

PULSAR

User Manual

Duramax L5P 2017-2019



GMC/Chevy

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Read Me

Safety Warning & Caution

Throughout this User Manual you will see important messages regarding your safety or the protection of your vehicle. These messages are designated by the words WARNING, CAUTION, or NOTICE.

WARNING

A *WARNING* indicates a hazardous situation which, if not avoided, will result in death or serious injury.

CAUTION

A *CAUTION* indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.


NOTICE


A *NOTICE* indicates a condition that could cause damage to the product or your vehicle.

NOTE

A *NOTE* is a step or reminder that is important to remember when installing or using the product.

The product you have purchased is a high-performance product. As such, it does present some risks of which you should be fully aware. Do not use this product until you have carefully read the following safety information and the Owner Agreement.

 WARNING: *Prior to use, read the User Manual. Misuse of the device could result in traffic accidents, death or serious injury, and/or damage to your vehicle. POWERTEQ IS NOT RESPONSIBLE FOR AND SHALL HAVE NO LIABILITY TO YOU FOR ANY CLAIMS ARISING OUT OF OR RELATING TO ANY MISAPPLICATION OF THE DEVICE, CUSTOM TUNES, IMPROPER USE OF CALIBRATIONS, MALFUNCTION OR LACK OF LEGAL COMPLIANCE FOR CUSTOM PROGRAMS CREATED BY THIRD PARTIES.*

 WARNING: *Do not leave the vehicle in Turbo Timer Mode unattended. Failure to do so could result in damage to the vehicle, and/or bodily harm. (For Turbo Timer Support, see FAQs Page about the INSIGHT Tool)*

Safety Guidelines



WARNING

Before using device, read and understand the user manual, including these additional safety instructions. Failure to do so could result in DEATH or SERIOUS INJURY.

- Do not exceed legal speed limits on public roadways. Violating traffic laws is dangerous and could result in injury or vehicle damage or both.
- Use any enhanced speed capabilities of this product only in closed circuit, legally sanctioned racing environments expressly for this purpose. Violating traffic laws is dangerous and could result in injury or vehicle damage or both.
- Do not operate the device while driving. Distracted driving could result in traffic accidents, death or serious injury, and/or damage to your vehicle.
- Always perform all adjustments or changes while stopped. Changing a setting while driving can interfere with your attention to roadway conditions and could result in injury or vehicle damage or both.
- Do not stack products. “Stacking” performance-enhancing devices or other improper installation can cause power train failure on the road. Other products may have features incompatible with your device. Follow all installation and operating instructions.
- Some modifications may affect other parts of your vehicle. For example, if you remove/adjust the speed limiter in your vehicle, be sure your tires and other components are rated for the increased speeds they will have to withstand. Not doing so can lead to loss of vehicle control. Modify the speed limiter only for use in closed circuit, legally sanctioned racing environments, not for use on public roadways.

NOTE: The stickers included in some products apply to products that have received CARB exemption for emissions compliance.

This product may meet the emissions compliance requirements of the California Air Resources Board and Federal Environment Protection Agency. If so, it is legal for sale and use on pollution-controlled vehicles operated on public streets and highways. The device must be installed and operated according to the instruction provided in this user manual. Included with these compliant products is a sticker for you to keep in your vehicle. You can either adhere it somewhere on the vehicle (e.g., the inside end of driver’s door) or simply store it in your glove box. The purpose of these stickers is to inform anyone who may have questions regarding the use of this product and how it affects emissions. For example, it would be something to show an emissions technician if questioned when taking your vehicle in for an emissions check to let him/her know the product is CARB emissions compliant.

Update Software

Downloading Update Agent 1.0

The Update Agent may be used to update the device via the USB connection. The software can be downloaded through the internet. This process currently can only be done on a Windows computer, **Mac devices are not supported**.

NOTE: *It is recommended to install Update Agent 1.0 on a laptop computer for best accessibility (you will need to connect the computer to the vehicle's OBDII port to perform updates).*

STEP 1 - Go to a computer with internet access, and go to one of the following websites.

STEP 2 - Go to the website's Updates/Downloads tab and click the link "Download Update Agent 1.0" and save the .exe file to a findable location on the computer.

STEP 3 - Run the .exe installation program that you downloaded, and read through the license terms and conditions, check the agreement box and click Install. Continue through installation until it says Installation Successfully Completed. Click Close to finish the process.

NOTE: *If given a Security Warning pop-up upon install, click run to proceed. Also, if asked, install **Holley USBCAN Driver** as well as Update Agent 1.0. This driver is required to connect to the device.*



Product Updates

This device has the ability to update via a USB connection. A USB to OBDII update cable is required to perform the update. **It is recommended that a battery charger is attached and turned on during the update process.**

NOTE: *The Pulsar must be installed into a vehicle before updating.*

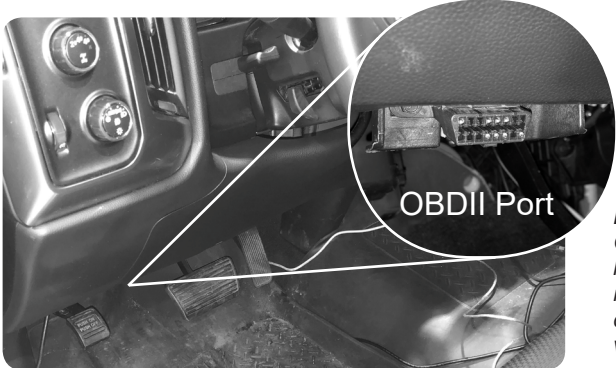
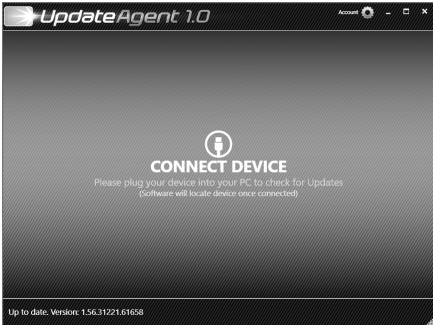
STEP 1 - Take computer with Update Agent 1.0 installed to the location of the vehicle with the Pulsar device.

STEP 2 - Turn the vehicle's ignition to the RUN position (**do not start the engine**) and then open Update Agent 1.0 on the computer, and plug in USB to OBDII cable into both the vehicle's OBDII port and a USB port on the computer.

STEP 3 - Update Agent 1.0 should automatically detect the Pulsar device, follow onscreen instructions until it checks for an update. If an update is available, click yes.

NOTE: *If you have not yet registered for an account and/or signed in, you will be prompted to do so before you can proceed with the update.*

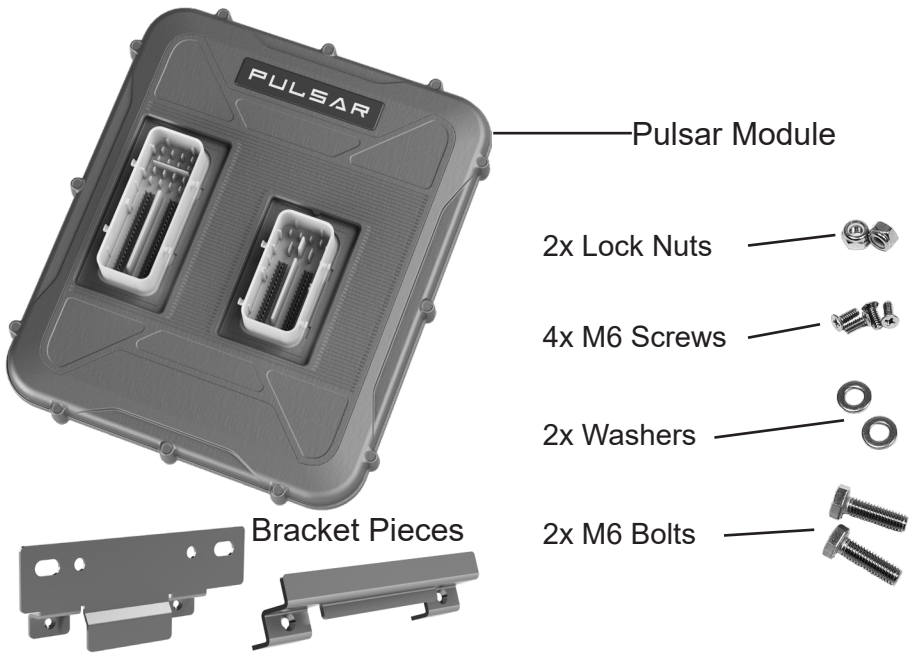
STEP 4 - Follow update steps as is shown onscreen. Do not power down the vehicle during the entire process unless prompted by the Update Agent. Once Update Agent 1.0 says "Your device is up-to-date," click ok and disconnect the USB to OBDII cable.



NOTE:
OBDII Port location may vary depending on vehicle

Installation L5P 2017-2019

Materials

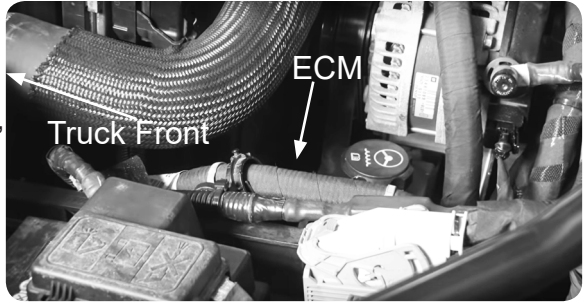


Required Tools

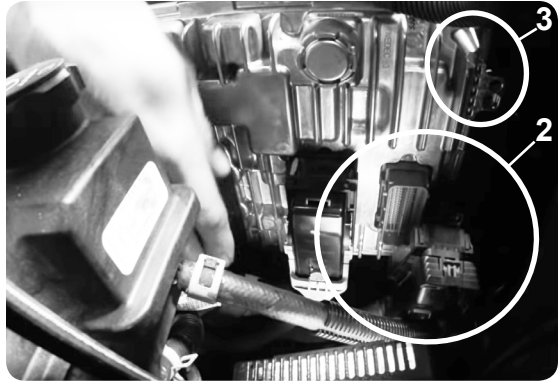
Phillips Screwdriver
3/8 Drive Ratchet
10mm Socket
10mm Wrench
Flat Head Screwdriver

ECM Removal

STEP 1 - Locate the vehicle's ECM. It will be on the driver side of the engine bay, below the coolant hose, cradled in a plastic bracket.



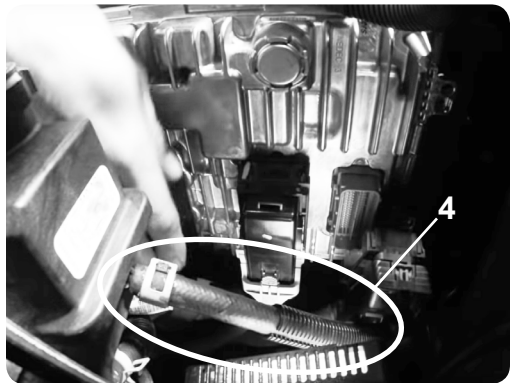
STEP 2 - Remove the small blue connector (closest to the front) from the ECM by holding in the tab and carefully opening the clamp until it disconnects.



STEP 3 - Depending on truck year, remove the plastic push rivet (2017), or remove the 10mm bolt (2018-2019) holding the ECM to the bracket, located on the top front corner of the ECM.

NOTE: Do not re-use the bolt at the end of the install. Keep in a safe place for future use if the Pulsar is ever uninstalled.

STEP 4 - Carefully remove the ECM from the bracket by sliding forward and upwards, then (for more room) lower the ECM until center connector is below the power steering hose. (4)



STEP 5 - Disconnect the center, small black connector by sliding and pressing in the green tab, and then open the clamp until it disconnects.

STEP 6 - Pull the ECM up and above the Engine Bay until there is room to disconnect the final large black connector. Simply slide and press in the green tab, and then carefully open the clamp until it disconnects.

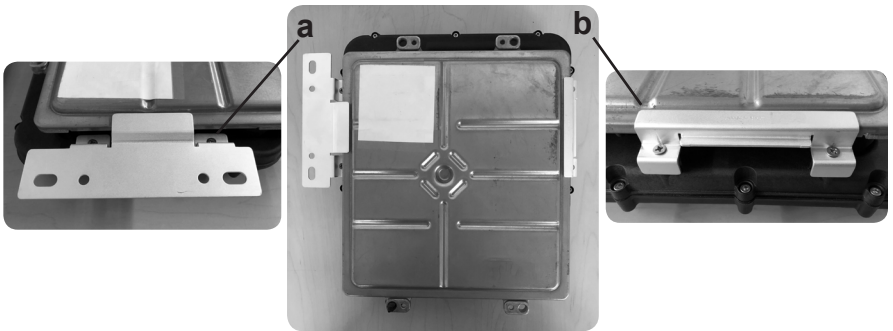
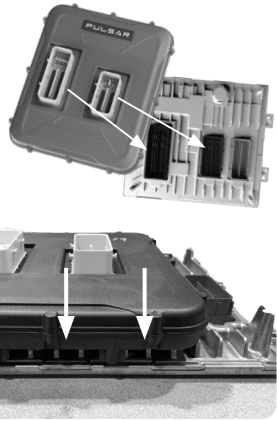
Pulsar Installation

STEP 1 - Place the ECM on a solid surface and orient the Pulsar to the ECM as shown (the smaller blue connector will not be attached to the Pulsar).

STEP 2 - Carefully, yet firmly push the Pulsar module down onto the ECM. Ensure the device is pushed directly down and not at an angle. Push until the Pulsar is flat against the ECM.

STEP 3 - Install the first bracket piece to the Assembly by sliding it into place, then insert the provided screws and tighten until snug. (a)

STEP 4 - Install the second bracket piece to the Assembly by sliding it into place, then insert the provided screws and tighten until snug. (b)



STEP 5 - To prevent damage to the Pulsar and stock connectors, ensure that your ECM connectors and harness connectors are clean and free of debris/dirt.

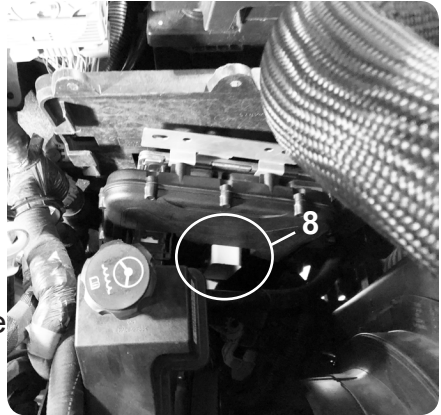
STEP 6 - Take Assembly back to the engine and reconnect the large black connector harness, then carefully close the clamp once connector is completely set in place. Slide the green tab back into place to lock.



Pulsar Installation Cont'd

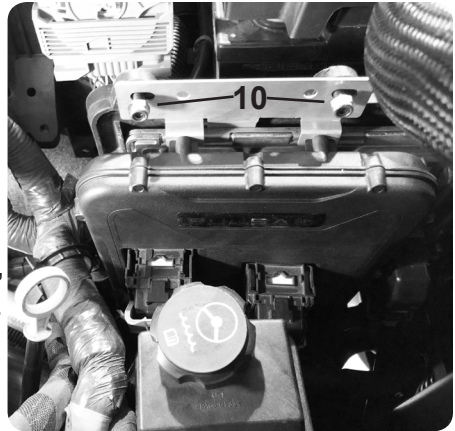
STEP 7 - Lower the Assembly below the hose located under the stock bracket (as done in step 4 on page 8),

STEP 8 - Reconnect the center connector and carefully close the clamp once the connector is completely set in place (8). Slide the green tab back into place to lock.



STEP 9 - Lift Assembly up to the stock bracket, then carefully insert the ECM into the stock bracket by sliding down and back.

STEP 10 - Insert the provided bolts and nuts into the first bracket as seen (10) and using a 10mm hand wrench with a socket wrench, tighten the nut and bolts until snug.



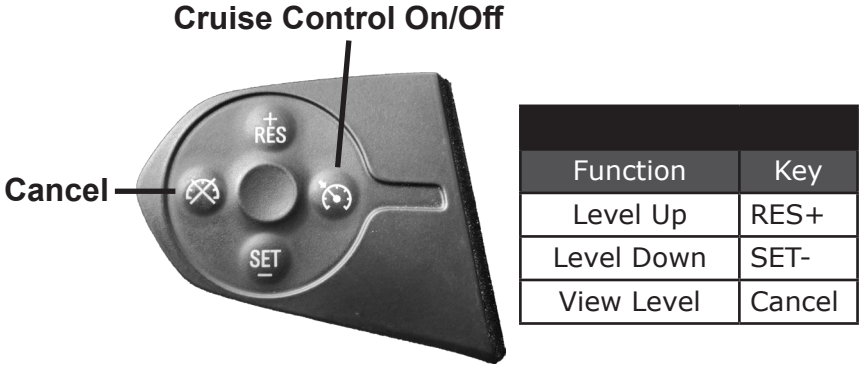
STEP 11 - Reconnect the final blue harness connector, and after pushing down and setting in place, carefully close the clamp.

The Pulsar/ECM Assembly installation is now complete.

Controls

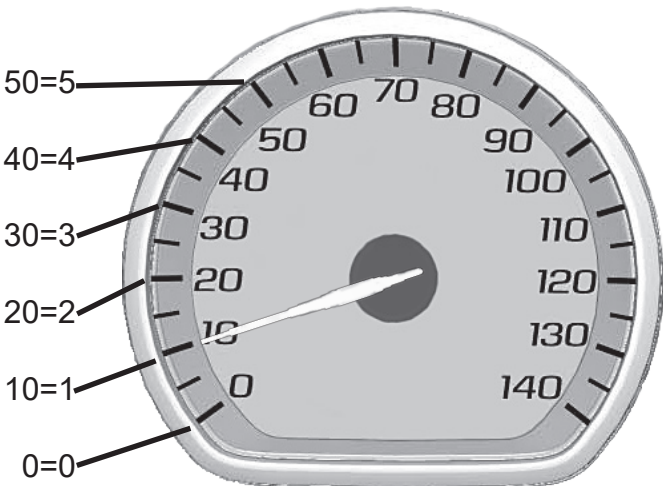
Steering Wheel Controls

Pulsar power levels and Option menus are navigated using the left-side steering wheel buttons. Refer to the information below to better understand how these buttons are utilized.



Speedometer Levels Explained

Power Levels and other settings are displayed through the Speedometer. Every 10 mph marker is one step higher: 10=1, 20=2, 30=3, 40=4, etc.



Power Levels

Levels Explained

There are 5 available level options:

- Level 0 - STOCK
- Level 1 - ECONOMY
- Level 2 - TOW
- Level 3 - DRIVE
- Level 4 - PERFORMANCE
- Level 5 - EXTREME

Changing Power Levels

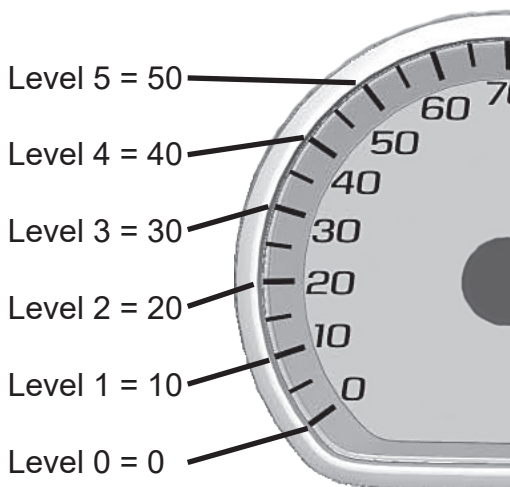
STEP 1 - Start the engine.

NOTE: Cruise Control cannot be active during power level changing. If Cruise Control is active, the left keypad cannot control the Pulsar module.

STEP 2 - Press the Cancel button on the left keypad, the Speedometer Spindle should immediately move to the currently set Power Level

STEP 3 - Use the RES+ and the SET- buttons to adjust Power Level, RES+ to increase and SET- to decrease.

To exit, simply wait 3 seconds for it to time out. Changes are instantly saved as they are adjusted.



High Idle Control

How to Activate and Adjust High Idle

The Pulsar allows the engine to idle at adjustable RPM levels between **700 RPM to 1100 RPM**.

STEP 1 - Start the engine and leave the vehicle in PARK.

STEP 2 - While in PARK, turn on the Cruise Control by using the Left Keypad and then press RES+. The engine should immediately enter High Idle.

Cruise Control On/Off

STEP 3 - Use the RES+ and SET- buttons to adjust RPM level by factors of 100; RES+ to increase, SET- to decrease.

Either turn off Cruise Control or push down on the brake to deactivate High Idle.

NOTE: See Dash Cluster Screen for Cruise Control Icon. If the icon is there, then Cruise Control is on.



Safety Features

Transmission Slip/EGT Backdown

NOTE: The fuel cut back during a backdown is only the extra fuel usage the Pulsar adds. Amount of fuel cut back is dependent on which Power Level is currently active.

Transmission Slip Backdown

The Pulsar device is programmed to detect slip in the transmission. If slippage is detected, the Pulsar will immediately cut back fuel usage.

EGT Backdown

The Pulsar device is programmed to detect high temperatures from the Exhaust Manifold EGT Sensor, cutting back fuel usage if the exhaust temperature surpasses 1500 degrees Fahrenheit.

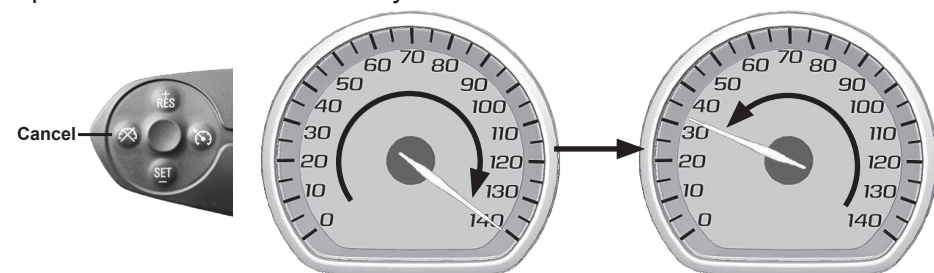
Tire Size

Adjusting Tire Size

The Pulsar can adjust odometer and speedometer for non-stock tire sizes. Measurements are in **English Inches**.

STEP 1 - Place the ignition into the RUN position (do not start the engine).

STEP 2 - Hold the Cancel button for 5-10 seconds, or until the Speedometer Spindle sweeps to 140 mph. Let go, and wait until the Spindle moves to the currently set Tire Size.



STEP 3 - Using the steering wheel controls on the Right Keypad (up or down buttons), change the menu on the Dash Cluster Screen to the Speed screen. (Also displays on Speedometer).

STEP 4 - Use the RES+ and SET- buttons to adjust the diameter setting for the Tire Size. RES+ to increase and SET- to decrease. **Do not round up the given diameter, see step 5.**

Ex: For 34.5 Inches select 34 mph, then proceed to Step 5 for decimals.

STEP 5 - Once the first two numbers of the diameter are set, press the Cancel button to move on to add the decimals or parts (half, quarters). The values go from 0-9; 5 mph being 0.5 or 1/2, 1 mph being 0.1 or 1/10, 9 mph being 0.9 or 9/10, etc. Select 0 if this step does not apply to your tires.

Ex: For 34.5 Inches select 5 mph (or 1/2) to set the decimal.

Press Cancel to exit and save settings. If the Spindle sweeps to 140 mph and returns to 0 mph, then the changes have been saved.

NOTE: When setting cruise control the speed value shown under "Cruise Set to" will display the original speed. **Cruise control speed is not actually being set to that speed, but to the new corrected speed.**

FAQs

Frequently Asked Questions

Question: Can I adjust power levels when cruise control is on?

Answer: No, only when cruise control is off.

NOTE: *Cruise control can be used as normal, you just can't change power levels when cruise control is on.*

Question: Should I remove the Pulsar prior to going to the dealer?

Answer: Yes, please remove the Pulsar as to eliminate it from the system so they can perform any updates or services.

Question: How do I check what level I am on when cruise control is off?

Answer: Simply press Cancel on power steering keypad.

Question: Can I “stack” or use other tuners with this device?

Answer: No, please do not use any other tuners when the Pulsar is in use or installed. Stacking tuners with the Pulsar may cause serious damage to the vehicle.

Question: What is the best way to accurately measure tire size?

Answer: Mark a line on the ground where the center of the tire rests, then drive the vehicle for two full rotations of the tire and mark the spot where it comes to a rest with another line. Measure the length between the two lines and divide by two. Then divide that number by Pi π (3.14159265359).