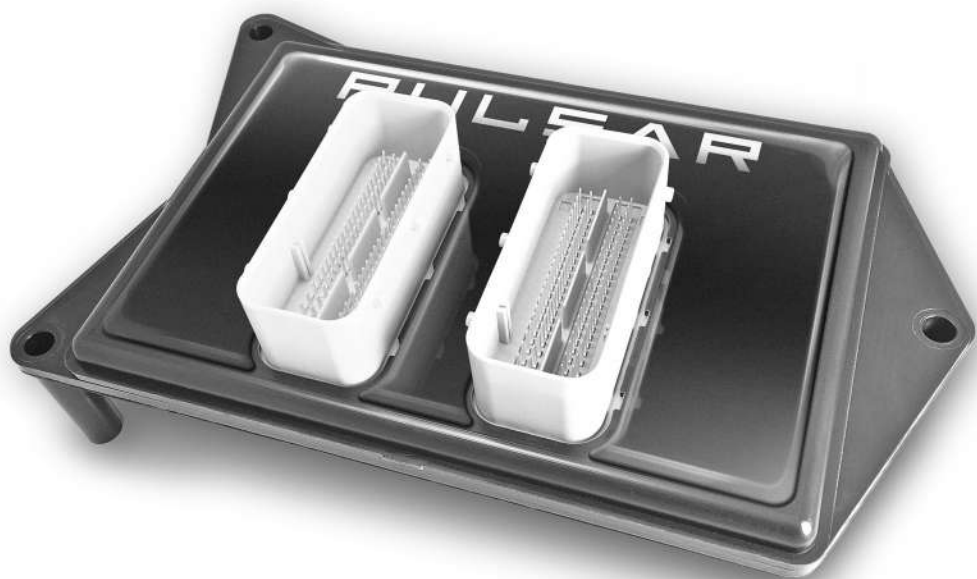


PULSAR

Manual

Jeep® Wrangler® JL/JT



Jeep®

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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.

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**.

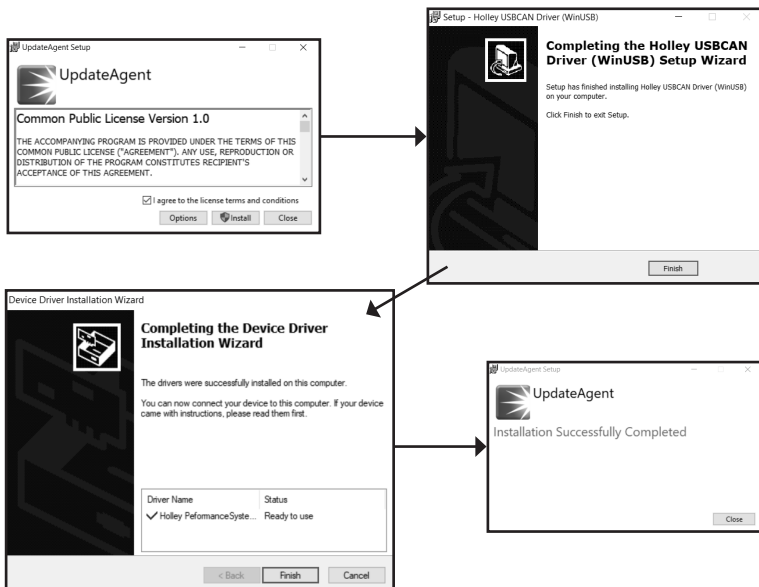
NOTE: *It is recommended to install the Update Agent 1.0 on a laptop computer for best accessibility (you will need to connect the computer to the vehicle's OBDII port to perform updates).*

STEP 1 - Go to a computer with internet access.

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.

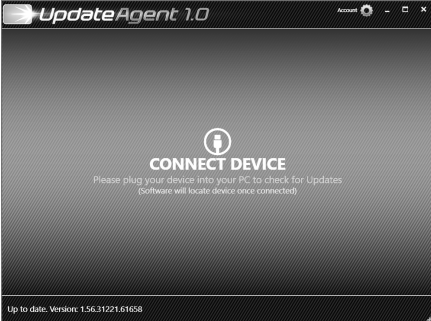
STEP 1 - Take computer with Update Agent installed to the location of the vehicle with the Pulsar device.

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

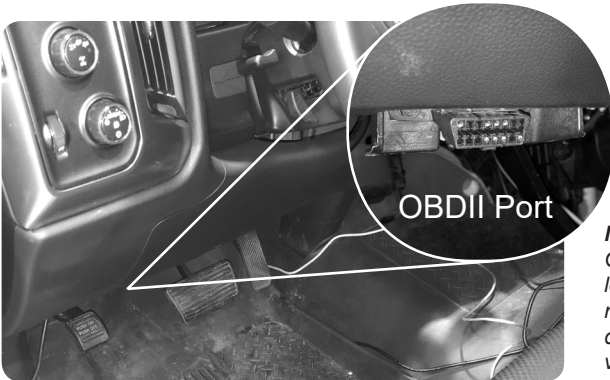
STEP 3 - The Update Agent 1.0 should automatically detect the Pulsar device, follow onscreen instructions until it checks for an update. If an update is available, click yes.

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 says "Your device is up-to-date," click ok and disconnect the USB to OBDII cable.



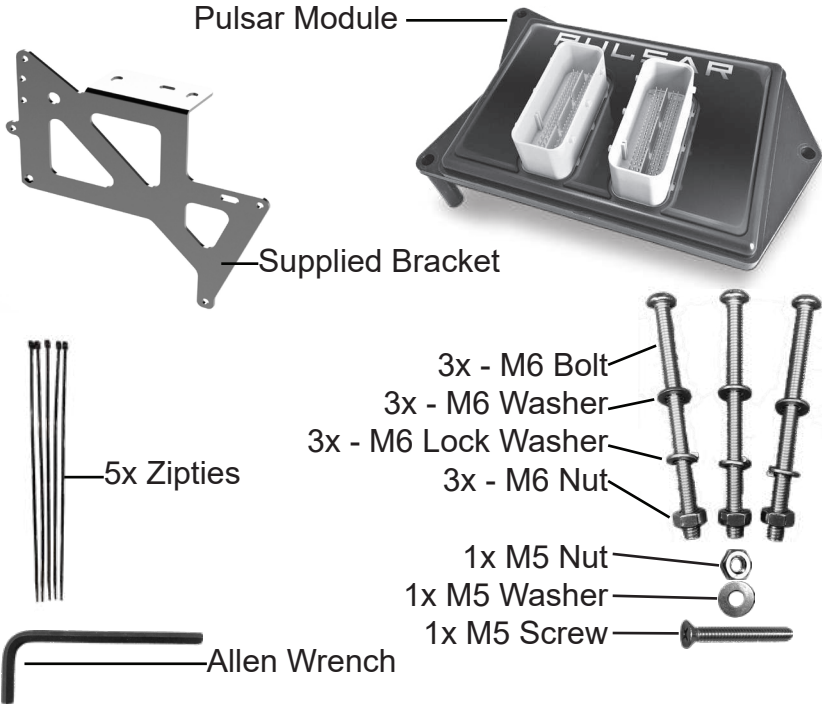
NOTICE: Update Cable not included, must be purchased separately



NOTE: OBDII Port location may vary depending on vehicle

Installation Wrangler® JL/JT

Materials



Required Tools

- Flat Head Screwdriver
- Standard Screwdriver
- 3/8 Drive Ratchet
- 10mm Wrench
- 10mm Socket
- 8mm Socket
- Allen Wrench (provided)

Air Filter Removal

NOTICE: Removal of the Air Filter is meant to assist in the installation of the Pulsar Assembly, and is not necessary to accomplish the installation. However, it is highly recommended.

Stock Air Filter



STEP 1 - Locate Air Filter (1)

STEP 2 - Cut the two zipties (2) (not the plastic pieces they are wrapped around, only the zipties themselves) and remove the sensor by rotating counter clockwise.

STEP 3 - Remove hose (3) by holding down white lock and carefully pulling the smaller connection out.

STEP 4 - Remove the bolts (4) with a 10mm socket and ratchet.

STEP 5 - Use 8mm socket and ratchet to loosen the two hose clamps on either side, and then carefully remove the air filter module.

NOTE: Some aftermarket air filters are smaller than the stock air filter, and may not need to be removed to grant needed work space. The one pictured above is an example of a stock-sized air filter.

NOTICE: Do not forget to re-install Air Filter after Pulsar Installation is completed. Do not start the engine until it is installed.

ECM Removal

STEP 1 - For safety purposes, disconnect the **two batteries** from the negative terminal, keep the two posts separated for a complete disconnection. (1)

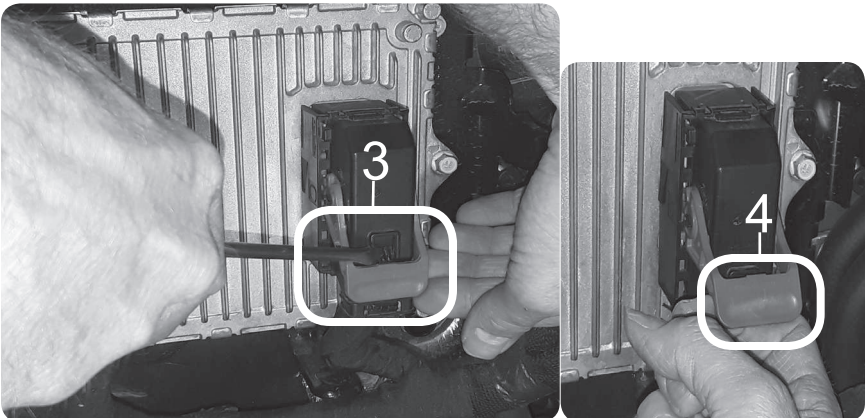
STEP 2 - Locate the vehicle's ECM. (2)



STEP 3 - Use a flat head screw driver to press the lever lock towards the ECM. Gently lift up on the lever until you feel the lever release. (3)

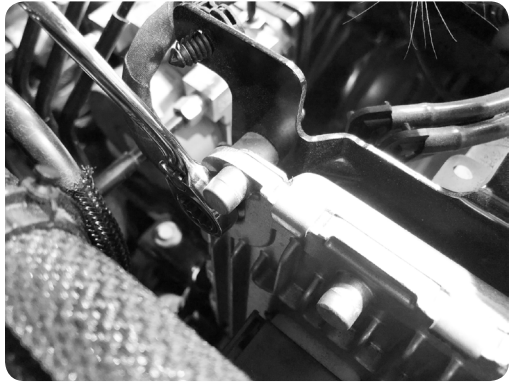
STEP 4 - Once the lever is released, lift it upward until it stops. Disconnect the connector from the ECM. (4)

NOTE: *If necessary due to lack of space, lever lock can be pressed by a finger if done carefully.*



Pulsar Installation

STEP 1 - Use a 10mm wrench to loosen the 3 screws that fasten the ECM to the stock bracket. Then remove the ECM and stock bracket.



TIP: Hold the ECM with your other hand to prevent it from falling after the last screw is removed.

TIP: Place the stock screws into a zip lock bag and store it in the glove box. Store the stock bracket in a safe place.

STEP 2 - Orient Pulsar and the ECM as shown. The three holes (A, B, & C) will be used to fasten the assembly to the bracket.



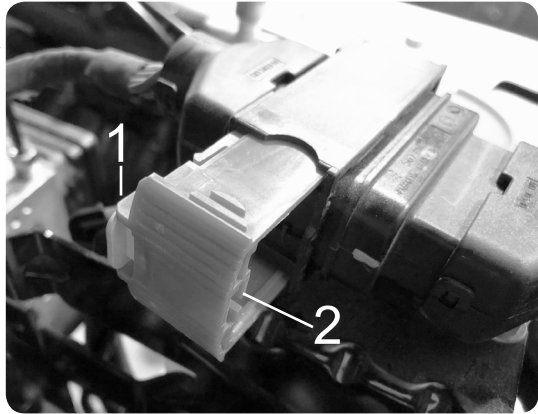
STEP 3 - Align and insert the Pulsar's bottom side connectors with the ECM connectors.

STEP 4 - While on a flat surface, apply enough pressure to fully seat the connectors. The top of the ECM connectors should sit flush with the Pulsar enclosure.



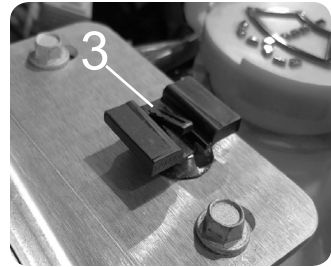
Pulsar Installation Cont'd

STEP 5 - Disconnect the harness on top of the washer fluid reservoir by pushing out the yellow tab (1) and pulling out the red lock.

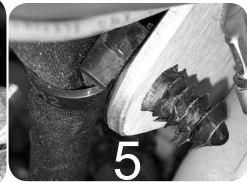


STEP 6 - Once the red lock is completely out (2), carefully pull harness connectors apart and place the loose one out of the way.

STEP 7 - Insert a flat head screwdriver under the remaining connector, and push down the lock tab to allow the connector to slide off. Carefully remove the top harness mount. (3)

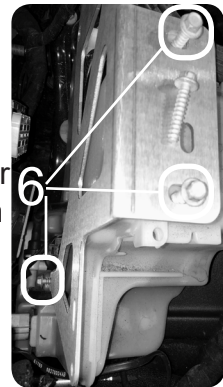


STEP 8 - Locate and unplug all 6 plastic ziptie plugin anchors. The **Square** shaped anchors (4) can be cut if necessary, but do not cut the **Round** anchors (5).



STEP 9 - Remove all four stock bolts from stock bracket using an 8mm socket and ratchet and then remove the stock bracket.

STEP 10 - Place the supplied bracket on the washer fluid reservoir, and replace the top harness mount in place as is seen in image (3).



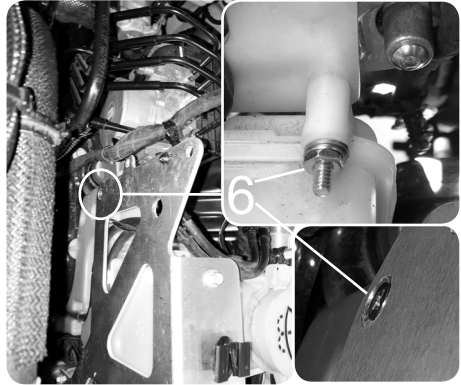
STEP 11 - Insert three of the four stock bolts and washers as seen in image (6), and use an 8mm socket and ratchet to tighten until snug.

Pulsar Installation Cont'd

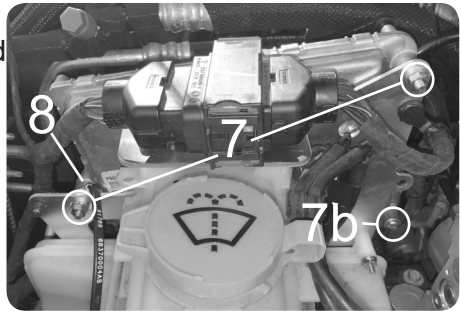
STEP 12 - Insert the provided screw into the final hole (6) and using either a standard screwdriver or a screwdriver socket, tighten until the further end is exposed.

STEP 13 - Attach the provided M5 nut and washer to the screw's end and tighten using both the screwdriver and an 8mm socket and ratchet (or wrench).

NOTICE: For Wrangler® JT, stop here and proceed to instructions on page 13.



STEP 14 - Carefully insert the Pulsar and ECM assembly into place aligned to the bracket as seen in the image (7), and insert the three provided bolts and washers. One bolt will not be attached to the bracket (7b).



NOTE: The lower, inner bolt will not be connected to the bracket, only the Pulsar module. Also, use the provided Allen Wrench to tighten the bolts until snug.

STEP 15 - Reattach ground cable to top bolt closest to the front of the engine (8). Then, attach the provided bolts and lock washers to all three bolts and tighten using a wrench and 10mm socket with ratchet until snug. (7)

STEP 16 - Gently insert the vehicle's harness connectors into the Pulsar connectors. Push the lever down until it locks into place. (9)



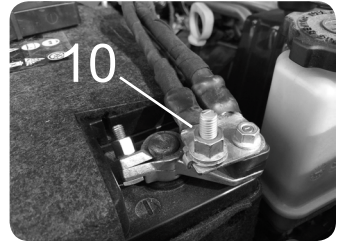
STEP 17 - Reconnect the top harness connectors, and then lock by closing the red piece completely. Slide it back into place on the mount. (see img 7)

Pulsar Installation Cont'd

STEP 18 - Reconnect the two negative battery terminals (10) and re-install air filter.

⚠ CAUTION: Do not start engine until air filter is fully installed.

NOTE: For clean finish, replace round ziptie plugin anchors into supplied bracket and the zipties cut during removal of the air filter.



Wrangler® JT Addendum

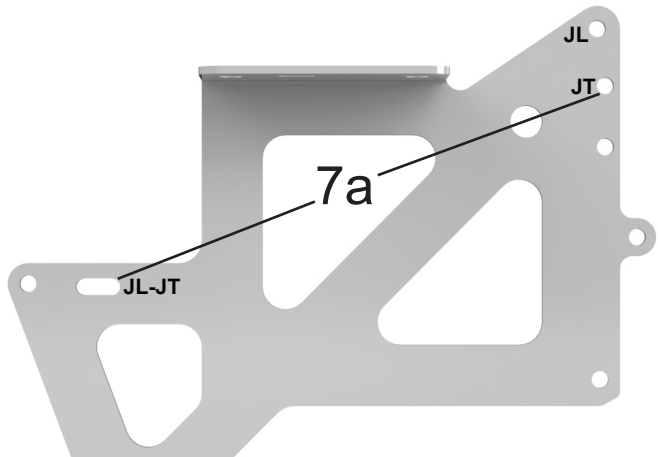
Because of spacing differences, the Pulsar module is aligned differently to the bracket in the JT than in the JL, using lower mounting holes.

Only step 14 is different because of this change, all other steps are identical.

STEP 14 - Carefully insert the Pulsar and ECM assembly into the place aligned to the bracket as seen in the diagram below, and then insert the three provided bolts and washers (7a). The lower, inner bolt and washers will not be attached to the bracket, only the Pulsar and ECM; and should be placed reversed to the others, due to lack of space (7b).

Continue as normal once the Pulsar is snugly attached to the bracket and ECM. Use the provided Allen Wrench to ensure the bolts are tight.

NOTE: See the hole indicators on the diagram for positioning between JL and JT.



Controls

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.

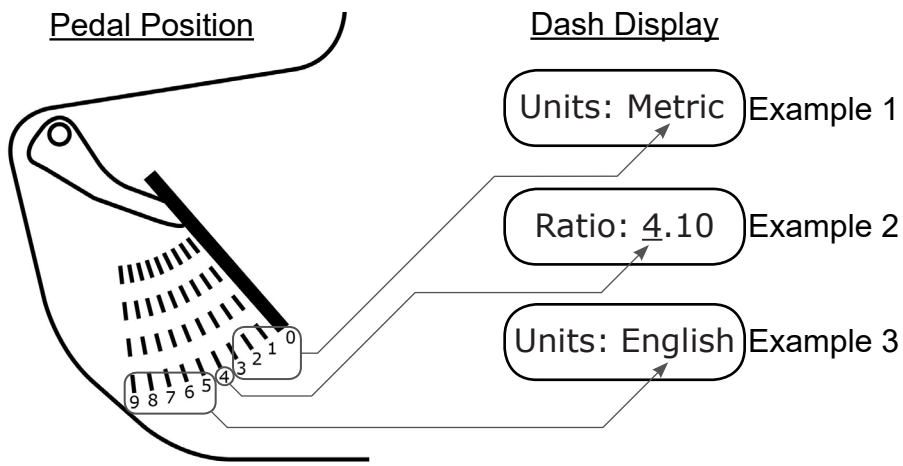


Function	Key
Level Up	SET+
Level Down	SET-
View Level	CANC

Function	Key
Level Up	SET+
Level Down	SET-
Enter Options	CANC

Accelerator Pedal Controls

The accelerator pedal position is used to change the Tire Size and Axle Ratio values. When prompted to adjust the value displayed on the dash, push the pedal downward/upward to increase/decrease the value. Refer to the following example for more information.



Power Levels

Levels Explained

There are 4 available level options:

- Level 1 - STOCK
- Level 2 - ECONOMY
- Level 3 - TOW
- Level 4 - PERFORMANCE*



*Minimum 91 octane fuel recommended.

Changing Power Levels

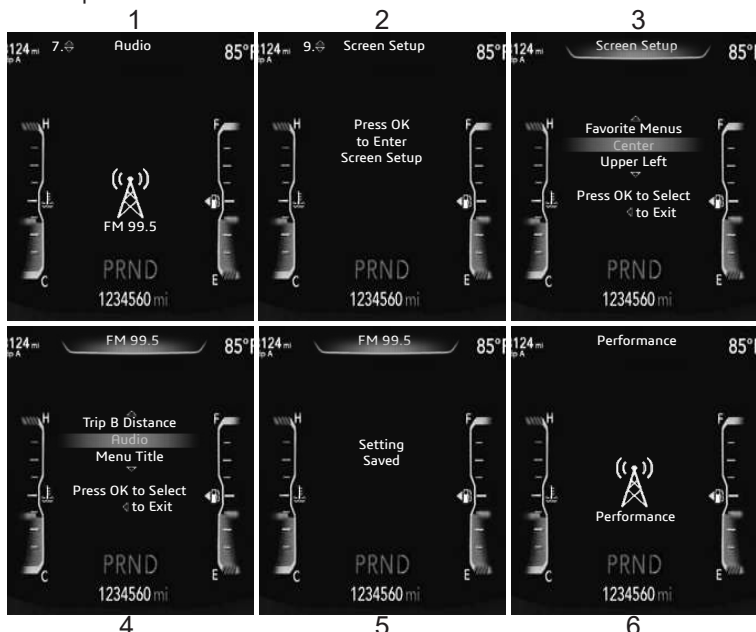
This dash display requires that menu settings be modified before Pulsar power levels can be viewed.

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

STEP 2 - Using the left side buttons, enter the menu as shown below. Select the Audio option in the Center sub-menu. This will allow you to view the Pulsar Level while in any menu.

STEP 3 - Return to the Audio Menu. The current radio station will be displayed. To view the current Pulsar power level, press the CANCEL button on the steering wheel. The level will be displayed after a few moments.

STEP 4 - To modify the power levels, use the RES+ and SET- buttons. The new level will appear at the top of the screen.



TPMS Settings

TPMS Explained

The Pulsar allows you to adjust the vehicle's TPMS (Tire Pressure Monitoring System) settings, or disable the feature all together.

Changing TPMS Settings

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 CANC on the right keypad for 5 seconds to begin. The settings will appear at the top of the screen.

STEP 1 - Using the accelerator pedal controls, select Y for Yes to disable the TPMS system, or N for No to keep active (default) or to re-enable. **Press SET+ on right side keypad to make choice.**

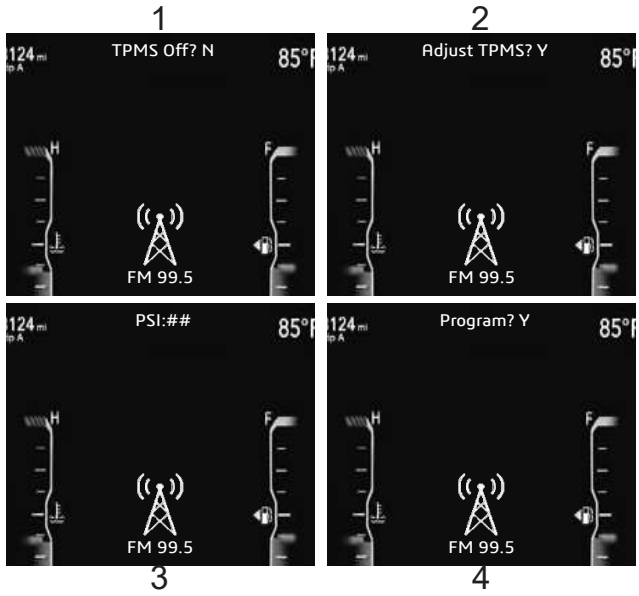
STEP 2 - If No is selected, then it will ask whether or not to make an adjustment to the default PSI settings. Select N to continue without making changes, or Y to start adjusting the minimum PSI value. Press SET+ to make this choice as well.

STEP 3 - If Y is chosen, use the accelerator pedal controls to adjust the first digit, and then after use SET+ to choose and move to second digit.

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

STEP 4 - After PSI is set, press SET+ once more. You will be presented with "Program? Y/N" in which you can select Y to apply the new settings. N will cancel and no changes will be made. Press SET+ to finalize choice.

NOTE: After it has programmed, it will bring you to Tire Size, then Axle Ratio. Proceed to Tire Size/Axle Ratio instructions page and continue, or select N on both options to skip and finish.



Tire Size/Axle Ratio

Adjusting Tire Size

Immediately after the TPMS settings have programmed, the Tire Size settings will begin. This will allow you to adjust what size the vehicle believes the tires are.

If you have just begun the process starting on this page:

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 CANC on the right keypad for 5 seconds to begin. The settings will appear at the top of the screen. Proceed through TPMS settings (Select N on "Adjust TPMS" to skip TPMS) until you reach "Tire Size."

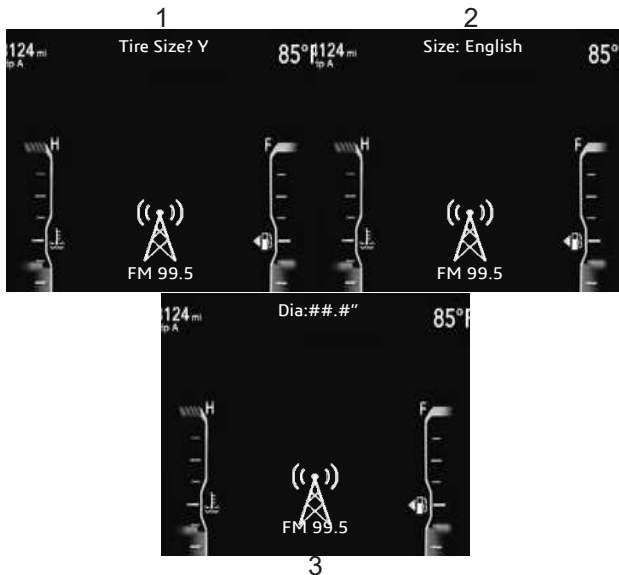
NOTE: Both Tire Size and Axle Ratio settings can be skipped by selecting N for No.

STEP 1 - Using the accelerator pedal controls select either Y for Yes to continue, or N for No to cancel; then press SET+ on the right side keypad.

STEP 2 - Using the same Size controls, cycle between English and Metric measurement units then press SET+ again.

NOTICE: If using English units, the value for tire size should be set to the total height of the tire, not the rim (from the floor to the top of the tire).

STEP 3 - Use the accelerator pedal to adjust the number value, using SET+ to cycle to the next digit. When the entire value is set, press SET+ to finish and move on to Axle Ratio.



Adjusting Axle Ratio

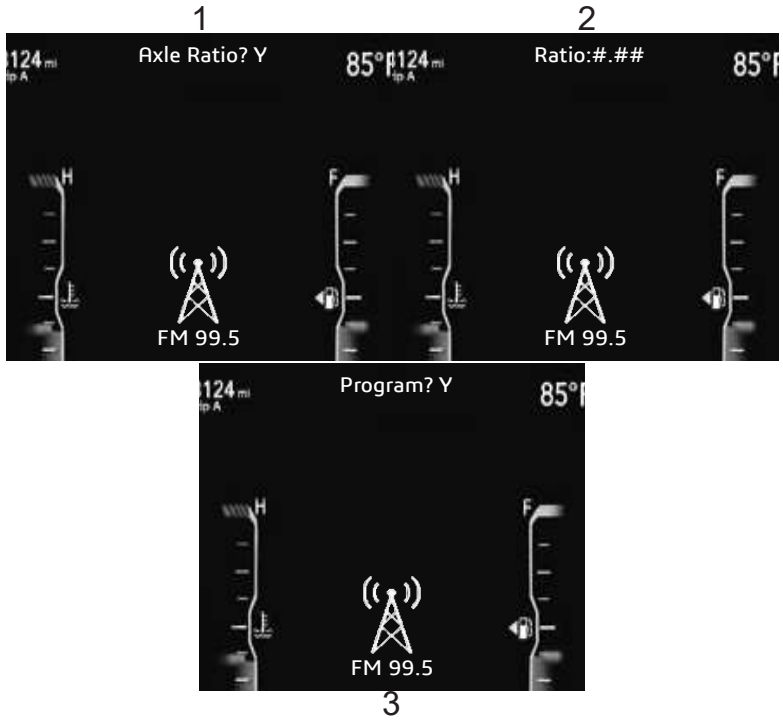
Using the Pulsar you can also correct the speedometer by adjusting axle ratio settings.

STEP 1 - Using the accelerator pedal controls select either Y for Yes to continue, or N for No to cancel; then press SET+ on the right side keypad.

STEP 2 - Using the same controls, adjust the number value, use SET+ to select the next digit. Once the desired ratio is set, press SET+ to move on.

STEP 3 - After ratio is set, you will be presented with "Program? Y/N," in which you can select Y to apply the new settings. N will cancel and no changes will be made, returning to the Audio Menu. Press SET+ to finalize choice.

NOTE: If Yes is selected, then after programming follow the onscreen instructions. After the vehicle has been turned off, the process is complete and no further steps are required.



Engine Stop Start Toggle

Understanding Pulsar Stop Start Toggle

If your vehicle has a Engine Stop Start system (ESS) on a stock engine (without Pulsar), it will shutdown 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 device is programmed to automatically remember whether or not the 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 initial disabling by use of the button on the dash is necessary.



FAQs

Frequently Asked Questions

Question: Why does the power level flicker? Is this normal?

Answer: Yes. This is due to the way Pulsar has to “piggy back” onto the existing communication lines.

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

Answer: No. You can’t adjust levels once cruise control has been activated.

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 CANC 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.

CAUTION

CAUTION: If you are using this **Pulsar** module on your **Wrangler®** and also have the **TrailCal** or **TD2** installed, please update your **TrailCal** or **TD2** device before installing **Pulsar**. After updating, please reconnect your **TrailCal** or **TD2**.

When used together, the Auto Start/Stop feature will be managed using your **Pulsar** device and **not the on-screen button** from your **TrailCal** or **TD2**.

To manage Auto Start/Stop with both a **Pulsar** and **TrailCal** or **TD2** installed, you will need to follow the instructions for managing via **Pulsar**, using the factory button.