



SUPERTUNER



TABLE OF CONTENTS

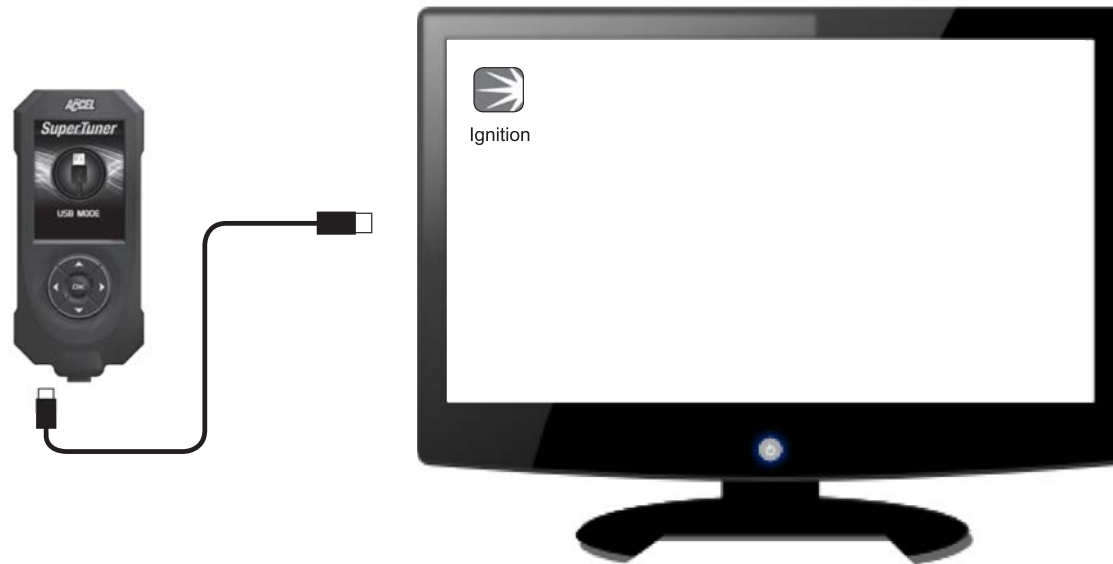
STORAGE AND MAINTENANCE	3
BEFORE YOU BEGIN	4
LIST OF COMPONENTS	4
BUTTON FUNCTIONALITY.....	4
BASIC MENU LAYOUT	5
DOWNLOAD IGNITION UPDATER TOOL.....	6
PRODUCT UPDATES USING IGNITION	8
QUICK TUNE.....	10
TUNING LEVELS EXPLAINED	12
ADVANCED TUNING OPTIONS	14
ADVANCED TUNING OPTIONS EXPLAINED	16
RETURNING YOUR VEHICLE TO STOCK.....	18
COMMON TUNING QUESTIONS.....	19
READ DTC.....	20
CLEAR DTC	21
VIEWING GAUGES	22
DATA LOGGING	23
DATA LOGGING RETRIEVAL	24
BATTERY VOLTAGE	25
VEHICLE INFO	26
DEVICE INFO	27
VEHICLE FUNCTIONS EXPLAINED	28
SAFETY WARNING & CAUTION.....	30
SAFETY GUIDELINES	31
LIMITED 1 YEAR WARRANTY	32

STORAGE AND MAINTENANCE

NOTICE

*It is **NOT** recommended to store your programmer in your vehicle in extreme heat, direct sunlight or extreme cold (temperatures near or below freezing). These conditions can cause malfunction or damage to the programmer.*

TIP: Prior to using your device after a long period of non-use, use Ignition to update. This will ensure that your device is up-to-date and contains all of the latest files and functionality.



BEFORE YOU BEGIN

LIST OF COMPONENTS

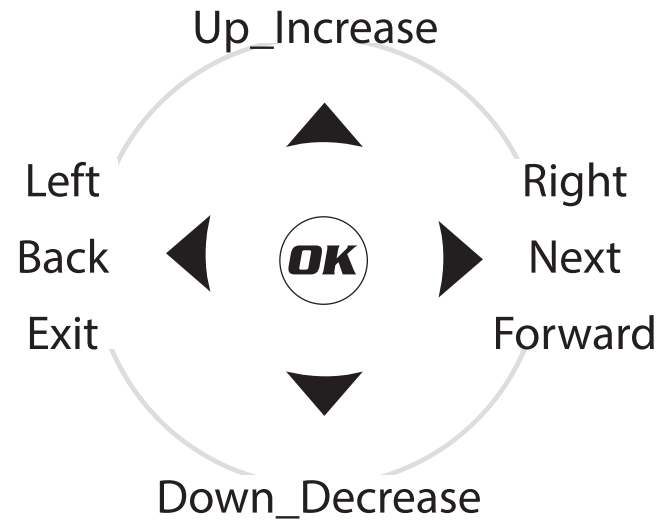
DISPLAY DEVICE



USB CABLE



BUTTON FUNCTIONALITY



NAVIGATING TIPS:

- To move back to the previous menu, press the ◀ button.
- To move forward to the next menu, you can press either **OK** or ▶ button to enter the highlighted option.
- The ▲ & ▼ buttons are used to select menu options, as well as adjust values for certain features.

BASIC MENU LAYOUT


Some of the menu options or features displayed in this manual are vehicle specific, and may not be available for your make and model.



WARNING

Misapplication or misuse of this product could lead to a serious or fatal accident. Comply with all safety information in this manual, and your vehicle owners manual. Follow safety, installation and operating instructions in this User Manual to assure proper use.

DOWNLOAD IGNITION UPDATER TOOL

- ① Go to <https://www.holley.com/support/resources/>
- ② Next, Select the SuperTuners tab.
- ③ Select the "Download the ACCEL Ignition software for ACCEL SuperTuners" link.
- ④ Once the .EXE file is downloaded, click it to start the download.
- ⑤ Click the **Run** button on the pop-up menu.
- ⑥ Read and click the box to accept the license agreement terms.
- ⑦ Click the **Install** Button, then the **Finish** button once the download is complete.
- ⑧ Double-click the Ignition  desktop icon.
- ⑨ Fill out the registration form.
- ⑩ Refer to the next section for performing product update.

TIP: Use a wired internet connection vs. wireless, air card, or satellite connections. This will minimize potential connection issues that may affect the update process.

1

2



5



6

7



PRODUCT UPDATES USING IGNITION

① Double-click the **Ignition Icon** located on your computer's desktop.

② Connect your device to the computer using the supplied USB cable.

(Ignition will automatically search for updates related to your device.)

③ Click the **Update** button.

(The update process will start and finish automatically. Once the update is complete, you may be directed to the **Online Store**. To further update your device using the online store, refer to the following steps.)

④ Click on any or all of the available options.

(A check mark will appear in the upper right corner.)

⑤ Click the **Purchase** button.

⑥ If required, read and **Accept** the disclaimer.

⑦ Fill in the required information and click **Go to Review**.

(Here you can check the information you filled in before submitting the order.)

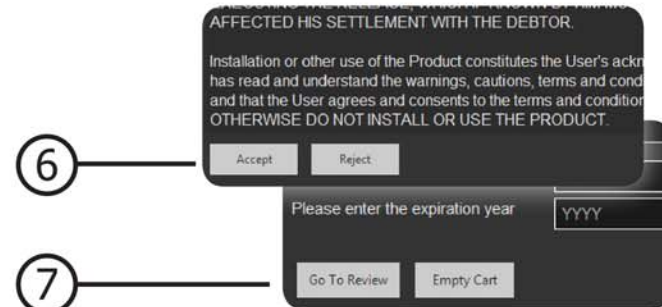
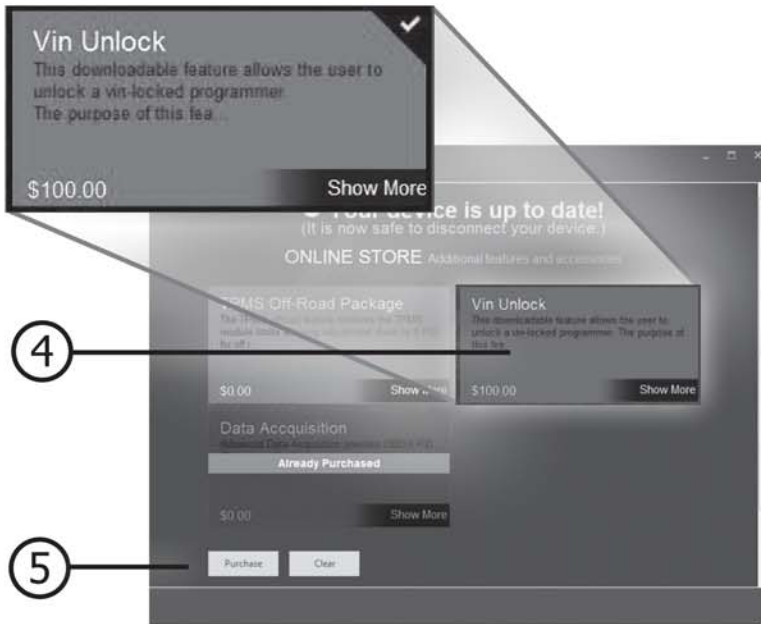
⑧ Click the **Place Order** button to complete your order.

⑨ If a purchase was made, follow steps 1-3 above to complete the update.



NOTICE

Do not unplug the USB while the device is being updated. Once the update is complete, you will be informed that it is safe to disconnect.



QUICK TUNE

Quick Tune = Changes the power level of your vehicle using the most popular features and settings.

NOTE: *Not all features are available on every make, model, and engine.*

STEP 1 - Plug the device into the OBDII port.
(The device will automatically power-on once it has been connected.)

CAUTION: *Do not remove or bump the OBD-II connector during any programming sequence. If you do, the vehicle may not start.*

CAUTION: *Do not program your vehicle while parked in unsafe locations including heavy traffic or places without cell phone service and the internet (if possible).*



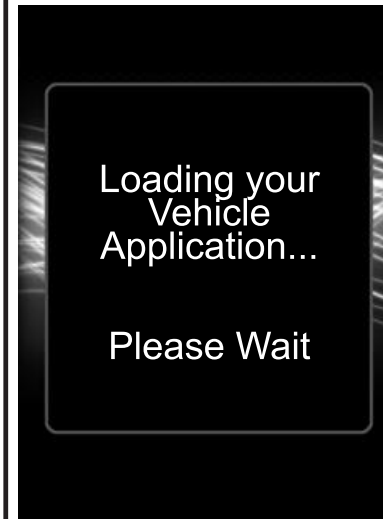
STEP 2 - Enter the Tuning Menu by pressing OK.



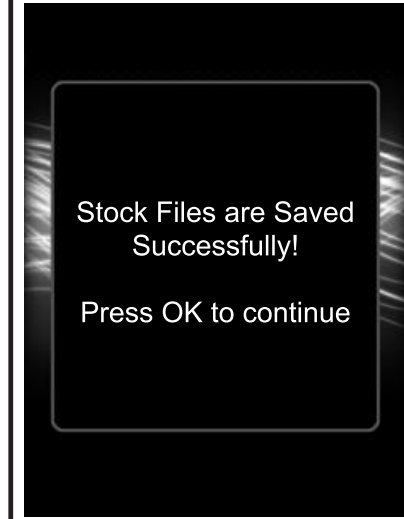
STEP 3 - Turn the ignition on, but do not start the engine.



STEP 4 - Follow the on-screen instructions.



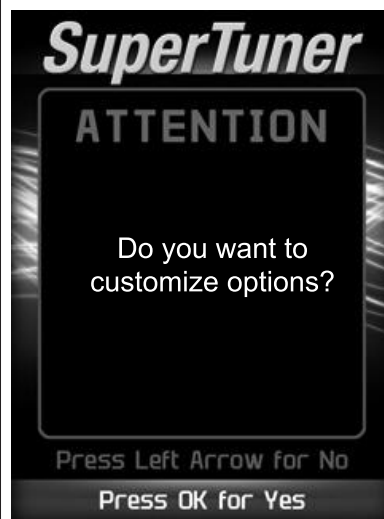
STEP 5 - Allow the device to read & save stock files.



STEP 6 - Select a tuning level.



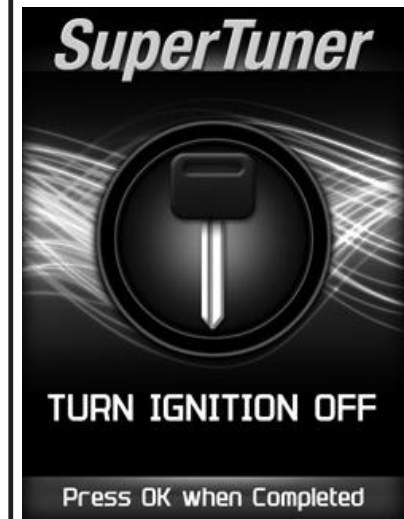
STEP 7 - Push left arrow to close out of custom options.



STEP 8 - Install the "Tune" File by pressing OK.



STEP 8 - Follow the on-screen instructions.



TUNING LEVELS EXPLAINED

KEY:

- ⊗ = Towing is not recommended for this tune .
- ♠ = Octane Requirements vary for gas vehicles. Follow recommended guidelines on the device.
- ↓ = Tow rated up to recommended tow limits. See limits for your vehicle displayed by the programmer during the programming process.
- ‡ = Tow rated up to OEM max towing recommendation.

Availability of specific tunes may vary based on your vehicle's make and model:

- ⊗♠ **Performance** - Designed for maximum engine and transmission performance.

- ⊗ **87 Performance** - Designed for non-towing applications and requires the use of 87 octane gas for best results.

- ⊗ **91 Performance** - Designed for premium horsepower, torque, and driveability. The tune is calibrated for 2WD, 4WD-HI, and 4WD-LO. Requires 91 octane gas for best results.

- ⊗ **93 Performance** - Designed for maximum horsepower, torque, and driveability. The tune is calibrated for 2WD, 4WD-HI, and 4WD-LO. Requires 93 octane gas for best results.

- ⊗ **87 Octane** - Designed to allow you to run 87 octane regardless of the manufacturer's recommendation.

- ♠↓ **Light Load Tow** - Optimizes engine and transmission performance for mid-weight range towing applications

- ‡ **Heavy Load Tow** - Requires the use of 91 octane gas or better and is used for optimized engine and transmission performance for heavy towing applications.

Towing - Requires the use of 91 octane gas or better and is used for optimized towing up to the OEM recommended towing limits. This tune is safe to use in 4WD-HI or 4WD-LO and is available for all Jeeps covered by ACCEL.

NOTE: *If a towing tune is not available, use 87 Tune with 91 Octane fuel.*

Crawling Tune - Is a ACCEL exclusive tune offering low throttle response and high low-end torque designed for precision low-speed maneuvers. This tune is currently only available for JK Jeep models.

⊖ **Extreme** - This is an aggressive tune used for maximum horsepower, torque, and driveability.

Mileage XS - Requires 87 octane gas and is used for fuel mileage gains. The tune is calibrated for 2WD, 4WD-HI, and 4WD-LO uses.

Stock - Returns vehicle to factory stock. Removed all ACCEL tuning from your vehicle. It is recommended that you calibrate your vehicle back to stock prior to taking it in for service or maintenance.

TIP FOR JEEP OWNERS:

Your Programmer will work with the following:

- Short or normal tube headers
- Snorkels
- Aftermarket cat back exhaust and cold air intake kits

For optimum Jeep performance, ACCEL does NOT recommend the following:

- Long tube headers
- Over-bored or stroked engines

ADVANCED TUNING OPTIONS

Change the power level of your vehicle using custom options and settings.

NOTE: Not all features are available on every make, model, and engine.

CAUTION: Do not remove or bump the OBD-II connector during any programming sequence. If you do, the vehicle may not start.

CAUTION: Do not program your vehicle while parked in unsafe locations including heavy traffic or places without cell phone service.

STEP 1 - Plug the device into the OBDII port.



STEP 2 - Enter the Tuning Menu by pressing OK.



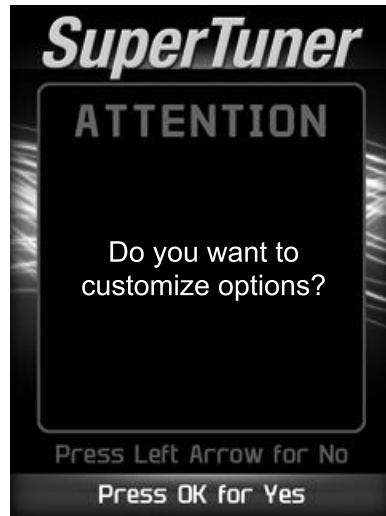
STEP 3 - Follow the on-screen instructions.



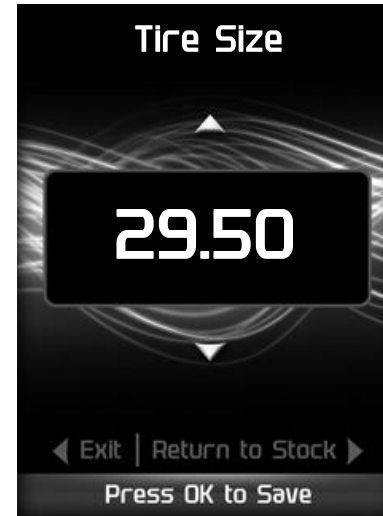
STEP 4 - Select a tuning level.



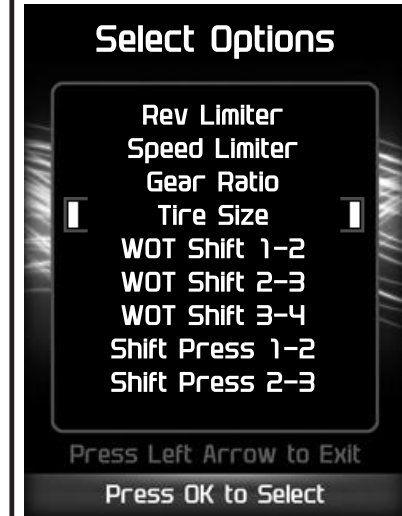
STEP 5 - Press OK to customize options.



STEP 6 - Select and adjust the custom option according to your specific requirements.



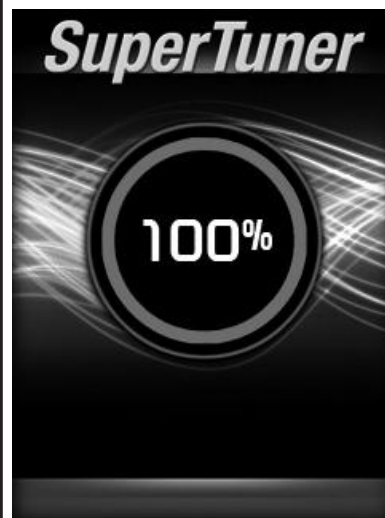
STEP 7 - Press Left to continue.



STEP 8 - Press OK to install the file.



STEP 9 - Allow the file to be installed.



STEP 10 - Follow the on-screen instructions.



STEP 11 - Press OK to return to the main menu.



ADVANCED TUNING OPTIONS EXPLAINED

Availability of specific options may vary based on your vehicle's make and model:

Speed Limiter - Adjusts the top speed limiter by increments or fixed values.

- i The vehicle must have appropriate speed rated tires.
 - i Do not exceed proper operating conditions.
 - i Obey all traffic laws.
 - i For use only on a controlled track. Never exceed legal limits on public roadways.
-

Rev Limiter - Adjusts engine rev limiter by increments or fixed values.

- i Do not exceed proper operating conditions.
-

Tire Size - This feature has been moved to the "Vehicle Functions" menu, under Additional Features.

TIP FOR MEASURING TIRE SIZE:

Measure from the ground to the top of your tire. Place a ruler or flat level item on the top of your tire to measure accurately. Measure in 1/4 inch increments rounding up.



⚠ WARNING

Increasing the height of your vehicle raises the center of gravity and can affect stability and control. Use caution on turns and when making steering corrections.

Axle (Gear) Ratio - Corrects the speedometer, odometer and automatic transmission shift points for rear end gear changes.

! Confirm aftermarket parts are installed before adjusting this option.

Automatic Transmission Shift Points - Adjusts transmission shift points for optimized driveability and operation.

Automatic Transmission Shift Pressure - Adjust transmission shift pressure in PSI to allow for a more aggressive shifts.

Cooling Fan - Adjusts fan turn ON temperature.

Manual Transmission Skip Shift - Enables or disables Computer Aided Gear Selection (CAGS) for manual transmissions.

Spark Advance Set - Reduces the spark timing.

MDS Disable - Enables or disables the factory Multi- Displacement System.

NOTE: *On 13-14 Hemi Trucks, the dash light will continue to illuminate even when the feature is actually disabled.*

RETURNING YOUR VEHICLE TO STOCK

STEP 1 - Plug the device into the OBDII port.



STEP 2 - Enter the Tuning Menu by pressing OK.



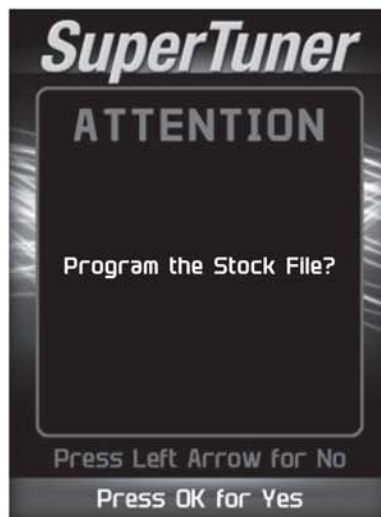
STEP 3 - Turn the ignition on, but do not start the engine.



STEP 4 - Select the Stock option from the list.



STEP 5 - Install the Stock File by pressing OK.



STEP 6 - Allow the stock settings to be re-installed.



STEP 7 - Turn the Ignition Off. Press OK to continue.



STEP 8 - Press OK to return to the main menu.



COMMON TUNING QUESTIONS

Questions and Answers

Q: Can my programmer program more than one vehicle at a time?

A: No, only after you return your first vehicle back to factory stock.

Q: Does ACCEL support custom tuning?

A: Not at this time. Please check us out online for updates.

Q: What aftermarket accessories will my programmer work with?

A: Programmers are engineered to work with the following parts right out of the box: throttle body spacers, shorty headers, cat-back exhaust system, and cold air intake kits. Compatibility may vary by make and model.

Q: How do I change my vehicle's calibration?

A: Refer to the TUNING sections of this guide for detailed instructions.

CAUTION: Before taking your vehicle into a service center, return your vehicle to stock. The service center might reprogram your vehicle with an updated program without your knowledge. If you do not use this device to return your vehicle to factory stock and your vehicle is reprogrammed by the service center, the programmer will no longer be able to program your vehicle.

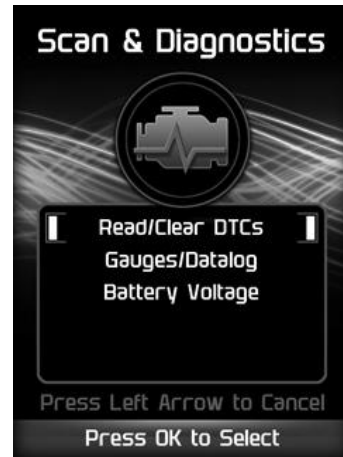
READ DTC

This feature allows you to troubleshoot issues that your vehicle may be experiencing. Most vehicles will illuminate the in-dash check engine light. A Diagnostic Trouble Code (DTC) arises when a vehicle's computer detects a sensor failure or a parameter outside of specific range.

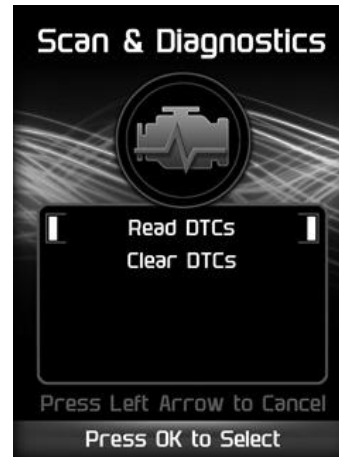
STEP 1 - Enter the Scan Menu.



STEP 2 - Select Read/Clear DTCs.



STEP 3 - Select Read DTCs.



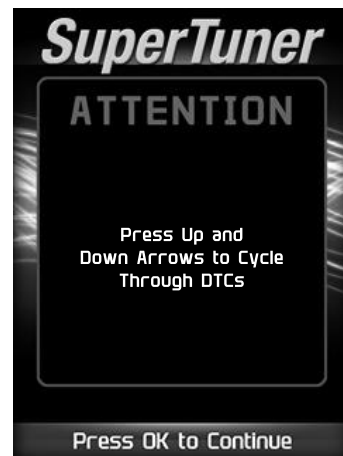
STEP 4 - Follow the on-screen instructions.



STEP 5 - Allow the device to search for DTCs.



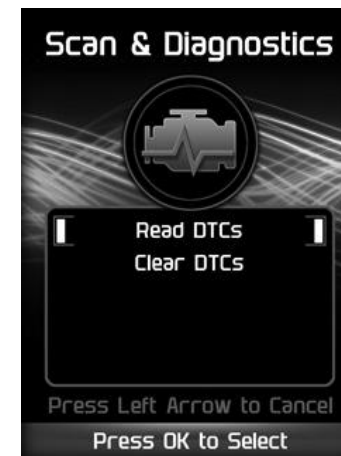
STEP 6 - Follow the on-screen instructions.



STEP 7 - Push the up/dn arrows to view each DTC.



STEP 8 - Press **OK** to return to the DTC menu.



This feature allows you to clear the DTC and turns off the check engine light.

NOTE: If a DTC persists, this could indicate a vehicle malfunction. We recommend seeking a qualified professional in resolving the issue. Program the vehicle back to stock prior to service.

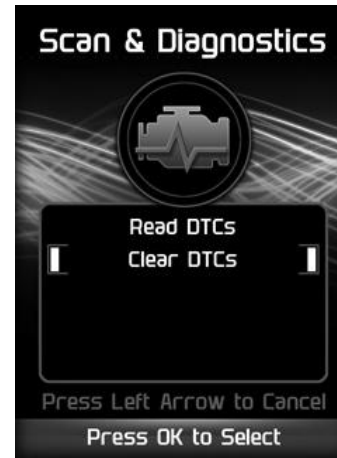
STEP 1 - Enter the Scan Menu.



STEP 2 - Select Read/Clear DTCs.



STEP 3 - Select Clear DTCs.



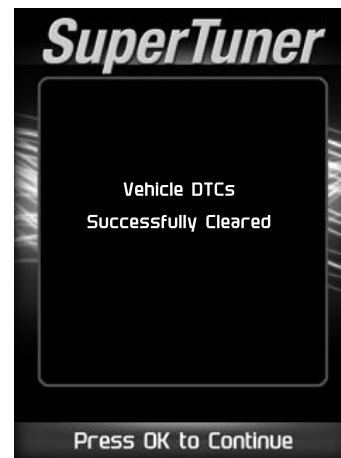
STEP 4 - Follow the on-screen instructions.



STEP 5 - Allow the device to search for DTCs.



STEP 6 - Follow the on-screen instructions.



STEP 8 - Press **OK** to return to the DTC menu.



VIEWING GAUGES

If you would like to view Parameter IDs (PIDs) specific to your vehicle, following these instructions to learn how to view them using your Flashcal device.

⚠ WARNING *Do not exceed legal speed limits on public roadways.*

STEP 1 - Enter the Scan Menu.



STEP 2 - Select Gauges/Datalog.



STEP 3 - Turn the Ignition On.



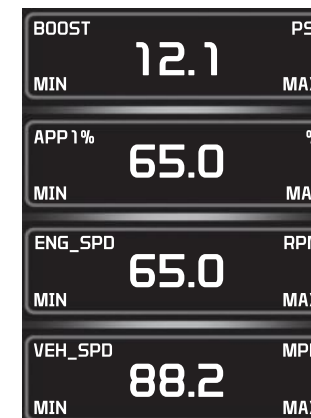
STEP 4 - Follow the on-screen instructions.



STEP 5 - Select a PID Group, then select a total of 4 PIDs. Use the arrow buttons to switch between screens. OK to select.



STEP 6 - Follow the on-screen instructions. Note the RED highlights. See DataLogging for more information.



DATA LOGGING

Data logging allows you to record specific vehicle information while driving. Follow these instructions to find out how to datalog, and how it may be helpful to your particular needs.

⚠ WARNING *Do not exceed legal speed limits on public roadways.*

STEP 1 - Refer to the previous section and follow the steps.



STEP 2 - Press the OK button to begin recording the PID data. Press the OK button again, to stop the recording.

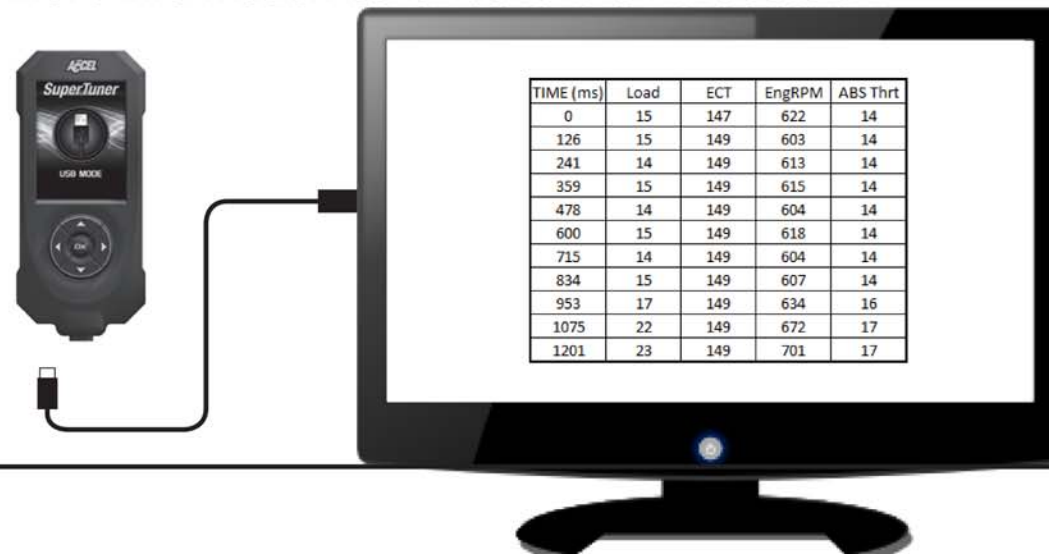


The separator lines will change from Red to **Green**, which indicates that the device is actively **recording** (datalogging).

STEP 3 - Press the left arrow to return to the menu.



The information will be stored on the device and may be retrieved using a computer. For more information continue to the next section.



DATA LOGGING RETRIEVAL

To learn more about how Data Logging results can be extracted from the device, please follow these instructions:

STEP 1 - Remove the device from the vehicle OBDII port.

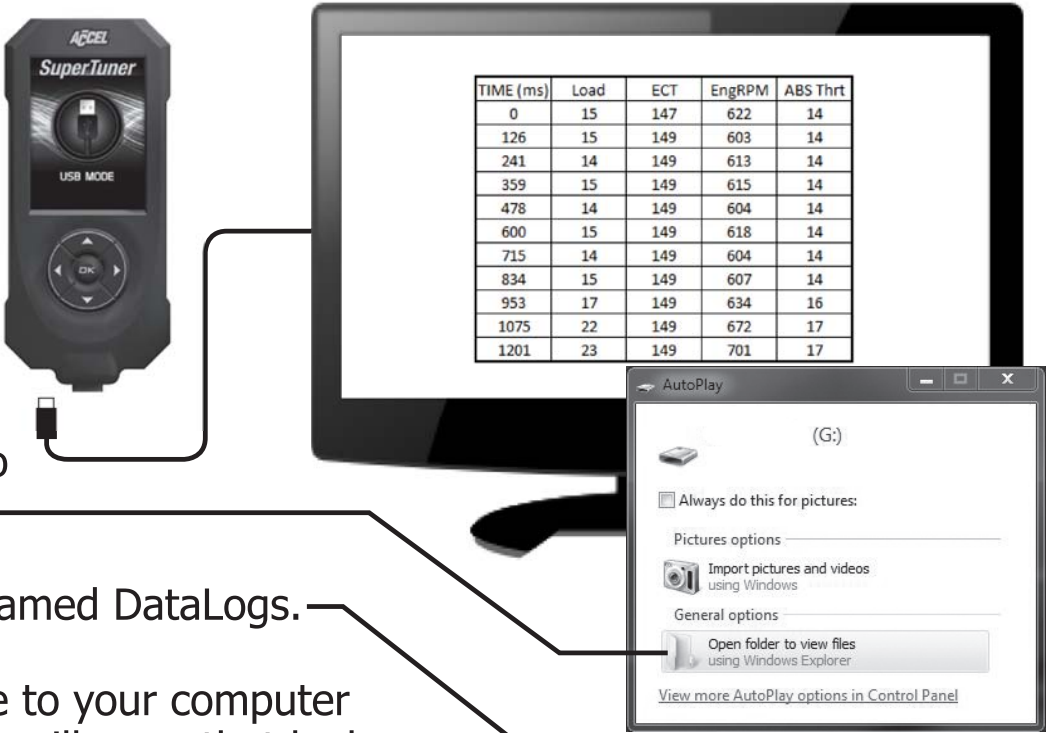
STEP 2 - Using the USB cable provided, connect the device to your computer.

STEP 3 - The device will enter USB Mode, and allow your computer to open it's files.

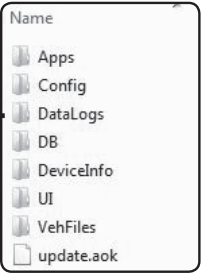
STEP 4 - Open the folder to view files.

STEP 5 - Open the folder named DataLogs.

STEP 6 - Copy the Excel file to your computer desktop, then open it. A file will open that looks similar to the following:



TIME (ms)	Load	ECT	EngRPM	ABS Thrt
0	15	147	622	14
126	15	149	603	14
241	14	149	613	14
359	15	149	615	14
478	14	149	604	14
600	15	149	618	14
715	14	149	604	14
834	15	149	607	14
953	17	149	634	16
1075	22	149	672	17
1201	23	149	701	17



BATTERY VOLTAGE

STEP 1 - Plug the device into the OBDII port.



STEP 2 - Enter the Scan Menu.



STEP 3 - Select the Battery Voltage option.



STEP 4 - Press OK to return to the previous screen.



VEHICLE INFO

STEP 1 - Plug the device into the OBDII port.



STEP 2 - Enter the Info Menu.



STEP 3 - Select the ID Vehicle option.



STEP 4 - Press OK to return to the previous screen.



STEP 1 - Plug the device into the OBDII port.



STEP 2 - Enter the Info Menu.



STEP 3 - Select the Device Info option.



STEP 4 - Press OK to return to the previous screen.



VEHICLE FUNCTIONS EXPLAINED

Based on the make, model, and year of your vehicle, you may have the option to modify various features using this device. This section provides a brief explanation on what these functions are, and how they are used.

- **Tire Size** - may be used to improve the accuracy of the vehicle's speedometer by compensating for non-stock tire sizes.
- **Axle Ratio** - is used to improve your shift points by modifying the axle gear ratio.
- **Transfer Case High (T.Case Hi)** - is used if you've modified your front transfer case Hi gear ratios
- **Transfer Case Low (T.Case Lo)** - is used if you've modified your front transfer case Lo gear ratios
- **One Touch Lane Change (One Touch)** - allows you to toggle this vehicle feature ON or OFF. When this feature is turned OFF, your blinker will only blink once after pressing the switch.
- **Head Lamp Flash on Lock (Lamp Flash)** - may be used to toggle ON/OFF the keyless entry head lamp flash.
- **Horn chirp on Lock (Horn Chirp)** - may be used to toggle ON/OFF the keyless entry horn chirp.
- **Head Lamp Delay (Lamp Delay)** - gives you the ability to adjust the time it takes for the head lamps to turn off after the engine has been turned off.
- **Tire Pressure Monitoring System (Tire Pressure)** - allows you to turn on or off this vehicle feature. Off-road options are available for download.
- **Daytime Running Lights (Run Lights)** - allows you to adjust the daytime running light settings for some vehicles (if the vehicle is equipped with this feature). The running lights are activated while the engine is running, and the transmission is in "drive".

There are six available running light settings:

- High Beams
- Turn Signals
- Low Beams
- European
- Fog Lights
- Turn Lights OFF

- **Engine Idle** - allows you to increase the engine idle up to 1600 RPM. This is especially useful during extreme situations. (e.g. Winching, etc.) **NOTE: The device must remain connected in order for this feature to continue working.**
- **Return to Stock** - allows you to quickly change your vehicle back to stock with the original settings. The vehicle cannot be running in order to use this feature.
- **Axle Lock Enable** - allows you to lock the front OR rear axle. This feature can be used while the transfer case is in 4-Hi or 4-Lo.
- **Electronic Stability Program (ESP) optimization** - adjusts the ESP system for vehicles equipped with this feature. When a non-stock tire size is entered, the device re-configures and optimizes the ESP.
- **Speedometer Corrections** - adjusts the speedometer value according to the inputs specified:

Tire Size Changes (For non-stock tire sizes (22.5"-44.25")) - Once the tire height is entered, the speedometer will be updated.

Gear/Axle Swaps (for ratios up to 5.38) - Re-configures the speedometer once a modified gear or axle ratio is entered.

- **Radio Delay** - allows you to adjust the time it takes for your radio to turn off, once the engine has been turned off.

SAFETY WARNING & CAUTION

SAFETY TERMS

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



WARNING indicates a condition that may cause serious injury or death to you, your passengers or others nearby. Pay careful attention to these Warning messages, and always comply with them. They could save a life.

CAUTION indicates a condition that could cause damage to your vehicle. It is important to install and operate your ACCEL product in conformance with instructions in this Manual. Caution alerts you to particularly important things that will keep your vehicle operating properly.

The product you have bought 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

Misapplication or misuse of this product could lead to a serious or fatal accident. Comply with all safety information in this manual, and your vehicle owner's manual. Follow safety, installation and operating instructions in this User Manual to assure proper use.

- 1.** Do not exceed legal speed limits on public roadways. Use any enhanced speed capabilities of this product only in closed circuit, legally sanctioned racing environments expressly for this purpose. Loss of control from speeding on a public road could seriously injure you, your passengers, or others on the roadway.
- 2.** Do not operate the tuner while driving. Perform all adjustments or changes while stopped. Changing a setting while under way can interfere with your attention to roadway conditions.
- 3.** "Stacking" performance-enhancing tuners or other improper installation can cause power train failure on the road. Other products may have features incompatible with your Tuner. Follow all installation and operating instructions, and do not stack products.
- 4.** 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.

CAUTION: Before taking your vehicle into a service center, return your vehicle to stock. The service center might reprogram your vehicle with an updated program without your knowledge. If you do not use this tuner to return your vehicle to factory stock and your vehicle is reprogrammed by the service center, the programmer will no longer be able to program your vehicle.