

## **CRITICAL INFORMATION.**

### **READ THIS FIRST!**

You are modifying your vehicle and will be overwriting your vehicle's computer and control modules. **Failure to follow the instructions fully and precisely could result in irreparable damage to the computer and other critical components.**

**It is your responsibility to read and understand these instructions.**

**Read them completely before contacting us with any questions.**

We do not provide repair advice. Consult a qualified repair facility with questions regarding mechanical issues.

We depend on you to provide us with usable data and information in order to be able to properly calibrate your vehicle.

**If you have not read and signed our Venomous Waiver you must do so now before proceeding. It can be found on our website as well as in our email signature.**

## Items needed for a Venomous Tuning Custom SCT Calibration.

### Datalogging is REQUIRED:

1. **A vehicle that is in good operating condition.** You will need a minimum of 10 fresh spark plugs for your custom tune. Ask us for recommended brands and gap *before you buy*. Your car or truck must be free from air or fuel leaks, must have FRESH 91 or 93 octane fuel with **NO additives** and all cooling systems must be working.
2. An updated SCT handheld tuning device. (HP Tuners nGauge by request)
3. Windows laptop with WIFI capability, WIFI and a good internet signal. (preferably mobile hotspot on your phone in case we want to drive and tune on the fly)
4. A battery charger (not a Battery Tender) readily available for less than \$50. You should own one!
5. **A basic working knowledge of computers, email, saving and sending files.**
6. Pre-2011 cars must have a wideband air/fuel monitor installed or a local dyno shop where you can secure 2 hours of dyno time for me to remotely complete the wide-open throttle portion of the tuning process. 2011+ cars have wideband onboard from the factory and a dyno or aftermarket wideband system isn't necessary. **That said, for safety and adherence to speed limit laws we highly recommend using a dyno for all wide-open throttle tuning.**

***If you do not have these basics, we cannot begin the custom tuning process.***

*Please assure that you have these fundamentals before ordering a Venomous Tuning Custom Calibration. Call us with any questions first.*

## Pay SPECIAL attention to the areas in RED below.

WE START WITH A BASE FILE. IT CANNOT BE USED IN BOOST OR OVER ½ THROTTLE UNTIL THE FIRST STEP OF THE TUNING PROCESS IS FINISHED AND YOU'RE APPROVED FOR WIDE OPEN THROTTLE WORK BY VENOMOUS TUNING. FAILURE TO HEED THIS CAUTION MAY CAUSE DAMAGE TO YOUR VEHICLE.

### VENOMOUS TUNING STEPS FOR CUSTOM CALIBRATIONS

#### STEP 1- YOU CAN DO THIS AT HOME!

*Create a folder called Venomous Tuning on the desktop of your computer now.*

*If we sent one,* please save the **datalog configuration file** (ends in .CF4) to the desktop of your computer in your new **VENOMOUS TUNING** folder that you created. If we also sent a **tune file** (ends in .CEF) place that in there as well.

Go to the highlighted link for SCT Flash and download **DEVICE UPDATER, LIVE LINK** and **all device drivers** from the support area. Run both programs so they are on your Windows laptop and convenient for us to use. We'll only use the device drivers if we encounter a problem with your laptop.

<https://www.sctflash.com/support>

**Device Updater** is used to update the firmware on your SCT device AND we use it to transfer tune files onto the SCT device. We'll use **Live Link** for the datalogging.

Update your device before starting any logging or tuning unless you purchased one from me in the past 30 days. Here's a video to show you how to update <https://youtu.be/aoGf4mzWFyg>

IF WE SENT YOU A BASE STARTUP TUNE FILE or IT CAME ON YOUR NEW DEVICE YOU MUST PUT IT ONTO YOUR HANDHELD TUNING DEVICE AFTER UPDATING IT AND **PRIOR TO US STARTING** THE DATALOGGING PROCESS. IF WE LOADED IT ONTO A NEW DEVICE PRIOR TO SHIPPING, PLUG IT IN AND FOLLOW THE DIRECTIONS. CHOOSE CUSTOM TUNE (IT WILL BE NAMED VENOMOUS), NOT THE PRELOADED "GT500" TUNE.

Here's a good video to show you how to load your custom file onto your device using Device Updater <https://youtu.be/HQQyXT1HFME>

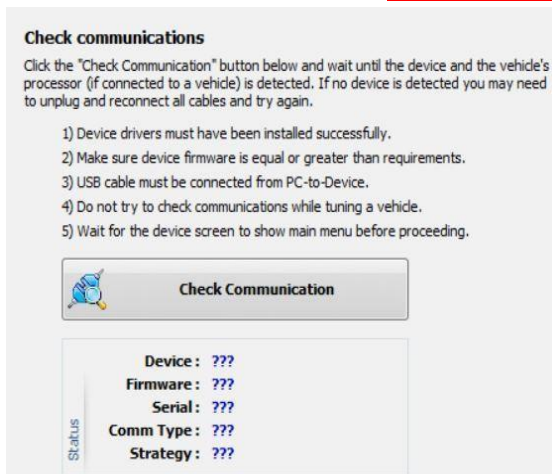
**Things to remember- HAVE YOUR CAR ON A CHARGER.** Key off/on, over and over will drop your battery voltage and potentially interrupt our processes. **Better safe than sorry.** *Do NOT have anything plugged into any outlet in the vehicle when logging. Not even your cell phone!* MAKE SURE YOU HAVE YOUR DEVICE TO OBDII CABLE, A USB CABLE FOR DEVICE TO LAPTOP AND THAT **YOUR LAPTOP BATTERY IS CHARGED.** TURN YOUR AC OFF and DISCONNECT YOU BLUETOOTH.

*Plug the device into the OBD port of the vehicle, then from the device to the USB port on your laptop. KEY ON/ENGINE OFF, click on the COMM (the red "plugs").*



***IMPORTANT!! If your car does not connect you must contact SCT at their website and support tab and have them update your device drivers. Plan your tuning times accordingly and know they are on eastern time, Monday through Friday ONLY. (407) 774-2447 [www.sctflash.com](http://www.sctflash.com)***

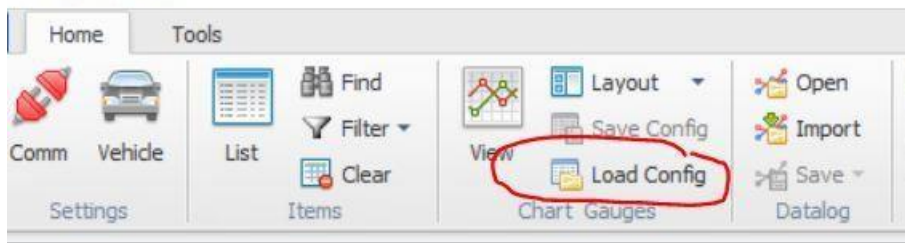
**Once connected, click on Check Communications.**



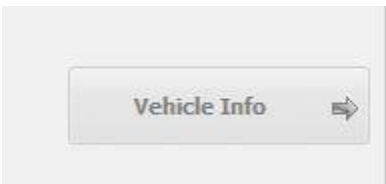
**When communicating, the ??? will be replaced with device and car info.**

**Now, either go to the top and click on LOAD CONFIG if we sent you one**

Gen-II v.2.9.0.0

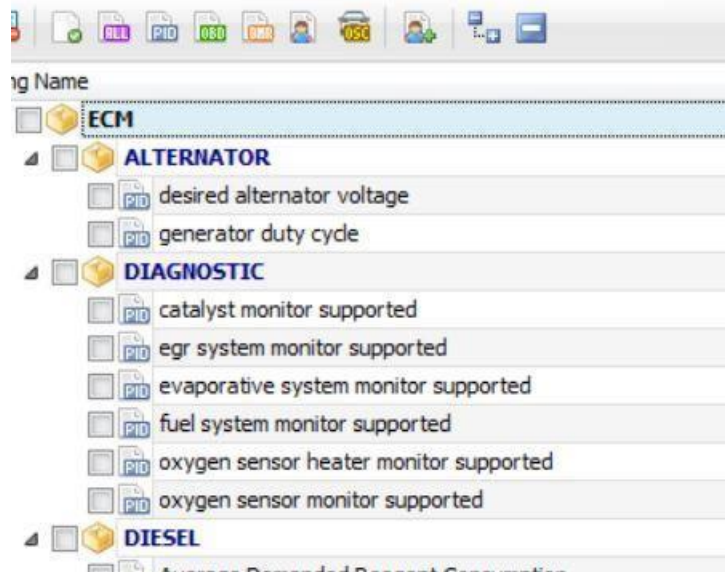


**OR if not, go to the bottom, right corner and click VEHICLE INFORMATION.**

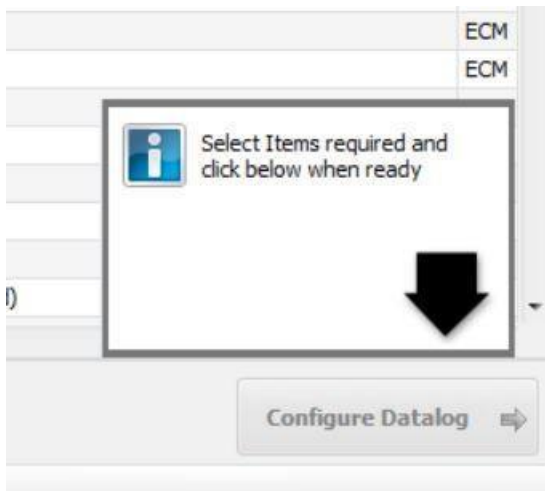


**And continue following the steps shown on the screen.**

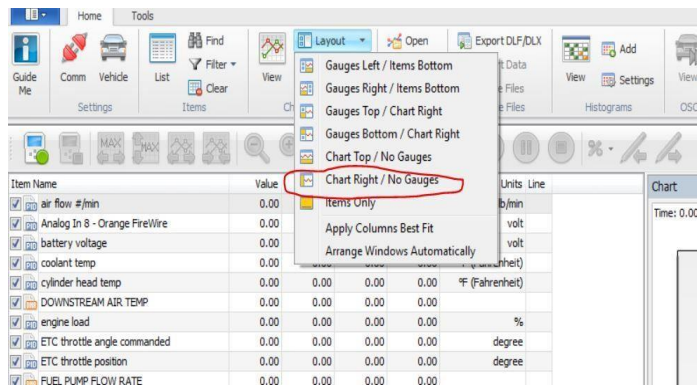
***If selecting, follow the on-screen directions and only pick the items we request in the ADDENDUM below (“datalogging PIDS or CHANNELS to log”). If you can’t find them, email us at [bj@venomoustuning.com](mailto:bj@venomoustuning.com)***



***Once you’ve picked everything, go to the bottom right and configure the datalog***

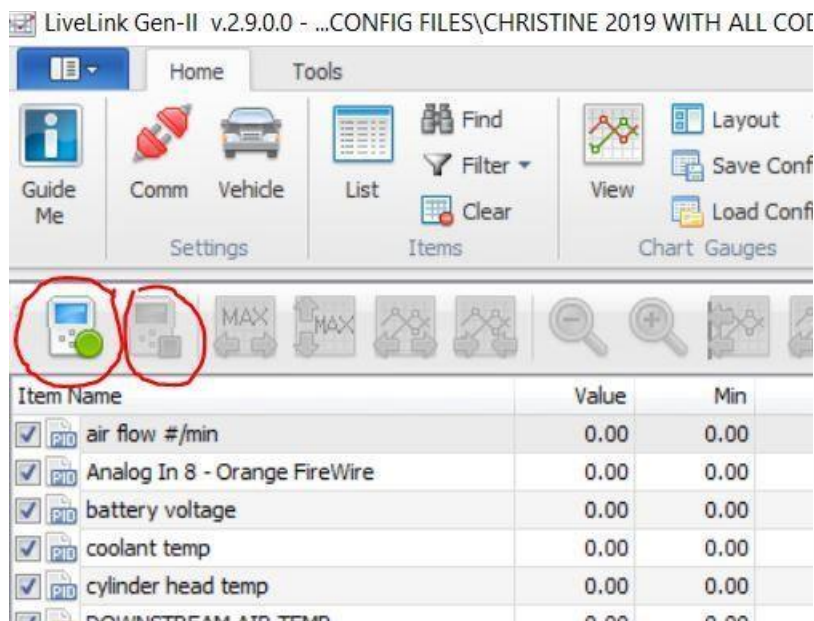


***It's your choice but we suggest choosing this layout/view.***



***First, we'll do an "IDLE/SLOW REV" DATALOG to confirm and dial in any fueling points. This is the area that controls driveability so it's important that we do this first. You'll datalog it, send it to me via email, I edit it, send it back, you reload onto your device then your car (lather, rinse, repeat).***

**With the car running and connected to the laptop via the device, click on the GREEN START BUTTON.**



***It will take a little while to read all the PIDS/channels but it will soon begin logging and you'll see a jumbled graph on the right side of the screen.***

**Check your temperatures.** Coolant needs to be above 165f and IAT2/downstream below 130f. If too hot, use a fan or let it cool down. Monitor it while logging and once it's up to temp, stop the logging process, re-start it (it will ask you if you want to save the last one....don't). This way I don't have to look at 5 minutes worth of your car warming up. Now let the car idle for a full 2 minutes once it's up to temp.

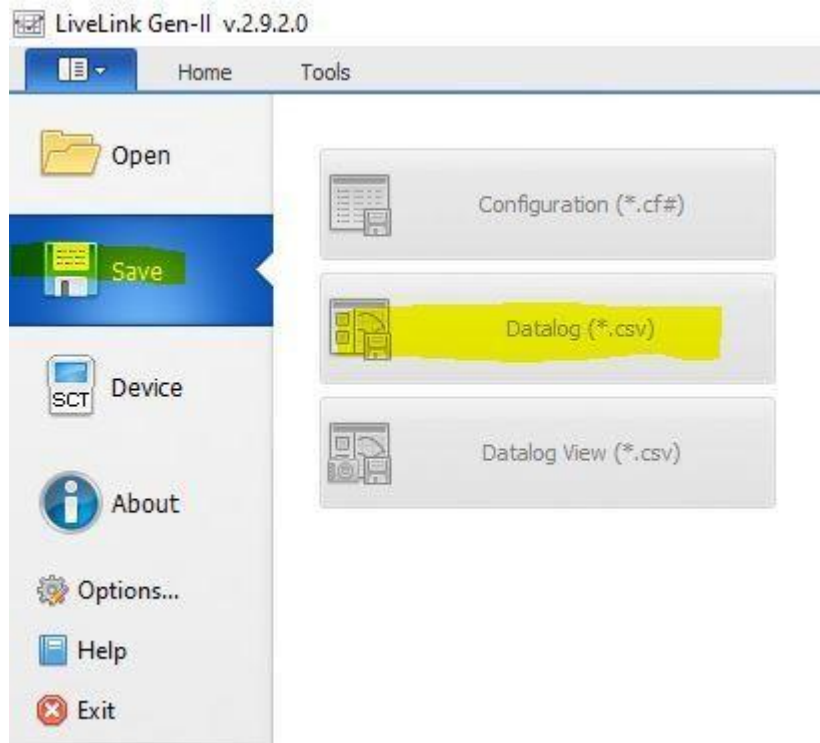
**First log will be 2 minutes of idle followed by a VERY SLOW rev to 5,000 and let off.**

SLOW, SMOOTH THROTTLE APPLICATION IS KEY, ESPECIALLY FROM IDLE TO ABOUT 2500 RPM. JUST KEEP PRESSING SMOOTHLY AND SLOWLY. REST YOUR FOOT ON THE TRANS TUNNEL AND ROLL INTO THE THROTTLE FROM THE SIDE RATHER THAN TRYING TO "HEEL AND TOE" IT.

**When finished, click on the RED button (next to the GREEN start button) to stop but do not turn the car off until you have saved the datalog file per the instructions that follow:**



Save the datalog in the format described below and turn the car off.



>>>>>**EXTREMELY IMPORTANT.** Your datalog files **MUST** be named as shown below or they will be quarantined. **Logs not saved with this format will not be reviewed.**

***YOUR NAME/YEAR & MODEL /DEVICE SERIAL NUMBER/ TYPE OF LOG/REVISION NAME AND DATE. IT MUST MATCH THE INFORMATION ON THE TUNE YOU LOGGED.***

***(example) SMITH-07GT500-XP2372625YBFD-IDLESLOWREV-Base file-5-3-2020***

Email to [bj@venomoustuning.com](mailto:bj@venomoustuning.com)

*It will likely take two or three times logging, revising and reloading/relogging to get this correctly dialed in. Once we do, it's time to go to the second step in Custom Calibrating, **the Wide-Open Throttle portion.***

*Remember, 07-10 cars must have wideband monitors installed or use a local dyno with wideband to safely and successfully custom tune your vehicle. 2011+ cars do not need this but again, dyno (with us remotely accessed) is the best way to do it.*

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## **WIDE OPEN THROTTLE WARNING!!!**

**Never do more than ONE full throttle pull** unless asked to do so by us in writing. In the event of an equipment or fueling issue we need to be able to identify it and help you resolve it. **Doing multiple full throttle pulls may cause permanent damage.**

**Warning! We suggest you use a dyno facility and have us remotely tune the wide open throttle portion for your safety and to assure compliance with local laws. You agree to assumption any and all liability for your safety, the safety of others and your vehicle by doing the "wot pull" on a public road.**

**Start logging just as you did before.** Remove the floormat from the driver's side floor. Stow any loose items. Begin the logging by hitting the **GREEN** button. 3<sup>d</sup> gear (4<sup>th</sup> gear on a dyno), traction control off, wide open from 2,000 rpm to 5,500 rpm and let off. Stop logging, save the log and send it to me. The process repeats. In this phase we're confirming fueling but more importantly we're looking for knock sensor activity. If it's knocking due to too much timing for your fuel to tolerate, we adjust it and send you the revision.

Once we are good on the 2,000-5,000 pull, we'll do the same thing from 2,000-6,200 and dial in all the fueling. Then we begin adding timing.

**IF YOU HEAR AUDIBLE KNOCK OR SEE AIR/FUEL GO ABOVE 12:1, YOU MUST ABORT THE PULL IMMEDIATELY AND TELL US WHAT OCCURRED.**

We may have you pull and inspect a couple of spark plugs at this point to check for physical signs of detonation. See our spark plug “reading” pictures for details. You’ll pull plugs 2 and 3, the middle two on the passenger side. If you see specks of detonation on the white ceramic insulator, replace the plugs with new, properly gapped ones. If not, just put them back in.

Once we’ve successfully adjusted for proper fueling and added the amount of spark advance/timing that is well-tolerated by your car and your local fuel, we’ll turn the adaptive learning back on in the tune and you’re done!

Remember, Venomous Tuning provides complimentary updates for future (minor) mods for a full year. We only ask that you run your mod idea past us first. We know what works, what is a waste of time and money and what is beneficial to you.

Thank you again for your business and your trust. I look forward to working for you.

**CALL US IF YOU HAVE QUESTIONS (352) 800-4407**

**Please refer to ADDENDUM sheet for the PIDS/channels to log.**

## **ADDENDUM PAGE 1**

### **DATALOGGING PIDS OR CHANNELS TO LOG**

Under “DRIVE BY WIRE”, Pick **Wheel Torque Error**

Under “ENVIRONMENT”. Pick **IAT2 F or Downstream Air Temperature**

Pick **Engine Coolant Temp F**

Pick **Intake Air Temp F**

Under “FUEL”, Pick **Long term fuel trim Bank 1 & 2**

Pick **Measured Air/Fuel (2011+ cars only)**

Pick **Open Loop Status**

Pick **Short term fuel trim Bank 1 & 2**

Pick **Fuel Source**

Under “MAF”, Pick **MAF AD counts (2003-2010 vehicles)**

Pick **MAF flow rate in # per minute**

Pick **MAF Frequency (2011+ Only)**

Pick **MAF Volts (2007-2010 Only)**

Pick **LOAD (may be in Misc area if not here)**

## **ADDENDUM PAGE 2**

Under “MISCELLANEOUS”, Pick **Battery Voltage**

Pick **LOAD** (if not under MAF)

Pick **RPM**

Pick **ALL Torque Source PIDS**

Pick **Vehicle Speed MPH**

Under “SPARK”, Pick **Spark 2** (OR SPARK IF “2” NOT AVAILABLE)

Pick **Knock Sensor** (2010+ only and pick THIS one, under SPARK)

Pick **Spark Source**

Under “THROTTLE”, Pick **Throttle Angle Actual**

Pick **Throttle Angle Desired**

Under “RETURNLESS FUEL PUMP”, Pick **Fuel pressure drop across injectors**

Pick **Actual voltage at the fuel pump**

Pick (returnless) **Fuel pump duty cycle**

Pick **Fuel rail pressure**

Pick **Fuel pump flow rate**

## **ADDENDUM PAGE 3**

### **DYNO DAY CHECKLIST**

- **TUNING DEVICE HAS BEEN UPDATED AND IS WITH YOU IN THE CAR WITH THE OBD-DEVICE CABLE, THE DEVICE TO LAPTOP CABLE AND WIDEBAND TO DEVICE CABLE.**
- **WINDOWS LAPTOP IS UP TO DATE AND HAS ALL CABLES INCLUDING THE POWER SUPPLY WITH YOU.**
- **WINDOWS LAPTOP HAS AN EMAIL PROGRAM, WIFI CAPABILITY, SCT DEVICE UPDATER, SCT LINK LINK, TEAM VIEWER ON IT. YOU HAVE A FOLDER ON YOUR DESKTOP NAMED VENOMOUS TUNING.**
- **YOU HAVE INSTALLED 8 NEW PLUGS IN THE CAR AND GAPPED THEM ACCORDING TO OUR SPECIFICATIONS. TAKE 4 EXTRA ONES WITH YOU AS WELL AS THE TOOLS NEEDED TO CHANGE THE PLUGS WHILE AT THE DYNO.**
- **YOUR TIRES ARE IN GOOD CONDITION AND ARE INFLATED TO MANUFACTURERS SPECIFICATIONS.**
- **YOU HAVE FRESH FUEL IN THE CAR FROM BP, SHELL, SUNOCO OR CHEVRON. YOU HAVE TOLD US WHAT OCTANE YOU ARE TUNING WITH.**

**ADDENDUM PAGE 4**

**DO NOT USE ANY OCTANE BOOSTERS OR  
ADDITIVES UNLESS WE SPECIFICALLY  
REQUEST THAT YOU DO SO.**

## **DETAILS FOR THE DYNO FACILITY**

**WE USE BOTH SCT AND HP TUNERS SOFTWARE.**

**WE HAVE DYNOJET SOFTWARE IF YOU WANT TO SIMPLY SHOOT US THE DYNO RUN FILE AFTER EACH PULL. IF NOT, WE NEED SCREEN SHOTS/CAMERA PICTURES CLEARLY SHOWING RPM AND AIR FUEL RATIO. WE RESPECTFULLY REQUEST THAT WIDEBAND DATA BE IN LAMBDA IF POSSIBLE.**

**WE WILL BE DATALOGGING VIA TEAM VIEWER WITH THE CLIENT'S COMPUTER IN THE CAR.**

**WOT PULLS WILL BE IN 4<sup>TH</sup> GEAR, TRACTION CONTROL OFF. IF YOUR DYNO IS LOADED, PLEASE TRY TO HAVE IT AT NO MORE THAN 3200-3500# AS THESE CARS HEAT SOAK IN A HURRY. WHEN A PULL TAKES 20 SECONDS RATHER THAN 10 THINGS ARE GOING TO GET HOT.**

**FANS SHOULD BE POINTED AT THE HEAT EXCHANGER ONLY AND NOT OVER THE TOP OF THE ENGINE BAY AS THAT WILL CAUSE A DIRTY MAF SIGNAL.**

**ANTICIPATE 2 HOURS TOTAL. THANK YOU!**