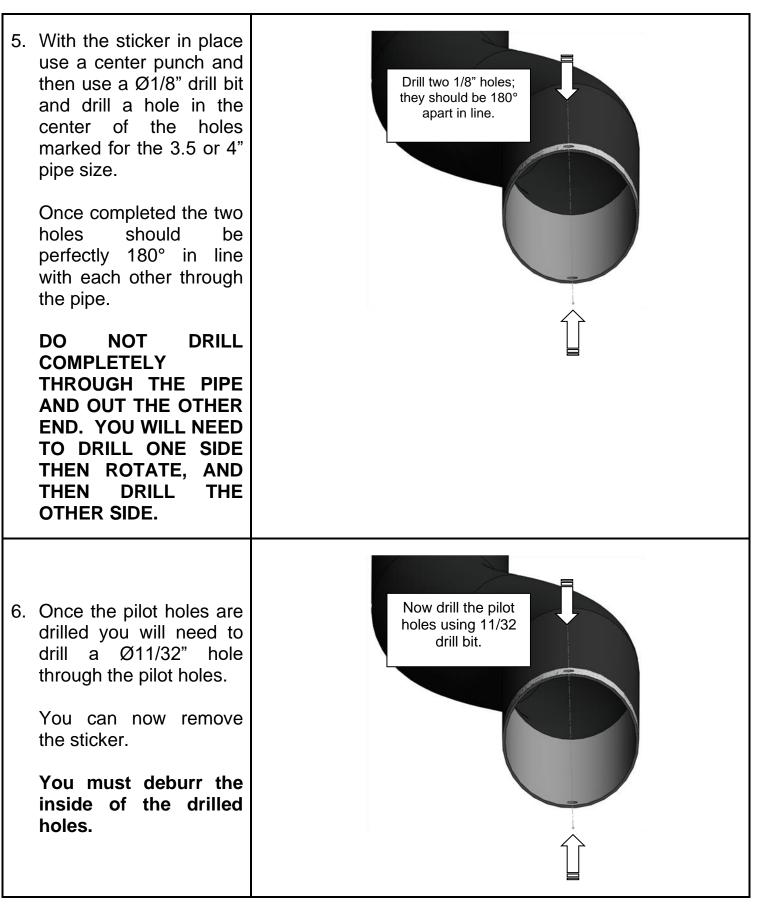






INTAKE 3. You may need to cut down your CAC outlet BOOT pipe before installing the bead ring to allow for PAS VALVE the installation of the positive shutoff air CAC PIPE valve. 4. Remove backing from FOR 3.5" ϕ PIPE FOR 4" & 3.5" Ø PIP CENTER PUNCH & DRILL HOLE CENTERS OF CORRECT PIPE SIZE 0 11/32* drill template sticker and LINE UP WITH EDGE OF PIPE wrap around pipe. The edge of the sticker should line up with the edge of the pipe. Sticker edge and pipe For a 3.5" pipe the edge inline sticker should wrap around the pipe, and end at the 3.5" diameter line on the sticker. For a 4" pipe the sticker should wrap perfectly around the pipe, the start of the sticker should meet the end of the sticker.





7. Once

bead

hole.

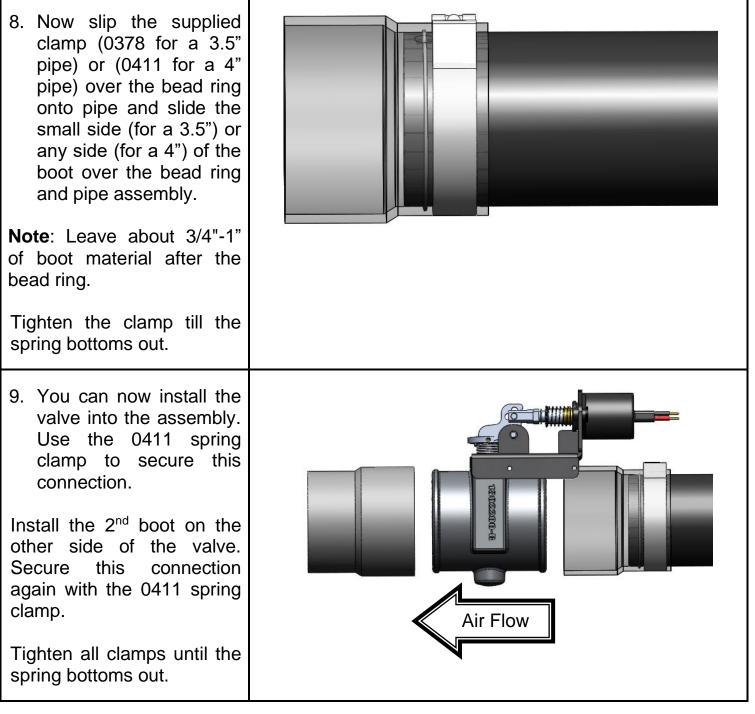
adjust

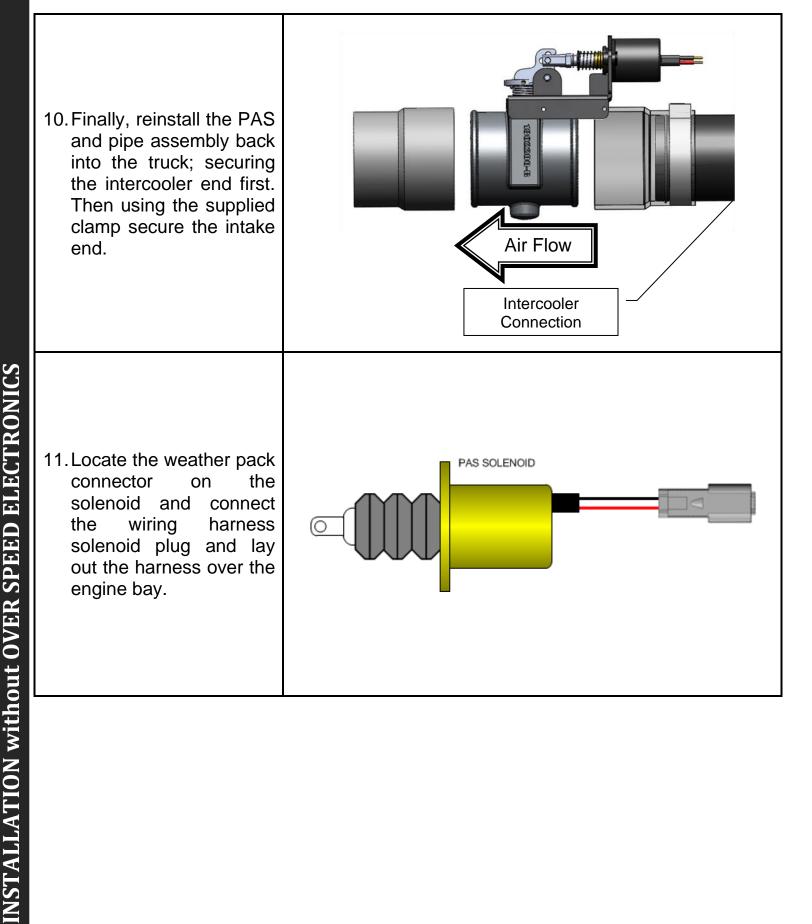
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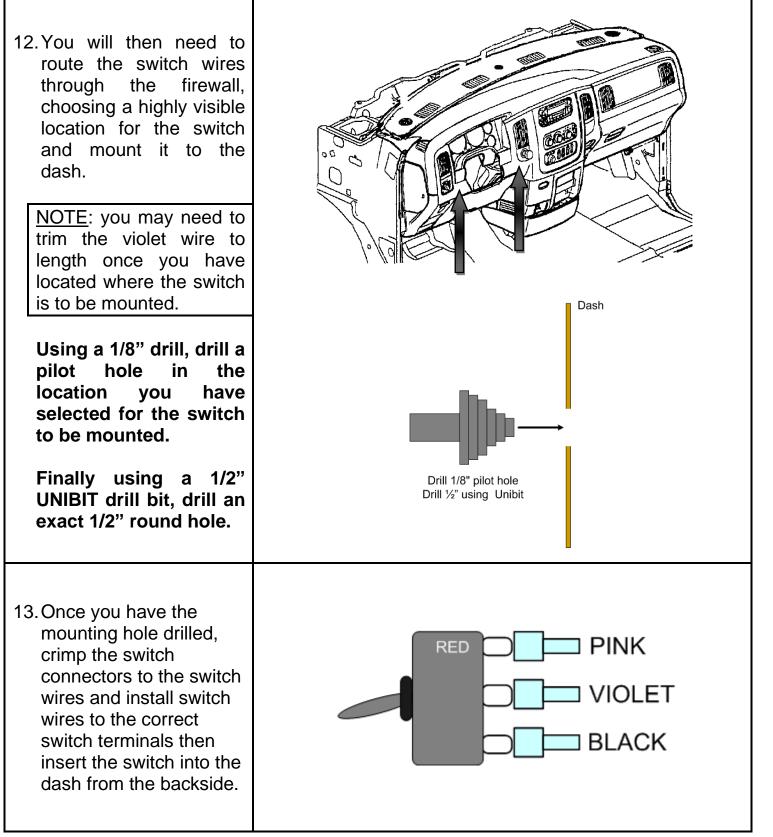
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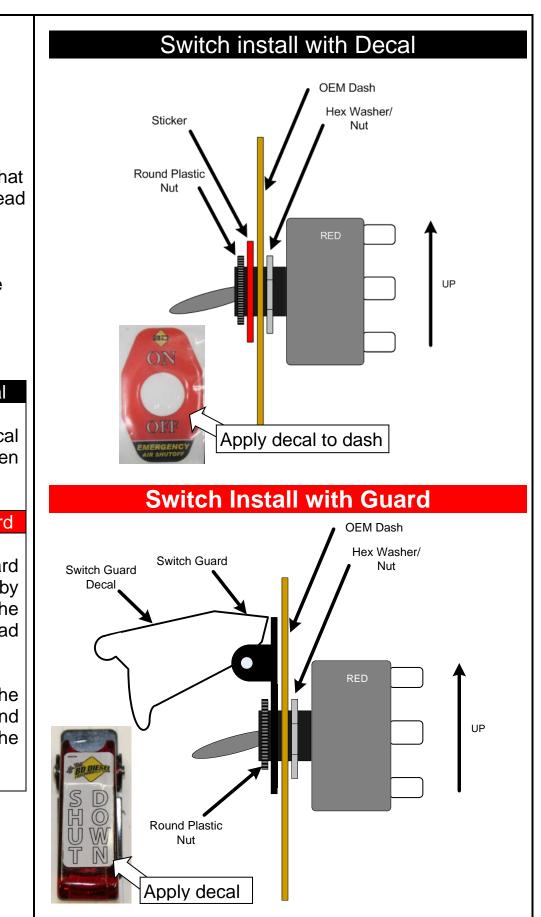
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14. Mount the switch so that the groove on the thread boss is facing down.

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

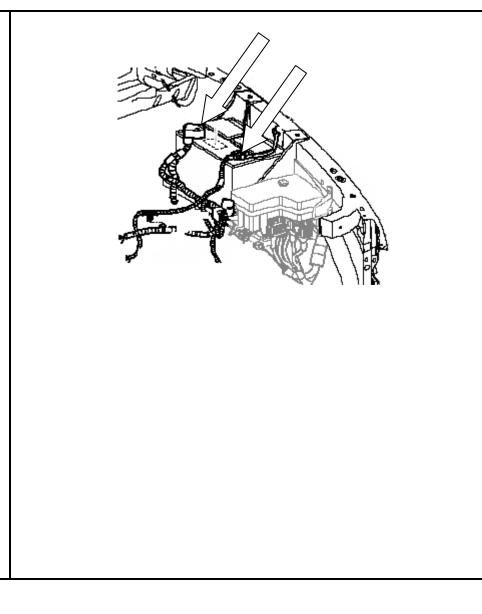
Switch install with decal

Apply the supplied decal to the dash and tighten the round plastic nut.

Switch install with Guard

Install the switch guard onto the switch by aligning the tab with the groove on the thread boss.

Then tighten on the round plastic nut and apply the decal to the switch guard.

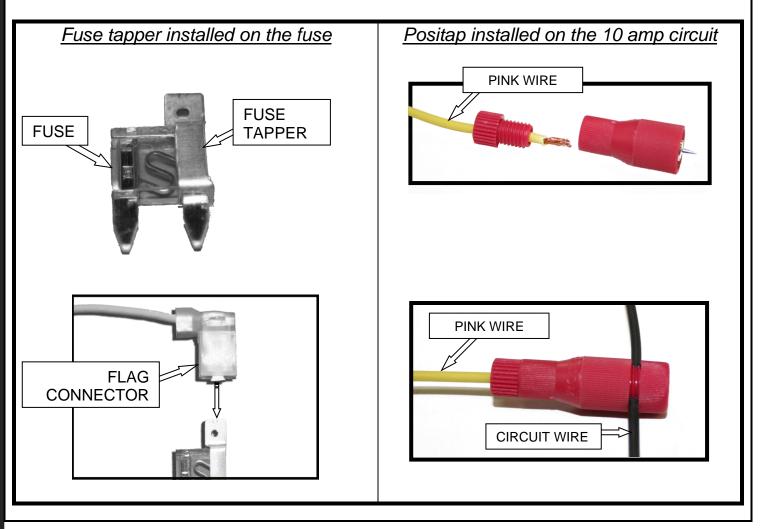


15. Next locate the black wire from the switch and the red wire from the solenoid then trim the wires to length and crimp the ring terminals to the BLACK and RED wires to connect to the respective battery connections. 16. For the last connection you will need to locate the vehicles ignition power.

Locate the fuse panel. Remove the cover.

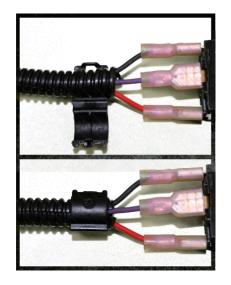
Locate the appropriate 10 amp fused ignition power circuit, and install the fuse tapper on to the 10 amp fuse, and reinstall fuse (*Important* : Ensure the tapper is installed on the hot side of the circuit). Trim the pink wire to length and crimp the flag connector to the wire then connect the pink lead wire with flag connector to the fuse tapper. Route wire out of fuse box and close lid.

If you are unable to access the desired fuse use the supplied positap in place of the fuse tapper. Trim the pink wire to length then strip the end to connect to the small side of the positap then with the large side tap into the desired 10 amp circuit. **Important** the positap is <u>not</u> water proof.

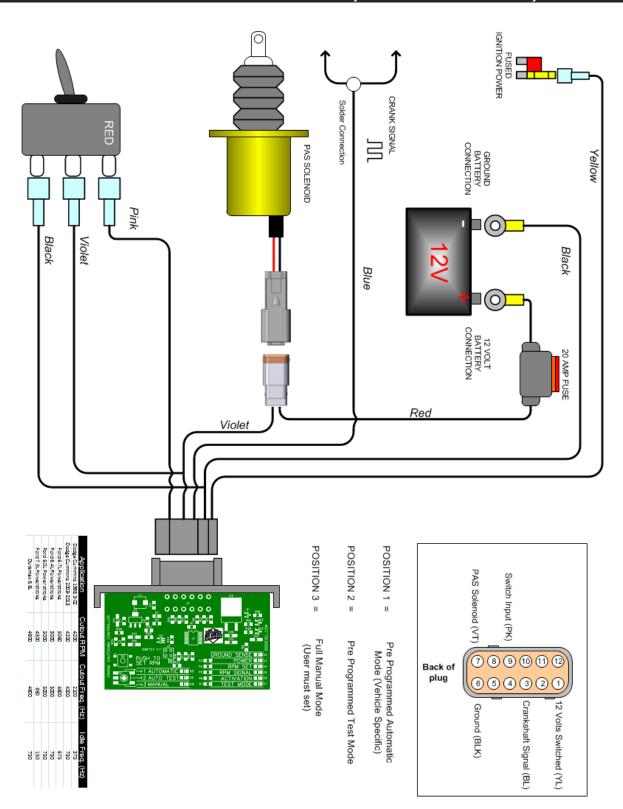


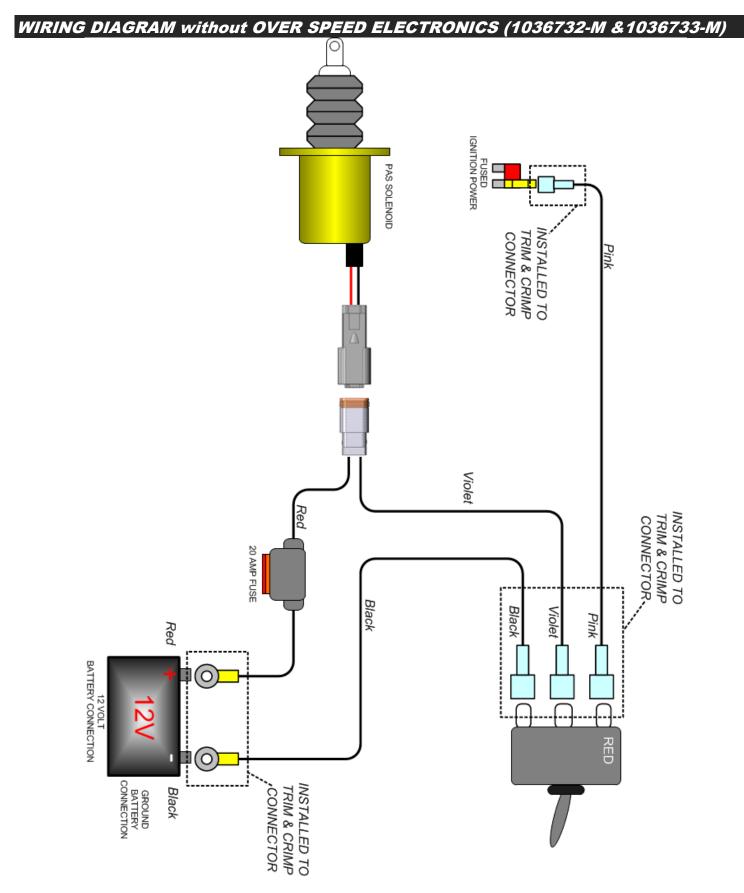
17. Double check all wiring connections and ensure wires are routed away from any heat sources and moving parts. Then install the loom with the supplied tee connector and clips for the loom ends and continue to the testing flow chart without over speed electronics in this manual.



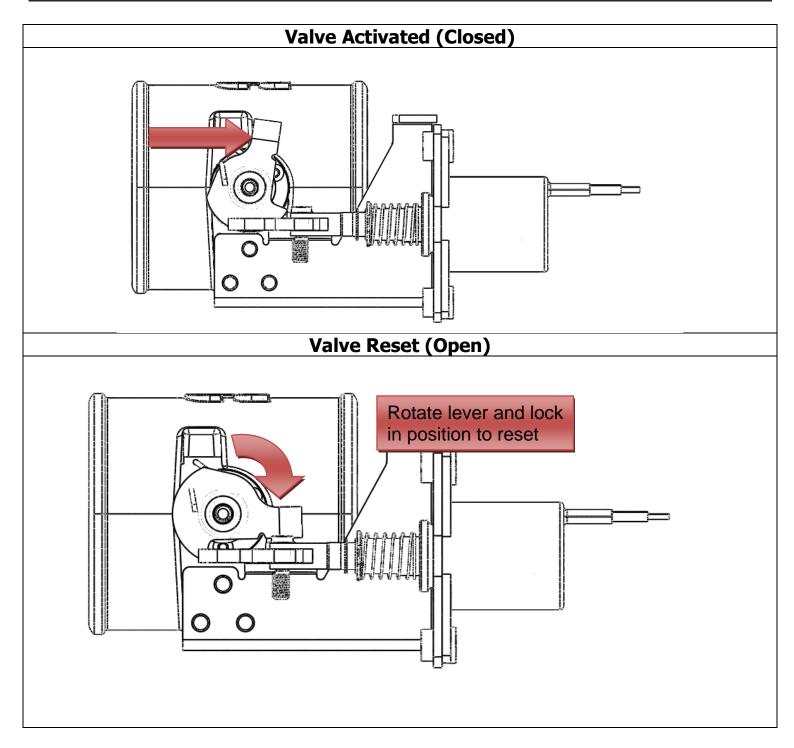


WIRING DIAGRAM with OVER SPEED ELECTRONICS (1036732 & 1036733)





RESETTING THE VALVE



SETUP, TESTING AND VERIFICATION with OVER SPEED ELECTRONICS

Each unit will need to be specifically configured for each model of vehicle. As in the case of different model years and makes the engine RPM frequency is different.

You must be in position 3

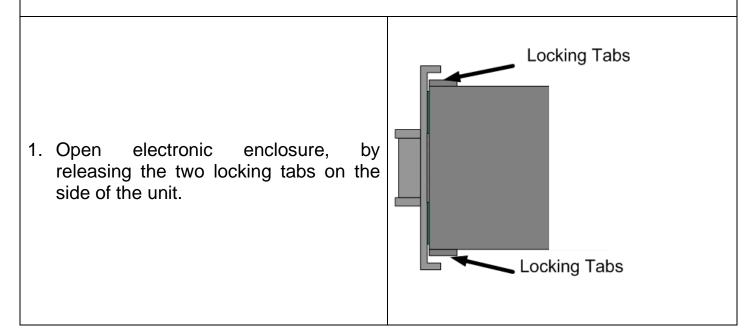
Generic 3.5" / 4"	Activation RPM	Activation Freq. (Hz)
PAS Switch Position #1 (Automatic Mode)	Do Not Use	Do Not Use
PAS Switch Position #2 (Test Mode)	Do Not Use	Do Not Use
PAS Switch Position #3 (Manual Mode)	User Configured	User Configured

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 choose a low activation RPM first to test that the unit is operating correctly. Once it is, you will need to set the high limit RPM activation.

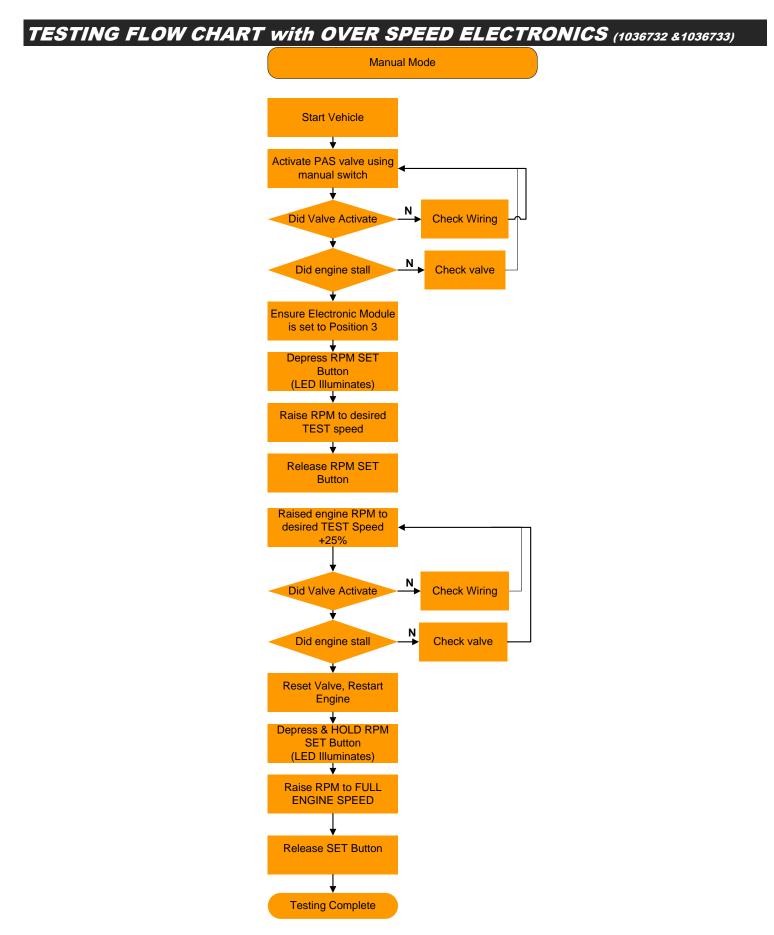
Note: When you press the Set button the module will add 25% to the set speed.



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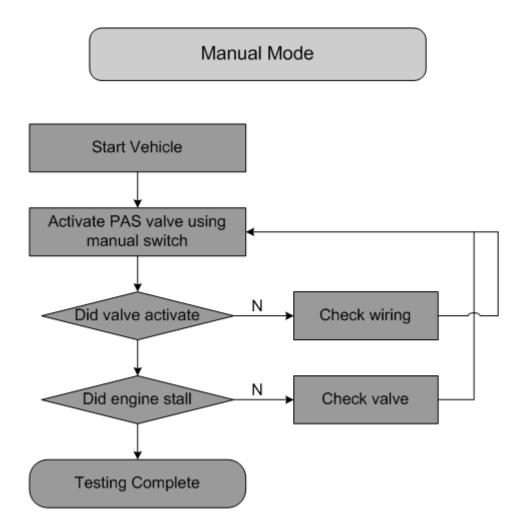
2.	Adjust the position switch to position #3.	$ \begin{array}{c} $
3.	Start the engine.	PRESS & HOLD
4.	Press and hold the RPM SET button.	Button
	When you push the SET RPM button will see the "RPM Set" LED illuminate.	RPM Set
5.	With another person helping you, have them step on the accelerator with the vehicle in park. Raise the engine RPM to 1200 RPM.	RELEASE TO STORE RPM
6.	Release the SET RPM button.	RPM Set
	Upon releasing the button the unit will store the RPM + 25%. So for this example the unit has stored 1200RPM + $25\% = 1500$ RPM.	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.	PRESS & HOLD Button
10. With another person helping you, have them step on the accelerator with the vehicle in park. Raise the engine RPM to MAXIMUM engine RPM.	RPM Set RELEASE TO STORE RPM
11. Release the SET RPM button.	
Upon releasing the button the unit will store the RPM + 25%. So for this example the unit has stored MAXIMUM engine RPM + 25%.	RPM Set 🗖
12. You can now put the electronic enclosure back together and secure it to the predetermined enclosure mount.	
13. With the engine running you will need to test to make sure the manual activation switch is functioning correctly.	If valve does not activate check the wiring.
14. With the engine running, lift the activation switch and the engine should die.	If the valve activates and the engine does not die ensure nothing has contacted the linkage.
15. Reset the valve and you are now complete.	
You have now completed the instead the instead the instead to make sure the	tallation, please be sure to complete the unit is functioning correctly.



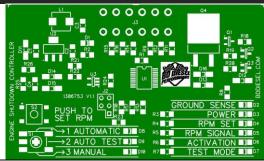
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TESTING FLOW CHART without OVER SPEED ELECTRONICS (1036732-M & 1036733-M)



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PCB LED Operation



GROUND SENSE	Illuminates when PAS solenoid ground wire is grounded				
	(activated). Normally off. Will light when shutdown switch				
	triggered or module triggers the solenoid.				
POWER	Illuminated when the module is powered (switched ignition).				
RPM SET	Lights up while the SET RPM button is held down.				
RPM SIGNAL	Flashes proportional to engine RPM signal.				
ACTIVATION	Flashes when the PAS solenoid has been activated.				
1 AUTOMATIC	These LEDs simply confirm the switch position.				
2 AUTO TEST					
3 MANUAL					

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.