

# PULSAR

INLINE CONTROL MODULE 



**2017 - 2019 Duramax**

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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.*

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# Safety Guidelines

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## 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.

# Installation 2017-2019 Duramax Pulsar LT

## Materials



Pulsar LT Module

Zip Ties



Velcro Strips



Harness

## Required Tools

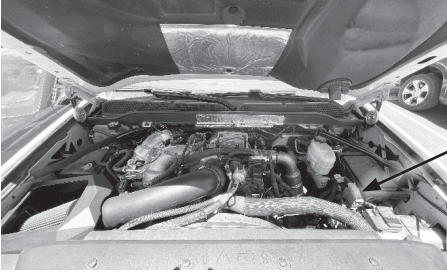
10 mm Socket/Wrench

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## Pulsar LT Installation

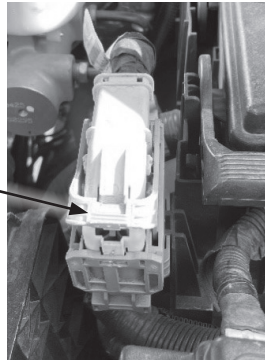
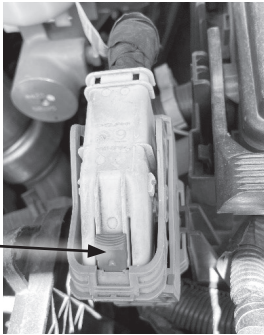
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**STEP 1** - Before installation, disconnect the negative terminal of the battery to avoid a Check Engine light after installation.



**NOTE:** The connector is located on the driver side next to the fuse box.

**STEP 2** - Release the red locking tab by pushing the red tab up as shown. Once it is unlocked, push in on the red tab and carefully lift up on the gray lever until the connector is free.



**STEP 3** - Once the connector is removed, install the Pulsar harness onto the factory connector. Press down on the gray lever until it stops, then slide the red lock tab down to lock them in place.

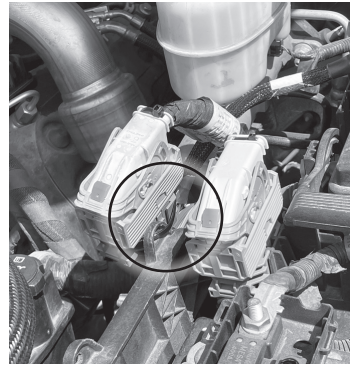


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## Pulsar LT Installation Cont'd

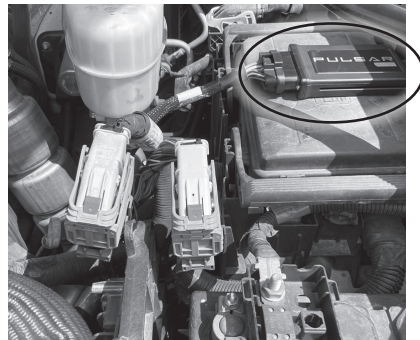
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**STEP 4** - Use the supplied Zip Tie to mount the Pulsar LT harness to the PCM bracket as shown.



**STEP 5** - Use supplied Velcro to mount the Pulsar LT to the top of the fuse box.  
*Note: Clean the top of the fuse box to ensure a strong bond with the Velcro.*

Remove the clear film from the Velcro and place both Velcro strips on the bottom of the Pulsar LT, then press firmly to the fuse box.



**STEP 6** - If needed, use supplied Zip Ties to secure excess wires aside.

# Programmable Features

## Programming Menu

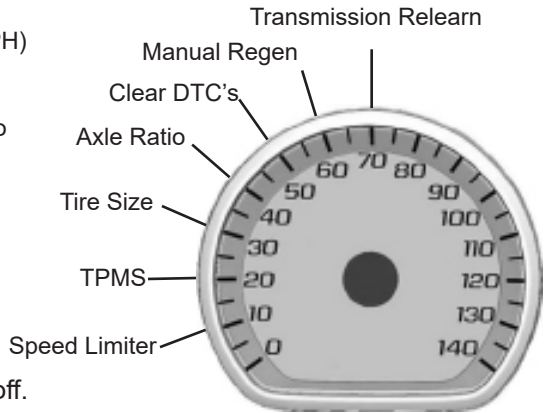
**NOTE:** To access the programming menu of the device, cruise control must be turned off. Each feature adjustment requires a new programming session.

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

## Access the Programming Menu

Seven 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 (40-99 PSI)
- 30 - Tire Size Correction (Input stock then modified sizes for front and rear tires--up to 50")
- 40 - Axle Ratio (Input stock then modified axle ratio)
- 50 - Clear DTC's
- 60 - Manual Regen
- 70 - Transmission Relearn



**STEP 1** - The vehicle must be turned off.

**STEP 2** - Without putting your foot on the brake pedal hold the Start Engine button until the truck gauges turn on and green light is seen on the start button. (approx. 5 seconds)

**STEP 3** - Adjust the vehicle's screen cluster to the digital speedometer

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

**STEP 5** - Use the +RES or -SET wheel to navigate to the desired programming mode.

**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 condition. (The stock input will be displayed if not previously adjusted.)

**NOTE:** During programming, the seatbelt warning light may activate.



# 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.

**STEP 3** - Use the RES+ and SET- buttons to adjust RPM level by 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.

### Cruise Control On/Off



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## Speed Limiter

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After accessing speed limiter programming mode, adjustment between 98 and 140 MPH can be input.

**STEP 1** - Access the Programming Menu.

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

**STEP 3** - Use +RES or -SET wheel to adjust to the desired value.

**STEP 4** - Press the cancel cruise control button to save the input value.

**STEP 5** - The speedometer will sweep to 140 MPH indicating the function is complete.

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## TPMS - Tire Pressure Monitor System

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After adjusting the TPMS inflate to number, the min and 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** - Use the +RES or -SET wheel to adjust to the desired value between 40 and 99 (PSI).

**STEP 4** - Press cancel cruise to select.

**STEP 5** - Speedometer sweeps to 140 MPH for 3 seconds indicating TPMS has been programmed.

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## Tire Size

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Input Stock and Modified Tire Size.

**STEP 1** - Access the Programming Menu.

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

**STEP 3** - 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.

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## Tire Size Cont'd

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**STEP 4** - Enter **Modified** Tire Size (up to 50")

- a. Using the +RES or -SET wheel to adjust to the Modified Tire Whole number.
- b. Press cancel cruise to save the input.
- c. Using the +RES or -SET wheel to adjust to the Modified Tire Decimal number.
- d. Press cancel cruise to save the input.

**STEP 5** - 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.*

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## Axle Ratio

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Input Stock and Modified Axle Ratio.

**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.

**STEP 5** - Enter **Modified** 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.

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## Clear DTC's

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**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.

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## Manual Regeneration

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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.***

- 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** - The speedometer will sweep to 140 then back down to 0. When the speedometer goes back to 0, you may then start the engine.

**STEP 4** - A few seconds after starting the truck, if all conditions are met, the regen will start. When regen is active, RPMs will increase up to 2500 RPM. If conditions 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 temperature 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 300° C (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.*

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## Manual Regeneration Cont'd

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**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)**.

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## Transmission Relearn

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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.

### Transmission Relearn driving instructions:

By selecting a Trans Relearn, you erase all shift points your transmission has learned up to that point, so it is recommended that you follow the procedure below.

1. Start the relearn by making at least six sets of light throttle upshifts through all the gears, then make another six sets at 1/3, 1/2 and 3/4 throttle. Downshift the same way by starting at light throttle and working up to full throttle.
2. Once the shifts are quick and smooth, press the ‘tow haul’ button and repeat the above step in ‘tow haul’ mode. Relearn normally takes up to two hours, but it can take up to 500 miles for the transmission to learn different upshifting and downshifting scenarios.

**NOTE:** *After the relearn commands are sent there might be some clunks, bumps, and/or short flares, especially during the shift from third to fourth gear. This is normal.*

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## Responsiveness Level Adjustment

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When the vehicle is running and cruise control is turned off, the vehicle throttle responsiveness can be adjusted. The responsiveness level is indicated using the vehicle's speedometer.

**STEP 1** - Using the +RES or -SET, adjust to the desired value. The levels changing will be shown on the speedometer, from 10 MPH to 50 MPH.

Level 0 = Stock

Level 1 = Reduced responsiveness (up to 15% less than stock)

Level 2 = Increased responsiveness (up to 15% over stock)

Level 3 = Increased responsiveness (up to 30% over stock)

Level 4 = Increased responsiveness (up to 48% over stock)

Level 5 = Increased responsiveness (up to 65% over stock)

**STEP 2** - To recall the vehicle's performance level, press the cancel cruise control button.

# Update Software

## Downloading Update Agent 1.0 (Optional)

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**.

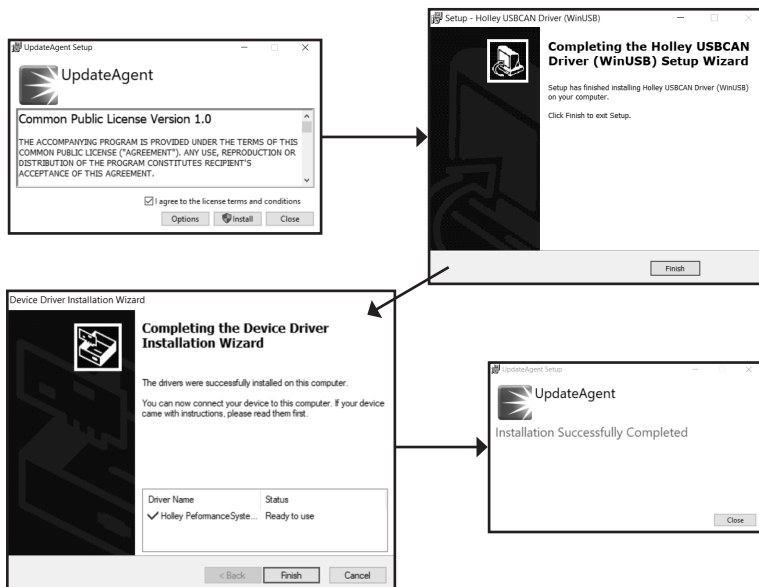
**NOTE:** *It is recommended to install Update Agent 1.0 on a laptop computer for best accessibility (you will need to connect the computer to the vehicle's OBDII port to perform updates).*

**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.*



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## Product Updates

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

**NOTE:** The Pulsar LT 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.

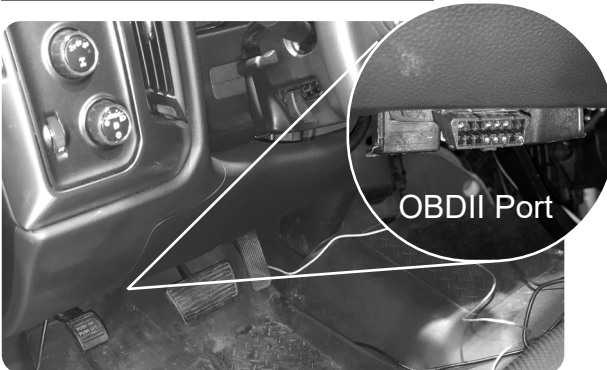
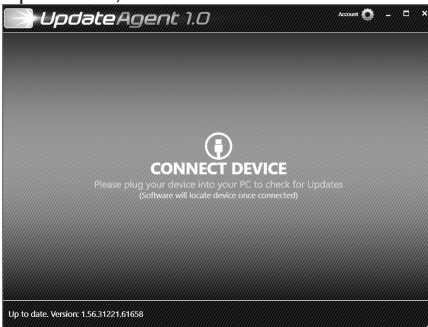
**STEP 1** - Take computer with Update Agent 1.0 installed to the location of the vehicle with the Pulsar device.

**STEP 2** - Turn the vehicle's ignition to the RUN position (**do not start the engine**) then open Update Agent 1.0 on the computer, 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 LT 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



# FAQs

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## Frequently Asked Questions

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**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 LT prior to going to the dealer?

**Answer:** Yes, please remove the Pulsar LT 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 LT is in use or installed. Stacking tuners with the Pulsar LT 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  $\pi$  (3.14159265359).

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**D10024900 Rev01 08/05/2021**

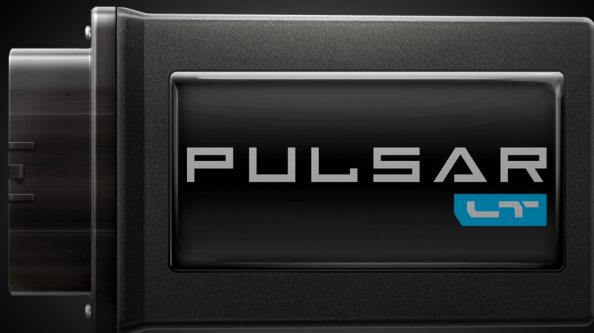
*For additional questions not found in the user guide call:*

**Powerteq Technical Support: (801)-476-3343** 6:00 am - 5:00 pm MST

**To expedite your support call, please have your Vehicle Information,  
Part Number, and Serial Number ready prior to calling Technical Support.**

# PULSAR

INLINE CONTROL MODULE



FEATURE AND PROGRAMMING MENU

## QUICK REFERENCE

GM DURAMAX DIESEL



### TECHNICAL SUPPORT

For operating instructions and troubleshooting, please refer to the User Guide. For additional questions contact:

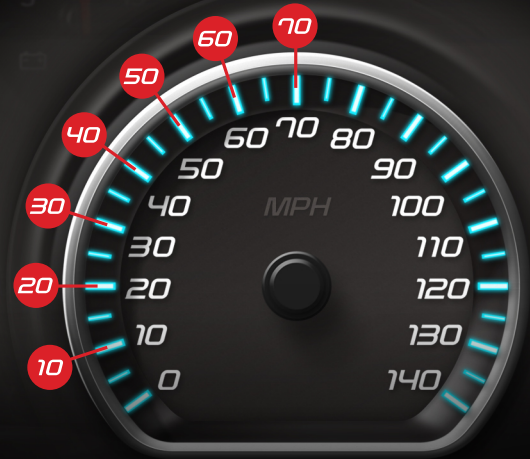
MON-FRI 8:00 AM - 5:00 PM (MST)  
1-888-360-3343

PN# D10025500

### ACCESS

## PROGRAMMING MENU (repeat for each feature)

1. Engine Off
2. a. Using a push button - Foot off brake, Press and hold Start button 5 sec.  
b. Using a key - turn key to the RUN position
3. Hold Cancel Cruise button 5 sec.
4. Navigate with +RES/-SET to feature
5. Press Cancel Cruise to select feature



### Speed Limiter 10

1. Select 10 (MPH)
2. Adjust with +RES/-SET
3. Press Cancel Cruise to select

### TPMS 20 (Tire Pressure Monitor System)

1. Select 20 (MPH)
2. Adjust with +RES/-SET
3. Press Cancel Cruise to select

### Tire Size 30

1. Select 30 (MPH)
2. Select stock whole number then press Cancel Cruise to save
3. Select stock decimal number then Cancel Cruise to save
4. Repeat 2-3 with modified tire size

### Axle Ratio 40

1. Select 40 (MPH)
2. Select stock whole number then press Cancel Cruise to save
3. Select stock decimal number then Cancel Cruise to save
4. Repeat 2-3 with modified axle ratio

### Clear DTC's 50

1. Select 50 (MPH)
2. Press Cancel Cruise to select

### Manual Regen 60

1. Refer to the user manual for information on operating instruction

### Trans Relearn 70

1. Refer to the user manual for information on operating instruction

\* For complete instructions please refer to the user manual