

PULSAR

INLINE CONTROL MODULE



Jeep® 2.0L

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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.*

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.

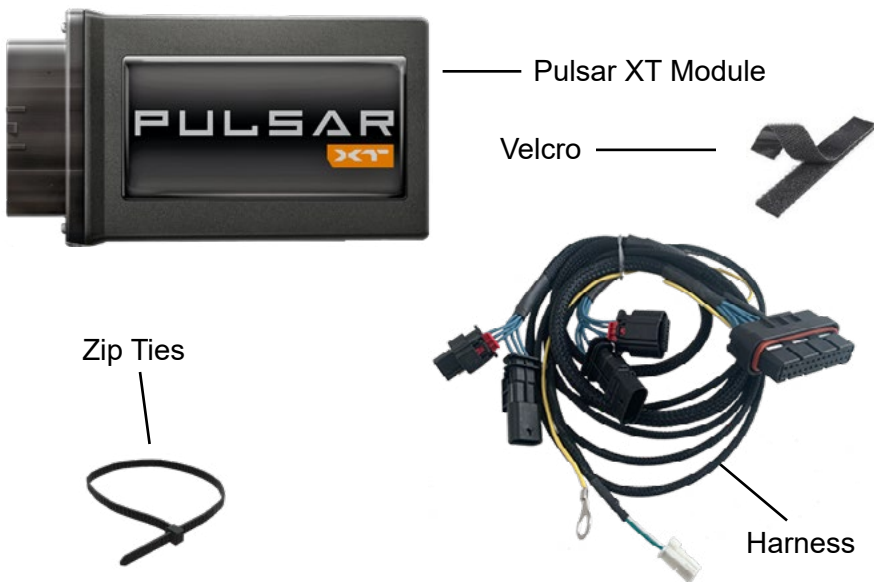
- Do not exceed legal speed limits on public roadways. Violating traffic laws is dangerous and could result in injury or vehicle damage or both.
- Use any enhanced speed capabilities of this product only in closed circuit, legally sanctioned racing environments expressly for this purpose. Violating traffic 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.

Installation Jeep® 2.0 Pulsar XT

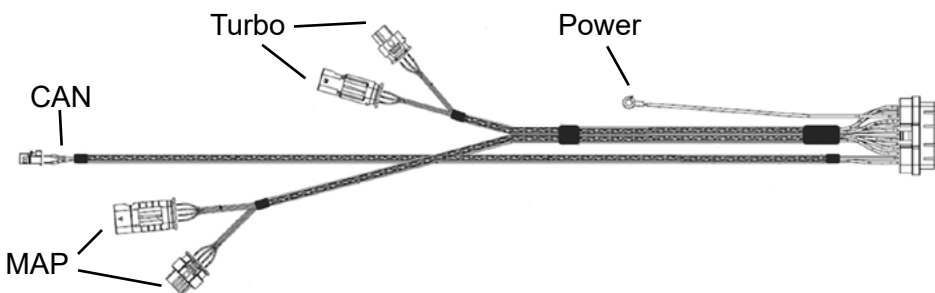
Materials



Required Tools

Socket Wrench
10mm Socket
13mm Socket (non-e Torque for second battery terminal bolt)
T40 Torx (star) bit (for hood panel)
Pick Tool

Harness Connection Guide

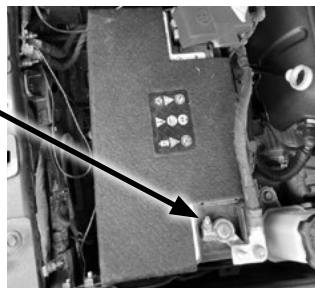


Pulsar XT Installation

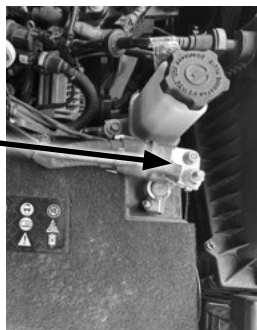
Before installation, disconnect the negative terminal of the battery so there is no Check Engine Light after installation. The 2.0 Turbo motor (non-eTorque) is equipped with two batteries--the main one pictured below and a secondary one located under the fuse box. The negative battery terminal cable has cable that also runs to the secondary battery that must be disconnected.

Note: *After disconnecting the negative battery terminal/terminals, you may experience issues with the climate control system and backup camera in your vehicle. This is normal and full functionality will return after a number of key cycles.*

STEP 1a - Disconnect the negative battery terminal from the battery using a 10 mm socket and set aside.



STEP 1b - The non-eTorque has a secondary battery, so you will need to remove the secondary battery cable as well. Disconnect the negative battery terminal from the battery using a 10 mm socket and a 13 mm socket, then remove the nut connecting the two negative cables to one another. Ensure that the ground cables do not contact each other during the installation process. If needed, separate them with a rag.

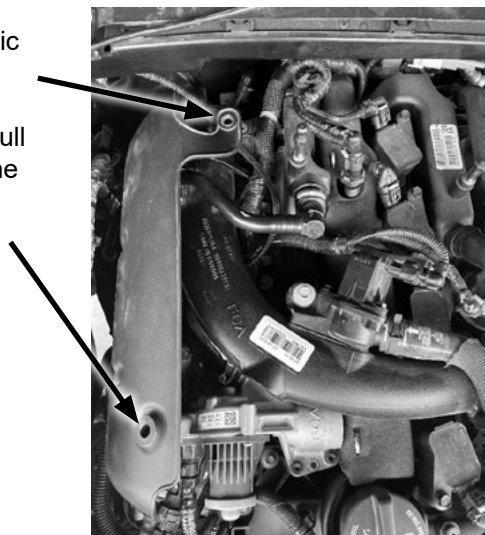


Pulsar XT Installation Cont'd

STEP 2 - Remove the engine cover. Using a 10mm socket, remove the two bolts holding the cover in place to gain access to the sensor connections.

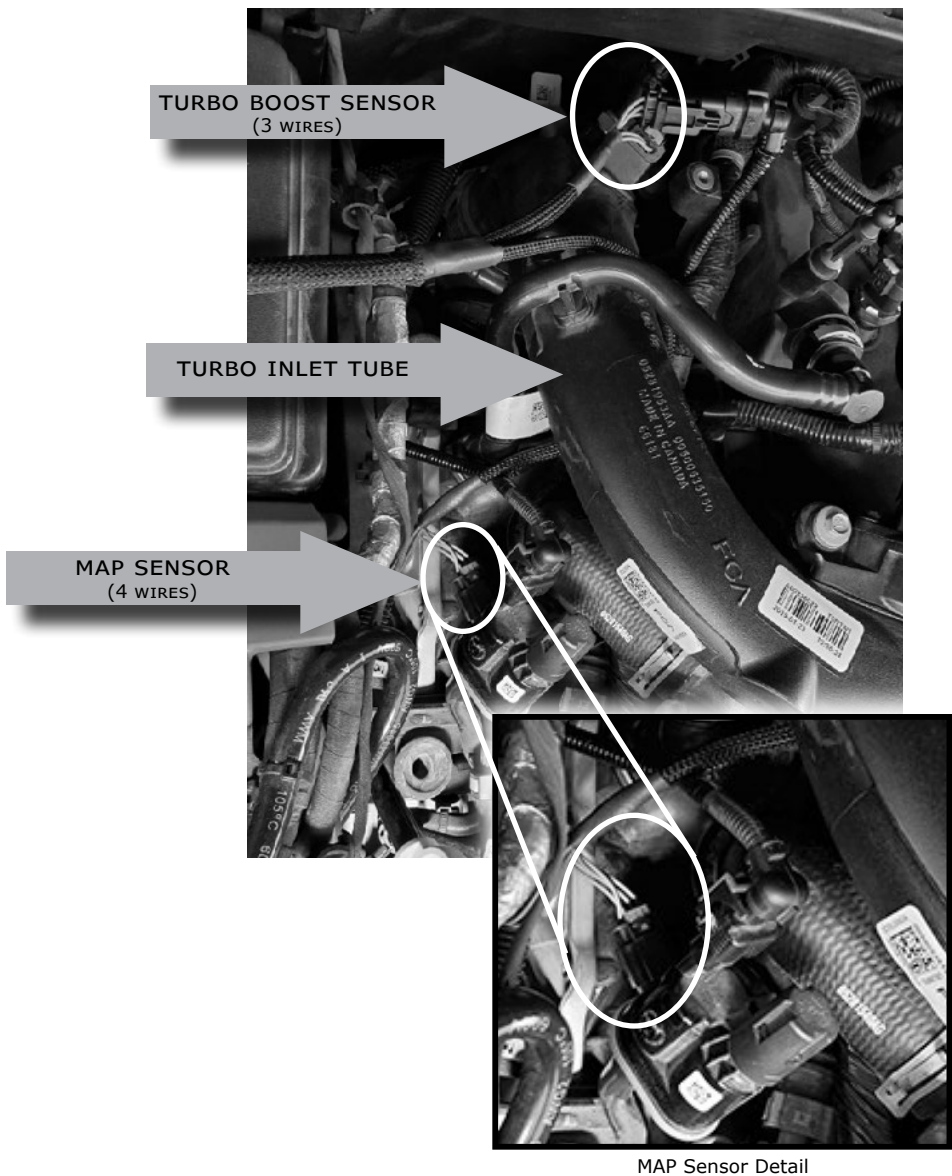


STEP 3 - Remove the secondary plastic cover over the passenger side of the engine bay. Use a 10mm socket to remove the two mounting bolts, then pull straight up to release the cover from the rubber grommets.



Pulsar XT Installation Cont'd

STEP 4 - Locate the Turbo Boost sensor and Map sensor (both are located under the secondary plastic motor cover on the passenger side of the motor). When routing the harness for the map sensor, run the wires underneath the turbo inlet tube like shown in the picture below. This will prevent the harness from being crushed when putting the Secondary Plastic motor cover back on. Refer to the *Harness Connection Guide* on Page 5 for wiring details.



MAP Sensor Detail

Pulsar XT Installation Cont'd

STEP 5 - Disconnect the Turbo Boost sensor. Using a pick tool or similar tool, lift up on the white locking tab. Be careful to not remove it completely-- pull the white tab away from the sensor **ONLY** till it stops. Then press down directly on the white lock tab to release and pull on each end of the connector to separate the sensor.

Once the connector is disconnected, connect the Male and Female Turbo Boost sensor connector from the Pulsar XT Harness inline to the stock sensor connection. Make sure both connections are fully seated and the white lock tab and red lock tabs have been pressed back in, locking each sensor. *Refer to the Harness Connection Guide on Page 5 for wiring details.*

NOTE: *The stock sensors lock tab is white and the Pulsar XT locking tabs are red. The stock sensors are released by lifting up on the white tab and then pressing in to release. The Pulsar XT connectors are released by lifting up on the red tab and then pressing on the black part of the connector as shown above.*



STEP 6 - Disconnect the MAP Sensor following the same instructions as the Turbo Boost sensor. Route the cable over the turbo inlet tube, then under, as pictured on step 4.

STEP 7 (Option A) - Remove the passenger side windshield wiper cowl. Using a T40 Torx bit, remove the four bolts that hold the cowl in place.

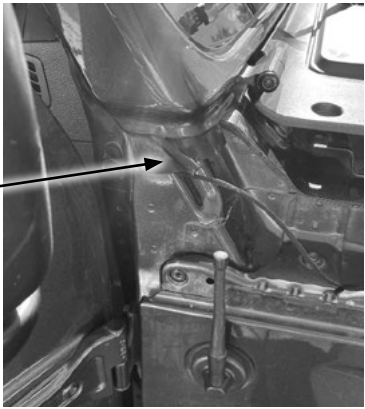


STEP 7 (Option B) - Use a coat hanger or fish tape to feed the CAN wire under the windshield wiper cowl. Be careful to not scratch your paint if using this option. You may want to use masking tape to prevent scratching.

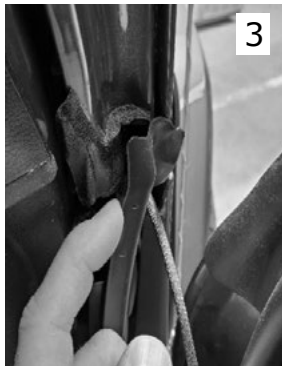
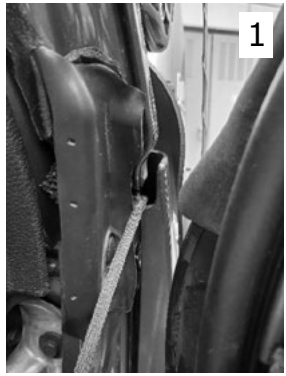
Pulsar XT Installation Cont'd

STEP 8 - Route the CAN connector from under the hood towards inside the cab. Route the cable through the foam insulation, then under the plastic weather cover and into the cab as pictured.

If you used Option A, once the cable is run behind the cowl, replace the cowl and reinstall the four mount bolts.



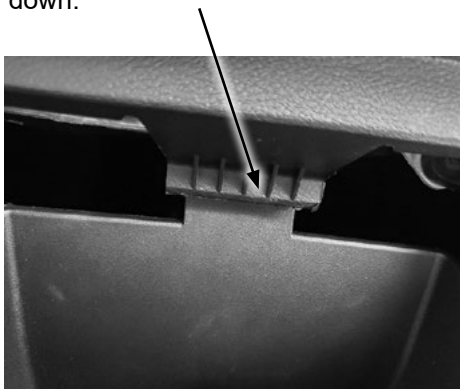
STEP 9 - After the CAN connector is routed through the engine panel (1), you will need to route it through the door frame and through the Jeep® access panel (2) to get it into the glove compartment as images show below. Gently pry the plastic weather stripping back and route the cable behind it in a way that it won't get pinched when the door closes (3/3a).



Pulsar XT Installation Cont'd

STEP 11 - Once you have routed the CAN connection through the side panel, you will need to lower the glove box to gain access to the cable and CAN junction location.

To lower the glove box, press up on the retaining tab on the top inside of the glove compartment. Push up on the tab until the glove box releases and drops down.



STEP 12 - Once the glove box is lowered, feed the CAN cable through the access hole as pictured below. You will want to reach up inside the glove box with one hand while feeding the cable through the hole with the other hand. Once complete, replace the access panel by pressing the tabs back into place.



Pulsar XT Installation Cont'd

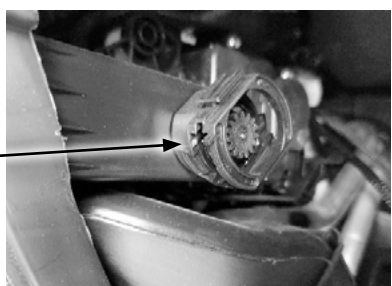
STEP 13 - After routing the CAN cable behind the glove box, connect it to ANY open spot on the green junction box. Once you have the CAN connection installed, you can put the glove box back on. Zip tie the excess cable behind the glove box in an area where it will not get pinched when the glove box is closed completely.



STEP 14 - You will need to line up the glove box assist gear to its guide arm and reinsert it while lifting up on the glove box until it locks back into place.

GUIDE
ARM

ASSIST
GEAR



STEP 15 - Bolt the Pulsar XT power wire to the positive terminal using a 10mm socket. Refer to the *Harness Connection Guide* on Page 5 for wiring details.

POSITIVE TERMINAL



Pulsar XT Installation Cont'd

STEP 16 - Route the Pulsar XT harness towards the back of the motor and allow room for the secondary motor cover and reinstall the secondary and primary engine cover.

STEP 17 - Clean the top of the fuse box and use the provided velcro to attach the Pulsar to the fuse box.

STEP 18 - Reconnect the negative battery cable 6. At this point your installation is complete.



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.

Turn the Ignition to the RUN position (do not start the engine). Move to the Audio Menu using the keypad on the left. And hold CANCEL on the right keypad for 5 seconds to begin. The settings will appear at the top of the screen.

Steering Wheel Controls

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



Power Level	
Function	Key
Level Up	SET+
Level Down	SET-
View Level	CANC

Features	
Function	Key
Up	SET+
Down	SET-
Enter Option	RES
Cancel Option	CANC

Power Levels

- Levels 0-5 are displayed on the instrument cluster as Audio info (Level 0 = Stock)
- Cruise+ button: increments power level, shows on speedometer when cruise is off
- Cruise- button: decrements power level, shows on speedometer when cruise is off
- Cruise on/off button: power level control is deactivated when cruise is on
- Cruise cancel button: displays power level on speedometer when cruise is off

Auto Start/Stop

If your vehicle has a Engine Stop Start system (ESS) on a stock engine (without Pulsar), it will shut down during a full stop. Using a button on the dash you can disable this feature, but only during the single trip. The next time the vehicle is started, the feature will need to be disabled again.

When installed, the Pulsar XT device is programmed to remember whether or not the Auto Stop/Start system has been disabled upon startup of the engine, and as such it turns the feature into a single toggle and not a repeat process. No further steps besides the disabling or enabling the system by use of the button on the dash is necessary until you want to switch the setting.

TPMS - Tire Pressure Monitor System

Hold the cruise cancel button for 5-7 seconds to bring up the TPMS menu.

TPMS Off:

- If you select “Y” for “Yes” it will shut off the TPMS completely
- If you select “N” for “No”, you will have the option to adjust the TPMS



Adjust TPMS:

- If you select “Y” for “Yes,” use “Set+” or “Set-” to adjust the first digit and then use “RES” to choose and move to the next digit (*you can select a range of 20 to 69 PSI*)
- If you select “N” for “No” then you will move to the next option, Tire Size

NOTE: The value chosen is the **minimum** tire pressure before the TPMS system will alert you of low tire pressure.



NOTE: This feature programs the vehicle.

Tire Size

The Tire Size option is displayed after the TPMS menu.

- If you select “Y” for “Yes,” you can then use “Set+” or “Set-” to adjust the first digit. Use “RES” to choose and move to the next digit (*you can select a range of 20” to 49.9”*)
- If you select “N” for “No” then you will move to the next option, Gear Ratio

NOTE: *Adjusting Tire Size will modify the vehicle's displayed speed, corrected to the size of the modified tire.*



NOTE: *This feature programs the vehicle.*

Axle Ratio

The Axle Ratio option is displayed after the Tire Size menu.

- If you select “Y” for “Yes,” you can then use “Set+” or “Set-” to adjust the first digit. Use “RES” to choose and move to the next digit (*you can select a range of 2:00-5:99*)
- If you select “N” for “No” then you will move to the next option, Read DTCs

NOTE: *Do not program axle ratio unless the vehicle stock axle ratio has been physically replaced with different gears.*



NOTE: *This feature programs the vehicle.*

Read DTCs

The Read DTCs option is displayed after the Gear Ratio menu.

- If you select “Y” for “Yes” the Pulsar will scan for codes; if there are any it will display the code
- If you select “N” for “No” then you will move to the next option



Diagnostic Trouble Codes

Toggle the “Set+” or “Set-” buttons on the steering wheel to scroll “Y” for “Yes” or “N” for “No”, then press “RES” to confirm. If there are any DTCs present, they appear one at a time in a list that you can scroll through using the “Set+” and “Set-” buttons. At the end of the list, “End DTCs” is displayed. Pressing the “Set+” button once more will exit the DTC list and move onto the Clear DTCs option.

Clear DTCs

The Clear DTCs option is displayed after the Read DTCs menu.

- If you select “Y” for “Yes” the Pulsar will go through and clear codes
- If you select “N” for “No,” the menu will disappear from your screen since there will be no more options to display



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**.

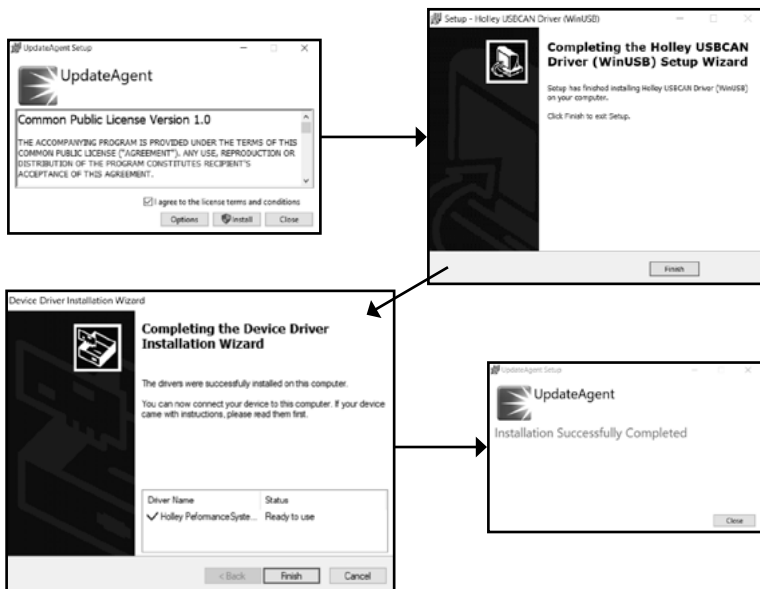
NOTE: It is recommended to install Update Agent 1.0 on a laptop computer for best accessibility (you will need to connect the computer to the vehicle's OBDII port to perform updates).

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.



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. 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 vehicle's Wi-Fi. It will be disabled during the update process. Use an external source such as your home Wi-Fi.

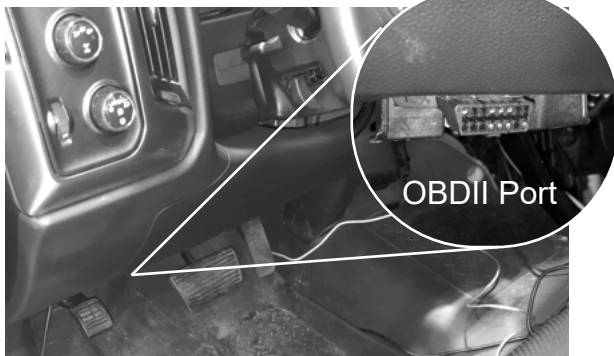
STEP 1 - Take computer with Update Agent 1.0 installed to the location of the vehicle with the Pulsar device.

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 XT 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

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 XT prior to going to the dealer?

Answer: Yes, please remove the Pulsar XT 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 XT is in use or installed. Stacking tuners with the Pulsar XT 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).

Question: How do you return the vehicle to stock?

Answer: Program all features back to the stock value and then remove the Pulsar XT.

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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.**