PULSAR

GMC/Chevy

Table of Contents

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

<u>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.</u>

- 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 recieved 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: *superchips.com* - *diablosport.com* - *edgeproducts.com*

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.*
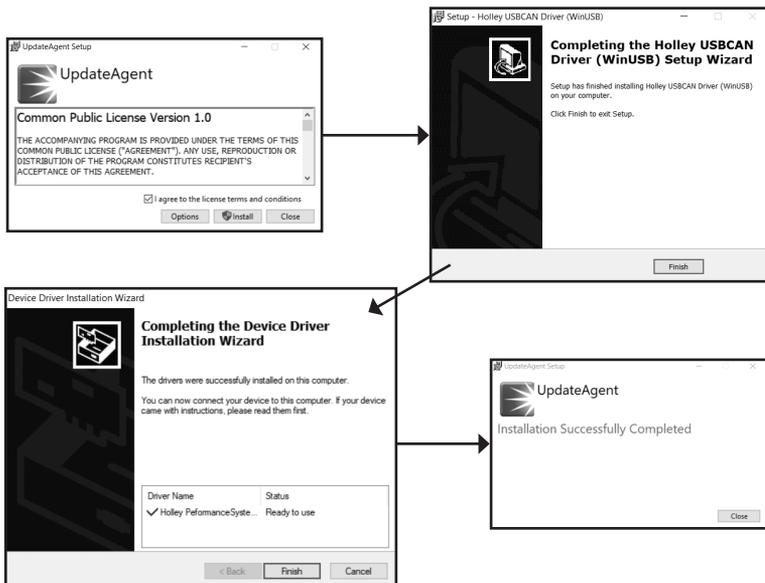
Product Updates

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. When updating, you CANNOT use your vehicles Wi-Fi. It will be disabled during the update process. Use an external source such as your home Wi-Fi.
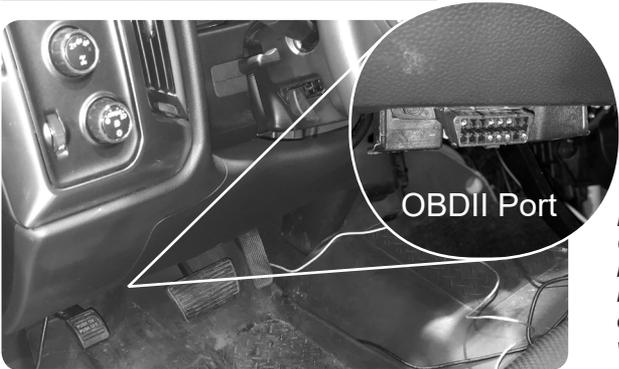
STEP 1 - Take computer with Update Agent 1.0 installed to the location of the vehicle with the Pulsar device.

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.

OBDII Port

NOTE: OBDII Port location may vary depending on vehicle

Installation L5P 2017-2019

Materials

Pulsar Module

2x M6 Nuts

4x M6 Screws

4x Washers

2x M6 Bolts

2x Split Lock Washers

Bracket Pieces

Required Tools

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

⚠ CAUTION

BEFORE uninstalling the ECM, please wait at least five minutes with the **truck turned off** and the **key removed from the ignition**. Failure to do so may result in the check engine indicator being activated.
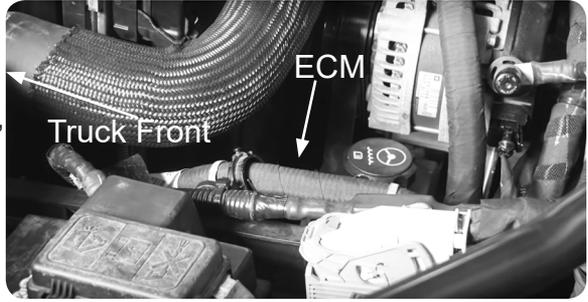**Do not attempt to start the truck until the installation is completely finished, and the ECM is firmly re-connected.**
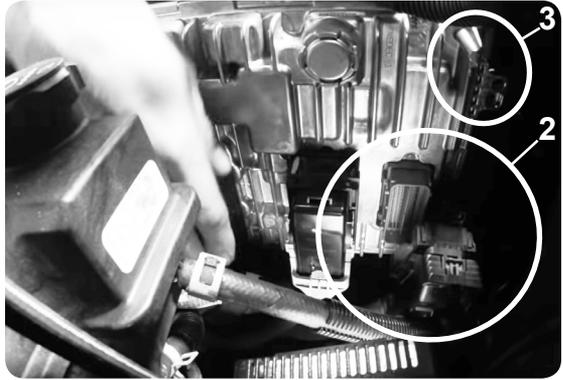
ECM Removal

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.


ECM

Truck Front

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)
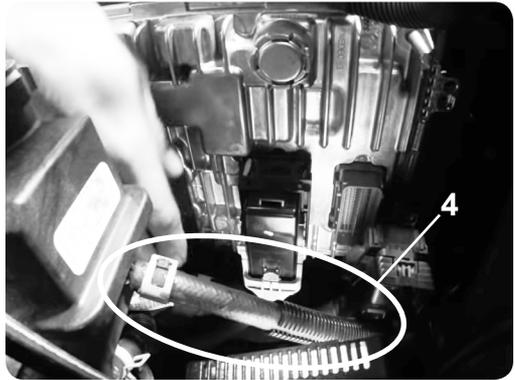

STEP 5 - Disconnect the center, small black connector by sliding and pressing in the green tab, and then open the clamp until it disconnects.

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.
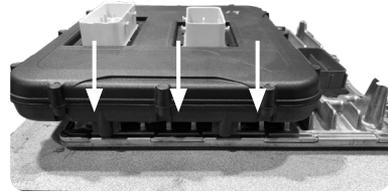
Pulsar Installation

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).
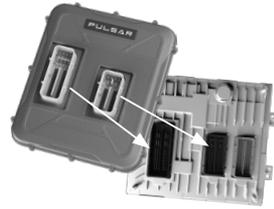

STEP 2 - Carefully, yet firmly push the Pulsar module down onto the ECM. Ensure the device is pushed directly down and not at an angle. Push until the Pulsar is flat against the ECM.

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

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

NOTE: See the diagram for orientation of the brackets. The top of the Pulsar module is the side with the PULSAR decal sticker on it. Also, the Pulsar module extends out from the ECM after it's installed; indicator (c) shows how the Pulsar module and ECM is orientated to both of the brackets via the overlap.
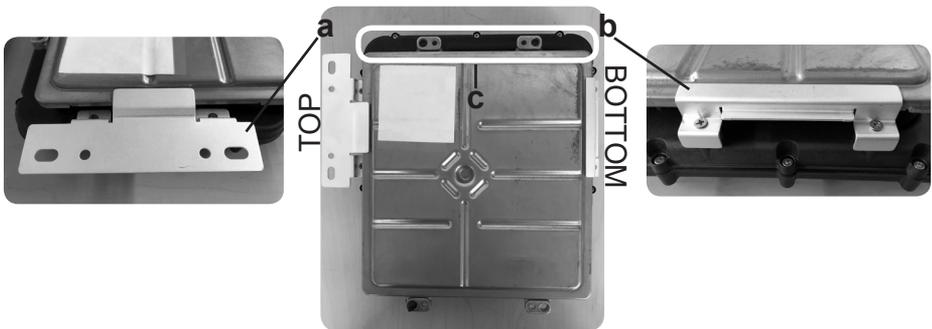
STEP 5 - To prevent damage to the Pulsar and stock connectors, ensure that your ECM connectors and harness connectors are clean and free of debris/dirt.

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.
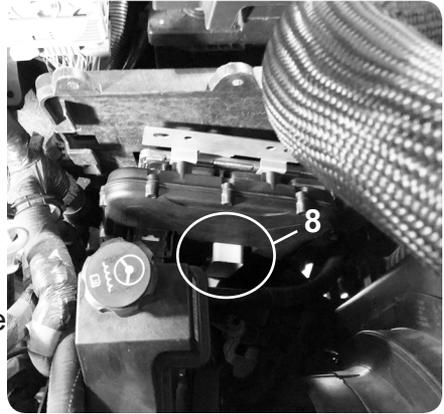
Pulsar Installation Cont'd

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), with one washer and split lock washer towards the outer wall.
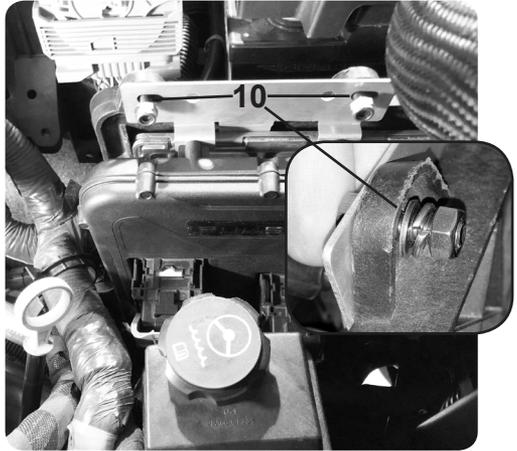
STEP 11 - Using a 10mm hand wrench with a socket wrench, tighten the nut and bolts until snug.

STEP 12 - 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.

Cruise Control On/Off

Cancel

Function	Key
Level Up	RES+
Level Down	SET-
View Level	Cancel
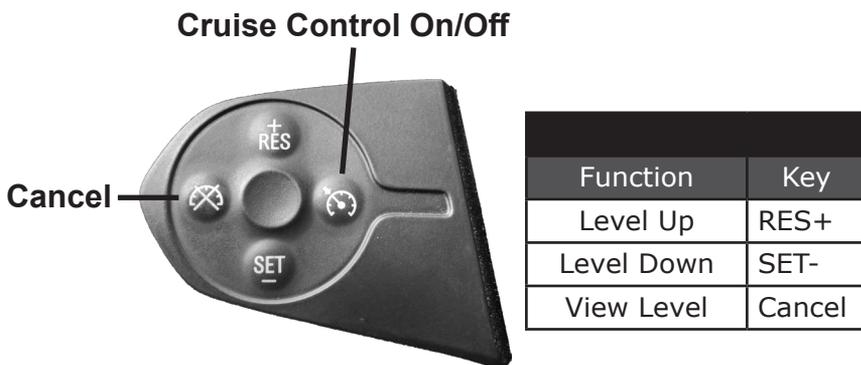
Speedometer Levels Explained

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.

50=5
40=4
30=3
20=2
10=1
0=0
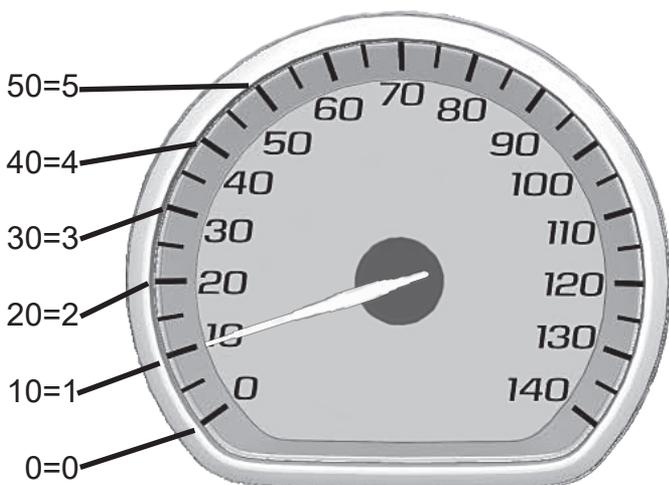
Power Levels

Levels Explained

There are 5 available level options:

    Level 0 - STOCK
    Level 1 - ECONOMY
    Level 2 - HEAVY TOW
    Level 3 - DRIVE / LIGHT TOW
    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.

Level 5 = 50
Level 4 = 40
Level 3 = 30
Level 2 = 20
Level 1 = 10
Level 0 = 0
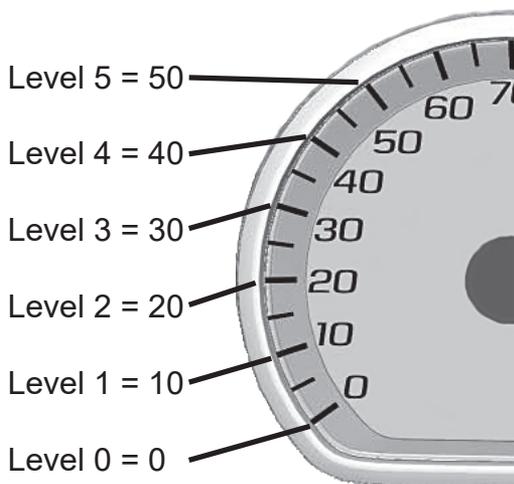
Safety Features

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.

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.

Programmable Features

Programming Menu

NOTE: To access the programming menu of the device, cruise control must be turned off.

The vehicle has to be running to turn off cruise control.

Access the Programming Menu

Five modes can be accessed through the programming menu. The speedometer (MPH) gauge is used to display the modes and programming inputs. The cruise control switches will be used to navigate the programming menu.

10 - Speed Limiter Adjustment (98-140 MPH)
20 - TPMS Adjustment (40-80 PSI)
30 - Tire Size Correction (Input stock then modified sizes for front and rear tires)
40 - Axle Ratio (Input stock then modified axle ratio)
50 - Clear DTC's
60 - Manual Regeneration
70 - Transmission Relaern

Transmission Relearn
Manual Regen
Clear DTC's
Tire Size
Axle Ratio
TPMS
Speed Limiter
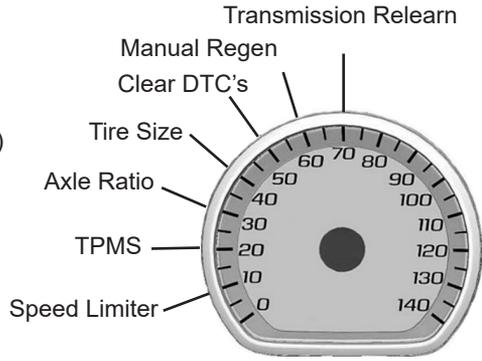
STEP 1 - The engine must be turned off with the igniton in the run position.

STEP 2 - (Push Button Start only) Without putting your foot on the brake pedal, hold the Start Engine button until the gauges turn on and a green light is seen on the start button. (Approx. 5 seconds)

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 in order to see changes. (Also seen on speedometer)

STEP 4 - Hold the cancel cruise control button until the speedometer sweeps to 140. (Approx. 5 seconds)

STEP 5 - Using +RES or -SET, navigate to the desired programming mode.
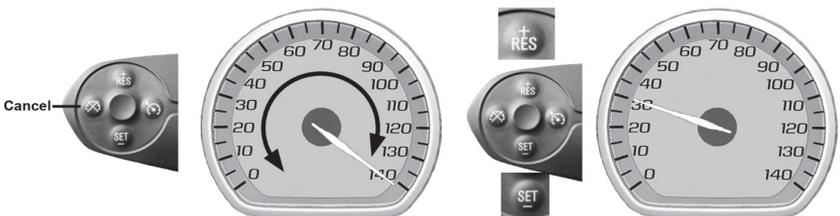
Cancel

STEP 6 - Press the cancel cruise control button to select the mode.

STEP 7 - The speedometer gauge will sweep and then stop at the current programmed conditon. (The stock input will be displayed if not previously adjusted.)

Speed Limiter

⚠️*WARNING: Removal / adjustment of the factory speed limiter is intended for use at a close circuit, legally sanctioned racing environment. If you drive on public roads after removal or adjustment of the speed limiter, you must still obey all driving laws, including adhering to posted speed limits. To drive at racing speeds on public roads seriously endagers you, passengers, and other nearby. It is also your responsibility to ensure your tires and other vehicle components are rated to travel at increased speeds. Driving at high speeds with inadequate tires or other components can lead to serious or fatal injury.*

STEP 1 - Access the Programming Menu.

STEP 2 - Using +RES or -SET, select mode 10 (MPH).

STEP 3 - Press cancel cruise to select.

STEP 4 - Speedometer sweeps to 140 MPH for 3 seconds indicating Speed Limiter has been selected.

STEP 5 - Use +RES or -SET wheel to adjust to the desired value.

STEP 6 - Press the cancel cruise control button to save the input value.

STEP 7 - The speedometer will sweep to 140 MPH indicating the function is complete.

⚠️*CAUTION: Removing / adjusting the speed limiter for purposes inconsistent with the products's intended function violates the product's intended use and will invalidate the product's warranty. Edge Products is not responsible for, or liable for the consequences of improper product use.*

TPMS - Tire Pressure Monitor System

After adjusting the TPMS inflate to number, the min amd max values automatically adjust. This mode reprograms the vehicle ECM.

STEP 1 - Access the Programming Menu.

STEP 2 - Using +RES or -SET, select mode 20 (MPH)

STEP 3 - Press cancel cruise to select.

STEP 4 - Speedometer sweeps to 140 MPH for 3 seconds indicating TPMS has been selected.

STEP 5 - Front tire set point.
   a. Using the +RES or -SET wheel to adjust to the desired value between 40 and 99 (PSI)
   b. Press the cancel cruise control button to save the input value.
   c. Speedometer will move to rear set point value.

STEP 6 - Rear tire set point.
   a. Using the +RES or -SET wheel to adjust to the desired value between 40 and 99 (PSI)
   b. Press the cancel cruise control button to save the input value.

STEP 7 - The speedometer will sweep to 140 MPH indicating the function is complete.

Tire Size

Input Stock and Modified Tire Size.

NOTE: The tire size adjustment feature is only for vehicles with aftermarket tires that are larger or smaller than factory. If your vehicle has a factory sized tire, please skip this feature.

STEP 1 - Access the Programming Menu.

STEP 2 - Using +RES or -SET, select mode 30 (MPH)

STEP 3 - Press cancel cruise control to select.

Tire Size Cont'd

STEP 4 - Enter Stock Tire Size
Example: 33.5" Tire-   Whole Number = 35, Decimal = 5
      a. Using +RES or -SET, adjust to the Stock Tire Whole number.
      b. Press cancel cruise to save the input.
      c. Using +RES or -SET, adjust the Stock Tire Decimal number.
      d. Press cancel cruise to save the input.
      e. The speedometer will sweep to140 MPH, indicating the function is
         complete.

STEP 5 - Enter modified Tire Size
      a. Using the +RES or -SET wheel to adjust to the Modified Tire Whole
         number.
      b. Press cancel cruise to save the input.
      c. Use the +RES or -SET wheel to adjust the Modified Tire Decimal
         number.
      d. Press cancel cruise to save the input.
      e. The speedometer will sweep to 140 MPH, indicating the function is
         complete.

NOTE: Adjusting Tire Size will modify the vehicles displayed speed, corrected to the size of the modified tire.

Axle Ratio

Input Stock and Modified Axle Ratio.

NOTE: The axle ratio adjustment feature is only for vehicles with aftermarket axle ratios that have been physically changed in vehicle. If your vehicle has factory axle ratios, please skip this feature.

STEP 1 - Access the Programming Menu.

STEP 2 - Using the +RES or -SET, select mode 40 (MPH)

STEP 3 - Press cancel cruise to select.

STEP 4 - Enter Stock Axle Ratio.
Example: 3.73 Axle-   Whole Number = 3, Decimal = 73
        a. Using +RES or -SET, adjust to the Stock Axle Whole number.
        b. Press cancel cruise to save the input.
        c. Using +RES or -SET, adjust the Stock Axle Decimal number.
        d. Press cancel cruise to save the input.
        e. The speedometer will sweep to 140 MPH, indicating the function is complete.

STEP 5 - Enter Modifed Axle Ratio.
        a. Using +RES or -SET, adjust to the Modified Axle Whole number.
        b. Press cancel cruise to save the input.
        c. Using +RES or -SET, adjust the Modified Axle Decimal number.
        d. Press cancel cruise to save the input.

STEP 6 - The speedometer will sweep to 140 MPH, indicating the function is complete.

Clear DTC's

STEP 1 - Access the programming menu.

STEP 2 - Using +RES or -SET, select mode 50 (MPH)

STEP 3 - Press cancel cruise to select.

STEP 4 - The speedometer will sweep to 140 MPH, indicating the function is complete.

Manual Regeneration

Manual regeneration allows you to manually clear out the Diesel Particulate Filter (DPF). Completing a manual regeneration cycle will clear the soot mass in the filter, and lower exhaust back pressure to improve exhaust flow. ***The engine must be at operating temperature.***

NOTE: When manually initaiting a regeneration cycle, some vehicles will require a drive cycle (i.e you have to drive the vehicle some distance) while others may allow you to initaite Service Regeneration where you can leave the vehicle parked and the engine running. If the latter is the case, be sure to use the following guidelines.

1 - Park the vehicle outdoors and keep people, other vehicles, and combustible materials away from it.
2 - Do not leave the vehicle unattended.
3 - Do not connect any shop exhaust hoses or vents to the tail pipe.

STEP 1 - Access the Programming Menu.

STEP 2 - Using the +RES or -SET, select mode 60 (MPH)

STEP 3 - When the speedometer goes back to 0, start the truck.

STEP 4 - A few seconds after starting the truck, if all conditons are met, the regen will start. When regen is active, RPMs will increase up to 2500 RPM. If condiitons are not met, the speedometer will sweep to 100 MPH for approximately 10 seconds and the Manual Regen will be canceled automatically.

       a. Vehicle must be to normal operating tempurate for Manual Regen to initiate.

STEP 5 - When the Manual Regen is complete or after the 10 seconds at 100 MPH, the speedometer will sweep to 140 MPH, indicating the function is complete.

⚠ CAUTION
Exhaust temperatures may be greater than 300C (572 F) during service regeneration.

⚠ CAUTION
Due to the elevated temperatures during this procedure, open the hood and keep the front of the vehicle away from anything impeding the radiator.

DPF REGENERATION - If you own a newer diesel powered vehicle, your vehicle is equipped with a **Diesel Particulate Filter (DPF)**. This filter is used in conjunction with a diesel oxidation catalyst. Together they work to reduce the amount of soot and emissions emitted from the tailpipe. As soot builds up in the DPF it will begin restricting flow. The soot that gathers is automatically purged in one of two ways: **Passive Regeneration & Active Regeneration**. Both methods occur automatically and require no action on your part. During either of these regeneration methods, you may notice an increase or change in the exhaust noise & increased **Exhaust Gas Temperature (EGT)**.

Transmission Relearn

This vehicle is equipped with a transmission that will "learn" while you drive. Sometimes when these vehicles are programmed with an aggressive tune, the transmissions act differently. This feature forces the transmission to relearn and accommodate the new tune.

STEP 1 - Access the Programming Menu.

STEP 2 - Using the +RES or -SET, select mode 70 (MPH)

STEP 3 - The speedometer will sweep to 140 MPH, indicating the function is complete.
       a. Trans relearn disclaimer and driving instructions:

NOTE: After the relearn commands are sent there might be some clunks, bumps, and/or short flares, especially during the 3-4 shift (3rd gear to 4th gear). This is normal. Completion of this feature will require a minimum of 3 upshifts at a steady throttle angle.

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).

To take advantage of additional Pulsar features such as: Turbo Timer, Backdown Toggles/Adjustments, Gear Ratio Adjusting, and more, check out the Edge Products INSIGHT on *edgeproducts.com*