



**FORD PERFORMANCE**

## M-2780-FRS Focus RS Drift Stick

NO PART OF THIS DOCUMENT MAY BE REPRODUCED WITHOUT PRIOR AGREEMENT AND WRITTEN PERMISSION OF FORD PERFORMANCE PARTS

Please visit [www.performanceparts.ford.com](http://www.performanceparts.ford.com) for the most current instruction and warranty information.

**PLEASE READ ALL OF THE FOLLOWING INSTRUCTIONS CAREFULLY PRIOR TO INSTALLATION. AT ANY TIME YOU DO NOT UNDERSTAND THE INSTRUCTIONS, PLEASE CALL THE FORD PERFORMANCE TECHLINE AT 1-800-367-3788**

### Installation Procedures

#### Tools Needed

- Common/flat screwdriver
- 2.5 mm Allen wrench
- Zip ties & wire cutters
- 8 mm wrench
- 13mm wrench
- 12 mm socket and wrench (if equipped with powered seats)
- Blue thread locking compound (if equipped with powered seats)
- Torque wrench capable of 3 Nm (if equipped with powered seats)

Factory Ford shop manuals are available from Helm Publications, 1-800-782-4356



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### Procedures

1. Open package, remove bubble wrap and white protective film and inspect all items. Ensure there is a Drift Stick handle, chassis, clamshell, microchip and wire bundle assembly. Also included should be the lower bracket and threaded rod to attach the chassis to the seat rail. The bracket and rod should be connected together via a ball stud and quick disconnect. The threaded rod should also have a quick disconnect on the free end with the associated ball stud already assembled on the Drift Stick chassis below the handle. Figure 1 below shows the entire Drift Stick in its assembled form.

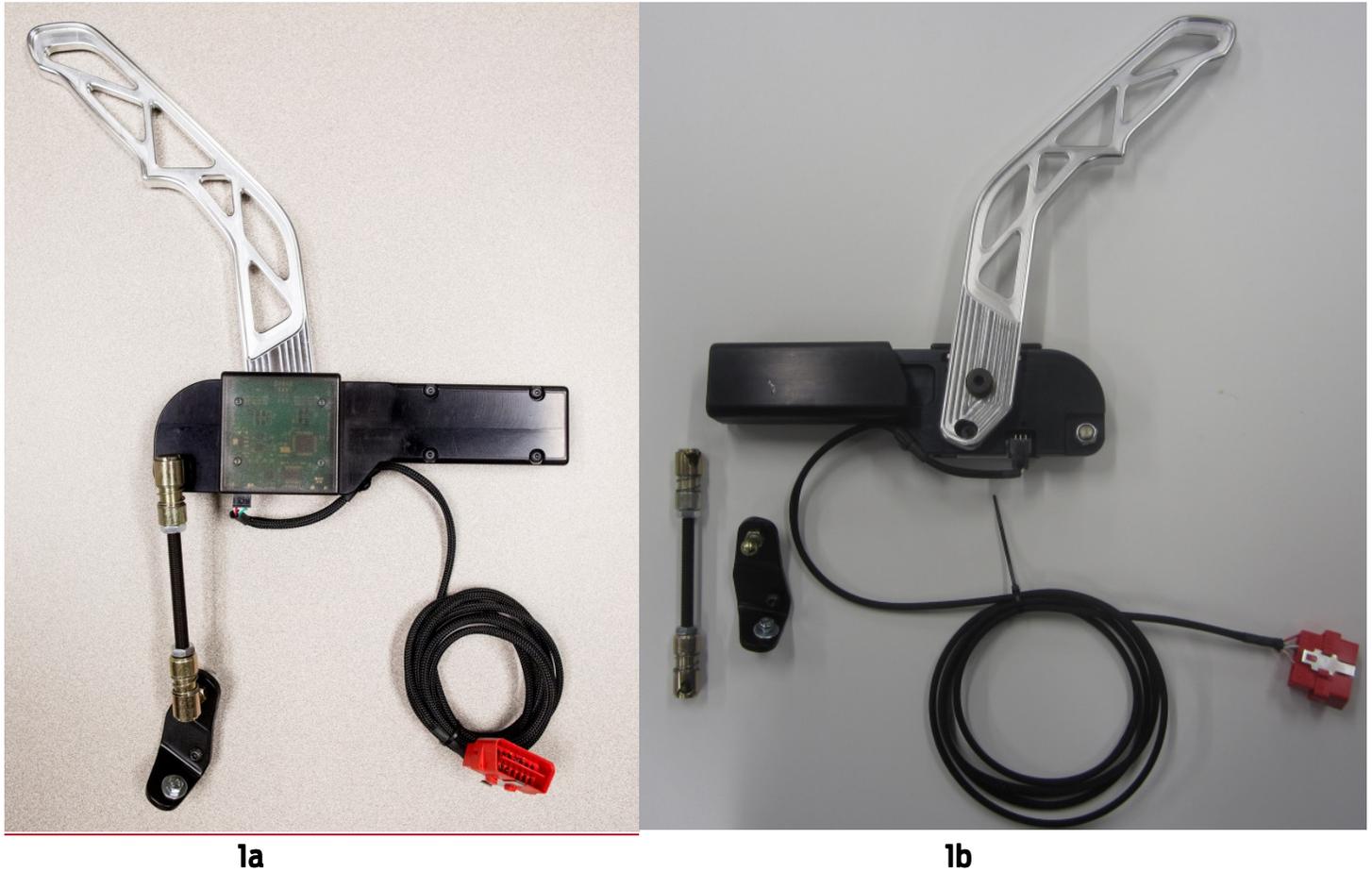


Figure 1: Drift Stick components (2 views).

2. Compress the Drift Stick handle to get a feel of the force required for full travel, about 6 lbs. is all that is needed. Also, listen for 2 audible clicks in both directions from the circuit board switches.
3. Park your vehicle on a level surface with the wheels chocked to ensure the vehicle will not roll during the installation.

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### 4. Installing the Drift Stick Chassis

- a. In the driver's seat engage the parking brake by pulling up on the handle. Pull back the leather handle from the parking brake lever. The leather handle wraps snugly around the cast metal parking brake lever.
- b. Remove the parking brake leather handle. Using the common screwdriver, lift up on the tab securing it to the cast metal lever. At the same time, rock the handle while pulling forward until the button detaches and the handle slides forward.
- c. Reinstall the button prior to installing the drift stick clamshell, as it will be more difficult to complete afterwards.
- d. Using the 2.5 mm Allen wrench, separate the chassis from the clamshell by removing the 4 bolts that can be seen in Figure 1a on the right hand side of the drift stick lever.
- e. Install the clamshell, "**FORD PERFORMANCE**" side up, around the parking brake cast metal lever as close to the cast tab as possible. The fitment is tight. Ensure part is fully seated. Clamshell positioning is shown below in Figure 2 next to the removed OEM parking brake handle with the cast tab visible.



**Figure 2: Chassis and Clamshell assembled onto parking brake aluminum casting.**

- f. Install the Drift Stick lever using the 4 cap screws. Torque to 3.2 Nm (2.4 lb. ft.).

### 5. Install Seat Rail Bracket

- a. Locate the black metal bracket and rod provided in the kit. The bracket installs onto the front of the inboard driver's seat rail.

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b. If the car is equipped with powered seats (with the seat controls on the outside seat bottom panel by the driver's door), use the 12 mm socket to remove the nut on the threaded rod on the inboard seat track (shown in Figure 3 in the large circle).

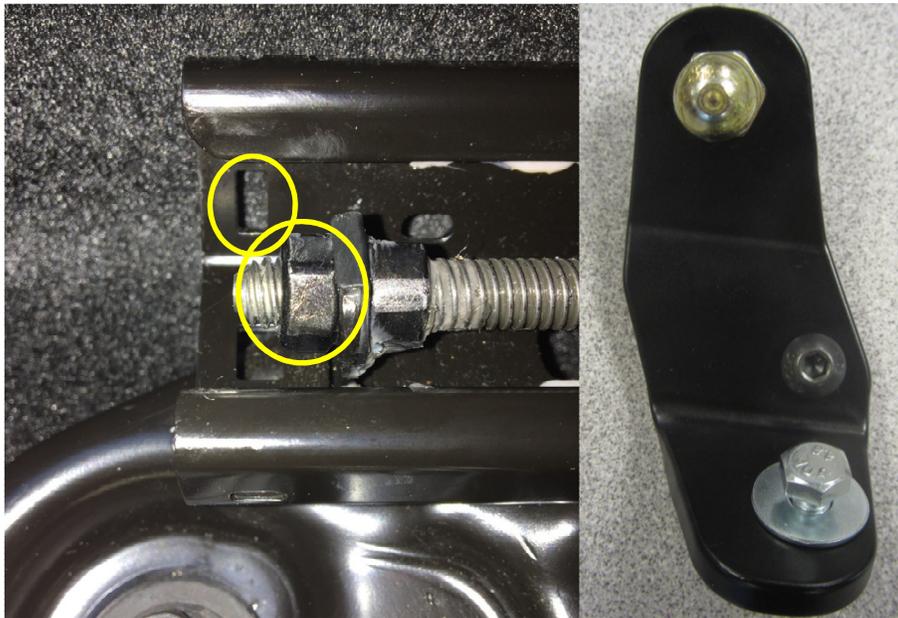


Figure 3: Driver's inboard seat rail.

Drift Stick bracket

c. Using a file or 6mm drill bit, enlarge the rectangular hole on the side of the seat rail for the black cap screw (shown in Figure 3 with the small circle). If drilling, take care not to catch the carpet underneath. Consider inserting a disposable barrier between the rail and carpet to stop the drill bit from contacting the carpet.

d. Place the metal bracket underneath the seat rail and install the black and silver fasteners through the existing holes. The silver bolt with washer goes on bottom and black cap screw on the side.

e. If the car is equipped with powered seats, clean the original seat rail nut of any residual thread locker. Apply blue thread locking compound to the nut and reinstall. Torque to 3 Nm.

### 6. Routing wiring

a. The wiring is routed between the seat and the center console, following the console towards the foot well and driver pedals, over the pedal box and through the dash to the OBD2 port.

b. Leaving the wiring bundle connected to the Drift Stick chassis and board, remove the zip tie securing the wire loop for shipping.

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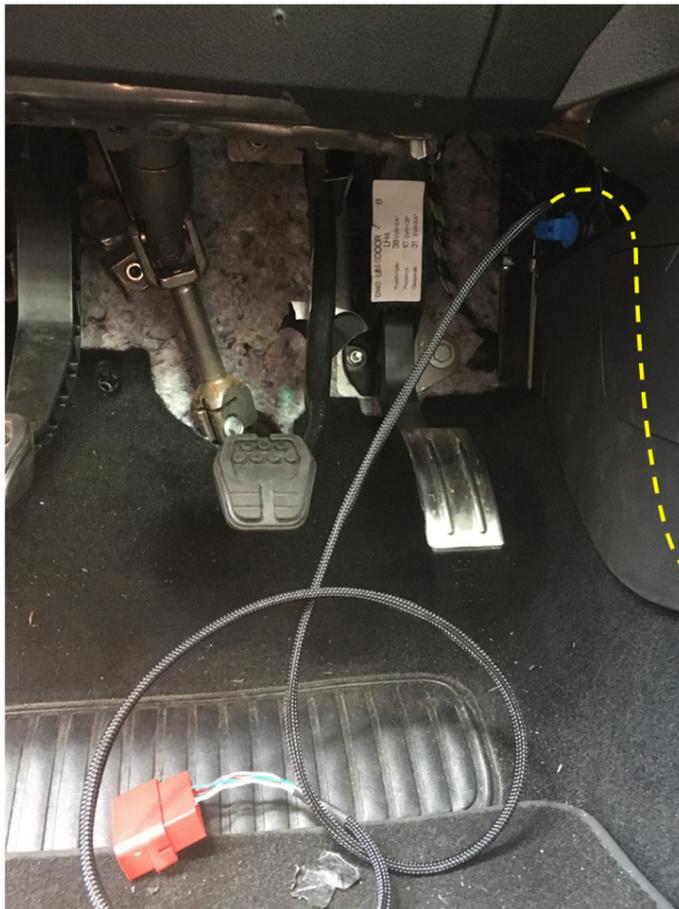


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c. Route the wiring forward to the driver pedals, and tuck the wiring underneath the console between the parking brake and the pedals, as shown in Figure 4. The wiring can be routed forward around the console trim nearest the accelerator pedal to follow the dotted yellow line as shown. Be sure to leave enough wire length to allow for full parking brake travel when the Drift Stick is not in use.



**Figure 4: Wire routing behind center console trim**

d. Open the OBD2 door found below and outboard of the steering wheel. Route the provided red OBD2 connector rearward from the opening near the top of the clutch pedal through the dash to the white OBD2 port, as seen in Figure 5. Pull the wiring through to allow about a foot of wire length to work with.

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**Figure 5: Drift Stick wiring connector seen through OBD2 door during installation**

e. Zip tie the loose wire between the OBD2 port and the center console to the metal rail underneath the dash console. This location is out of the reach of the pedals and driver's feet as shown in Figure 6.

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**Figure 6: Securing the wiring above the driver pedals.**

f. Connect the OBD2 connector. If the connector prevents the access door from closing, the white OBD2 port connector can be unclipped from the dash housing and pushed forwards. Use a zip tie to secure the two connectors to the OBD2 dash housing to prevent rattling as shown below in Figure 7. Take care to not pinch or pull any wires.

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**Figure 7: OBD2 connector fully secured.**

g. Optional: if routing the red connector rearwards through the OBD2 access panel is difficult. The wiring can be removed from the Drift Stick chassis by using the 2.5mm Allen key and disconnecting the 6-pin wire connector from the microchip. In this case insert the black 6 pin connector forwards through the OBD2 access panel. Pull all but a foot of wiring through to the

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pedals. Follow steps a-f for wire routing. Reconnect the wire with the plastic clip to the chassis and to the microchip.

### 7. Secure the drift stick lever assembly to the seat bracket

a. Attach the adjustable rod to the seat rail bracket ball stud.

b. Adjust the rod length until the chassis ball stud fits snugly to the rod at the top when applying a slight downward force on the lever. Compress the quick disconnect as shown in Figure 8 to secure the rod to the ball stud already assembled on the chassis. This tension prevents any vibration issues when operating the vehicle. Using the 13mm wrench tighten the jam nuts to prevent the rod length from changing. Give the Drift Stick a test pull. If it rattles within the ball studs, shorten the length of the threaded rod by one turn to apply tension to the rod.



**Figure 8: Activate the quick disconnect to raise the parking brake**

### 1. Program Installation using ProCal

a. Disconnect the rod from top ball stud on the chassis and raise the parking brake. Note: do not engage the parking brake by pulling on the Drift Stick handle, pull on the chassis at the original parking brake handle location.

b. Using a micro USB cable, (included) connect the Drift Stick to your computer.

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- c. Using the ProCal voucher provided with the kit, and following the ProCal instructions install the provided ABS software tune. (**see page 13**) The latest instructions will be downloaded to your laptop with the ProCal Software. The location for them is in the “My Documents” section of your computer. This PC/Documents/Procal 3/Doc
- d. Watch for a light sequence from the Drift Stick microcontroller.
- e. Lower the park brake by compressing the OEM handle button and lowering the handle to its disengaged position.
- f. Reconnect the quick disconnect to secure the Drift Stick in place.
- g. Complete a stationary pull test to ensure no dash lights appear, the OEM handle does not move, and the parking brake does not apply. Note: nothing should happen if the vehicle is stationary, in any mode.

### **2. Shred some tires**

- a. Fully read and understand the Usage Tips provided before proceeding.
- b. Proceed to a closed course.
- c. Set the vehicle to “Drift Mode”.
- d. Turn the ESC fully off by pressing the ESC button for 5 seconds.
- e. Only the green LED on the microchip should be lit when the vehicle is in Drift Mode with ESC fully off and the software properly downloaded.
- f. While driving between 3 and 70 mph with the vehicle in Drift Mode and ESC fully off, pulling the Drift Stick will disengage the rear clutches and lock the rear wheels using the ABS system.
- g. The Drift Stick should now be active. Enjoy!  
Note: Always stay within your comfort level. Start with a slow speed straight line pull to feel how to vehicle responds and slowly work your way up.

### **Ford Performance Drift Stick Usage:**

#### **Closed Course/Track use only:**

- Learn your course/track, know your surroundings, hazard locations, and available run-off (make sure you have room for your planned action, or abort/recovery action).
- Once you know your course - start with small drifts and work to increase to your desired angle and speed, while remaining in desired path, clear of hazards, etc. Always remain within your personal comfort level.

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- When not in use, disconnect the top ball stud securing the Drift Stick to the seat rail to allow use of the parking brake. Also, disconnect the OBD2 connection under the dash.
- Do not use Drift Stick Lever to apply park brake – grab drift stick chassis to apply park brake (once ball stud connection is released).

### How it works:

- When commanded, the Ford Performance Drift Stick will open the RDU (Rear Drive Unit) clutches and apply 180 bar (~2610 psi) of brake line pressure to the rear calipers. When used correctly it can provide large angle entry into a drift turn with no clutching required. It can also be used for slide stops (clutching required as vehicle speed drops below actual engine/gear/tire speed).
- **Pulling Harder will never make it work better or faster** – The Ford Performance Drift Stick works with approximately six pounds force on the lever. It uses a short six degree pull to induce a drift by triggering two micro switches at the Drift Stick's base.

### Getting ready:

- Install Stick.
- Install Software.
- Learn your course/track/surroundings prior to use.
- Start vehicle – you should have two LED's displayed on your Drift Stick Circuit Board (Green and Blue). Blue indicated means that your ABS is not yet ready to respond.
- Select Drift Mode, via Mode button on console.
- Hold down ESC button for 5-seconds to turn ESC off. (ESC – Electronic Stability Control)
- You should now have just one LED illuminated (Green) – this indicates power to the Drift Stick Micro and with the Blue light off the ABS/ESC system is ready to go.
- Always a good idea to test system readiness with a low speed apply, prior to planned Maneuvers.

### When it works:

- Ford Performance Drift Stick works only in Drift Mode, with ESC off via a 5-second push.
- The Drift Stick works from 3-70 mph. It cannot be used to hold vehicle at a stop, and has a max apply time of 10 seconds.
- Trail braking into a drift is supported up to 60 bar line pressure. Above 60 bar line pressure, the Drift Stick system will defer to the service brakes as the priority action.

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- If you apply the Drift Stick without braking, then apply the brakes, the ABS/ESC system will halt Drift Stick function and defer to the service brake action as priority.

- The Drift Stick will work provided only the green LED is illuminated.

- o Green – Drift Stick Micro is powered up. Green LED alone – All systems are ready to perform.

- o Blue – ABS/ESC module is not sensing vehicle is in correct modes and it will not respond to Drift Stick Micro requests.

Amber (Orange) – means the Micro has an issue, this could be an internal fault, or an unknown lever position. If you want to test this – hold handle between the two switch positions for 5-seconds and the amber will illuminate. Once Lever has been released and the micro can verify correct switch positions – it will reset the Amber LED.

- The Drift Stick works when you have no pre-existing ABS/ESC warnings at start-up.

### Usage tips for maximum Drift Stick effect:

1. **Approach corner**

- 2.

2. **Drop throttle, or trail brake into corner** (up to 60 bar; above 60 bar normal brakes operation takes precedence over Drift Stick input)

3. **Turn in**

- 4.

5. **Apply Drift Stick lever to desired rotation**

- 6.

5. **Release lever**

7. **Turn into slide** (RDU clutches back on)

- 8.

7. **Apply generous throttle** to maintain desired path

**Note: If you stay on throttle during Drift Stick function, or apply throttle very quickly following – you will momentarily get front wheel drive only while the rear clutches are re-applying - and this can begin to correct/straighten your desired drift angle. The slight pause, between release of the handle, while you turn into the drift, and re-application of the throttle will provide you with the best results. The short pause will feel natural after a few uses.**

## ProCal Instructions

### 1.1 ProCal Flash Tool Instructions

Read the instructions below in their entirety prior to beginning the flash procedure. If you have questions or concerns after reading these instructions, call the Ford Performance Techline at 1-800-367-3788.

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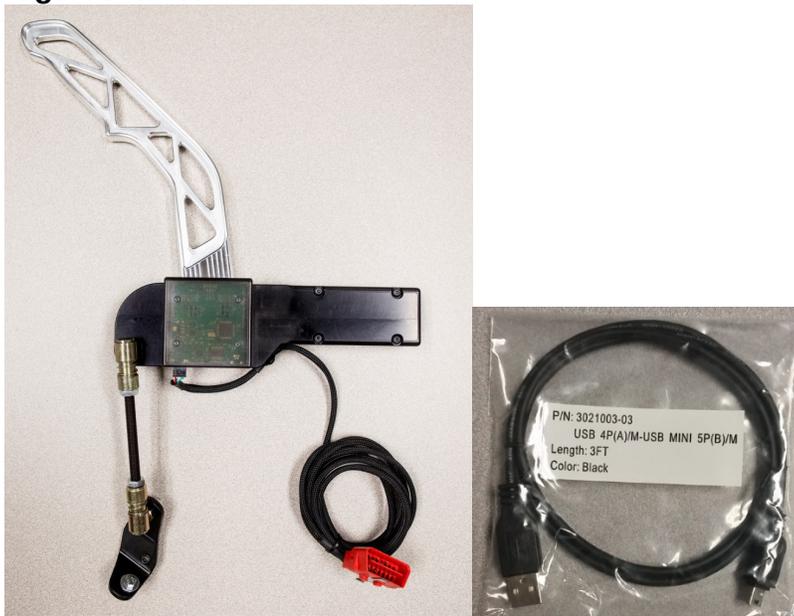
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**CAUTION! NEVER OPERATE THE VEHICLE UNTIL PROGRAMMING OF YOUR PERFORMANCE CALIBRATION HAS COMPLETED SUCCESSFULLY. OPERATION WHILE USING THE WRONG CALIBRATION MAY RESULT IN PERMANENT DAMAGE AND WILL VOID ANY WARRANTY (IF APPLICABLE).**

This ProCal tool has been designed to deliver a performance calibration to ABS module of your vehicle. The tool and performance calibration are locked to your vehicle and therefore cannot be used on a different vehicle.

**CAUTION! If a dealer or installation facility has installed and programmed your vehicle, be sure to obtain the USB cable and PC3 file from the installation facility. It is required to restore the previous calibration or make modifications to the vehicle configuration after the vehicle has been programmed.**

### Verify Package Contents



**\*\*\*TAKE EXTREME CARE THAT YOUR CALIBRATION FILE DOWNLOADED FOR YOUR VEHICLE IN THE FOLLOWING STEPS IS NOT LOST OR DAMAGED; REPLACEMENTS WILL NOT BE GIVEN\*\*\***

### Getting to Know the ProCal 3 Software

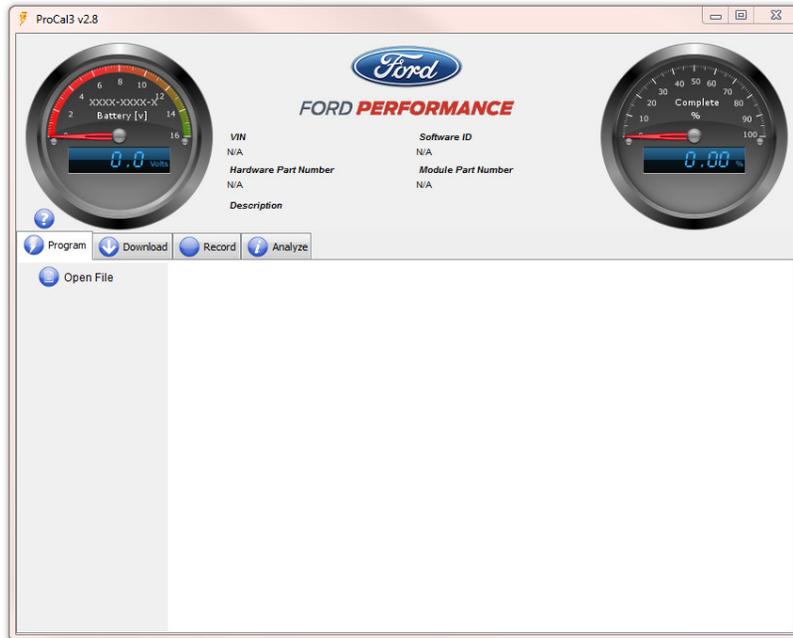
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On the **MAIN** screen, note the following:

- a. **Battery gauge** in the top left-hand corner of the screen displays the current battery voltage. Located directly above the "Battery [v]" text on the **Battery gauge** is a sequence of numbers:
  1. The first four digits are the **ProCal 3 Customer Number**
  2. The next four digits are the **ProCal 3 Vehicle Interface Serial Number**
- b. **Vehicle specific data** – VIN, Software ID, Hardware Part Number and Module Part Number located in the top-center of the screen is automatically populated when the drifter stick is plugged-in and communicating with the vehicle. Note: be sure to turn the ignition "ON" before connecting the USB cable to communicate with the vehicle.
- c. **Description** – Description of the PC3 file that is currently open. The filename of the currently open PC3 file will be displayed in the title bar of the ProCal application.
- d. **Progress gauge** - In the top right-hand corner of the screen displays the % complete of the current task. NOTE: The % complete gauge will make multiple sweeps from 0%-100% during the programming process.
- e. **Function Tabs** include the Program, Download, Record and Analyze tabs. Each of these tabs are used for various functions that will be described later. In addition, other tabs may appear when a ProCal 3 file is opened.

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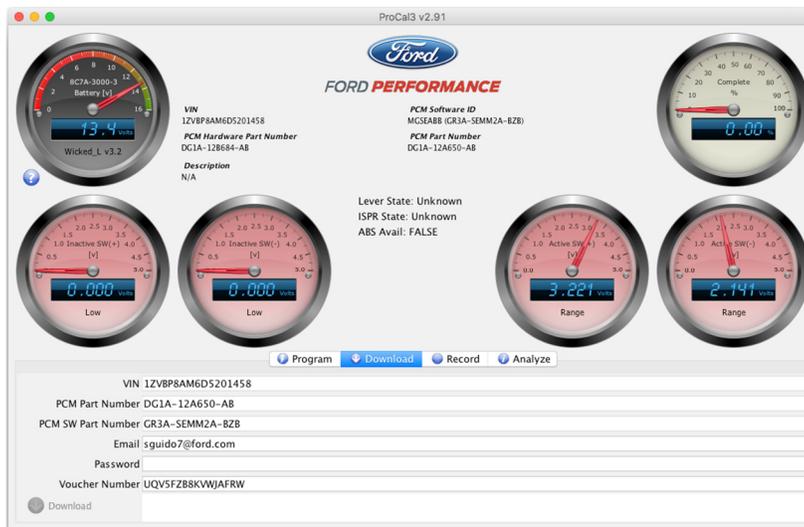
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### Download Calibration File

**!!! Your computer must be connected to the internet in order to download the performance calibration Downloader Tab**

The downloader tab is used to obtain the correct calibration for the vehicle from Ford Performance. When downloading the PC3 file, it will be personalized to your vehicle using the VIN and Procal Unit serial number. When downloading a PC3 file, it will be stored in the “Documents/ProCal3/calibrations” folder on a Windows computer or “home/ProCal3/calibrations” on Mac OSX based computers. The file will be named based on the calibration, VIN and Procal unit serial number, eg. <calibration>\_<VIN>\_<SN>.pc3. This makes it easy to identify which file belongs to a specific vehicle.



- **VIN** – This field automatically populates with your Vehicle Identification Number when connected to the Drift Stick and the vehicle is powered.
- **Module Part Number** – This field automatically populates with your Powertrain Control Module’s part number when the Drift Stick and the vehicle is powered.
- **Software Part Number** – This field automatically populates with your Powertrain Control software part number when the Drift Stick and the vehicle is powered.
- **EMAIL** – This field must be populated with the same email address that was used during the registration process. ProCal 3 will automatically populate with the last entered EMAIL.
- **Password** – Enter the same password that was used during the registration process. The password must be entered each time you download, so do not forget your password.
- **Voucher Number** – Enter the voucher number received in your kit in this field.

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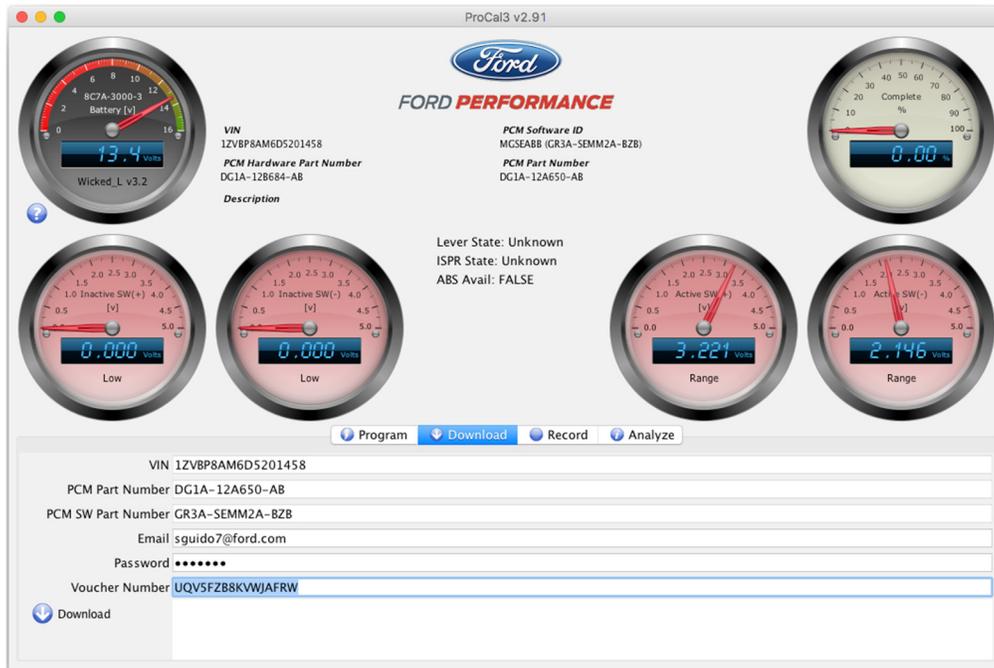
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- **Download Button** – Click this button to download the appropriate calibration file associated with your specific EMAIL, VIN, Module Part Number, and Voucher Number.

- STEP 1:** Navigate to the “Downloader” tab and verify that the proper VIN is displayed and Module Part Number field is populated. NOTE: If working from a previously obtained calibration file, skip to Programming Your Vehicle STEP 1.
- STEP 2:** Enter your EMAIL, Password, and Voucher Number; all fields on the “Downloader” tab should now be populated.
- STEP 3:** Click the “Download” button to begin downloading your performance calibration.
- STEP 4:** Upon successfully downloading the performance calibration, ProCal 3 will automatically open the downloaded file and switch to the Program Tab. The downloaded file will be saved for future reference in your “Documents/ProCal3/calibrations” folder on a Windows computer or “home/ProCal3/calibrations” on Mac OSX based computers. The Downloader tab should appear similar to this:



NOTE: If flashing vehicle now, skip to Programming Your Vehicle Step 3. If flashing will be completed later, start at Programming Your Vehicle STEP 1.

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### Program Tab

- **Open File Button** – Click this button to navigate to and open a Procal 3 file, ProCal 3 files have a “PC3” file extension. The PC3 files can be located anywhere on your hard disk, but are located in the “Documents\ProCal3\calibrations” folder.
- **Close File Button** – Click this button to close the calibration file that is currently open. This button will only appear when a PC3 file is open.
- **Program Button** – Click this button to flash the currently open calibration file to your vehicle’s PCM. This button will only appear when a PC3 file is open.
- **Opening a File** – Click the Open File button and select the appropriate PC3 file. For the Drift Stick, you must read the disclaimer and type “OK” in the password box. This is your acknowledgement of the disclaimer. ProCal3 will allow you to program either the Drift Stick software into the ABS module or the Stock ABS software in case you would like to remove the Drift Stick from the vehicle. Be sure to ONLY select either Drift ABS or Stock ABS.

Liability Notice

**WARNING**

This part has been designed and is intended for off-road use only (closed course and track events).  
This part should be removed for on-road vehicle use (minimum: disconnect strut and electrical connection).  
The driver is always responsible to drive in accordance with local laws and prevailing conditions.

**Failure to do so could result in accident or injury**

Contact the **Ford Performance Tech Line at 800-367-3788** for assistance.

Type "OK" and press return to accept these terms

Password:

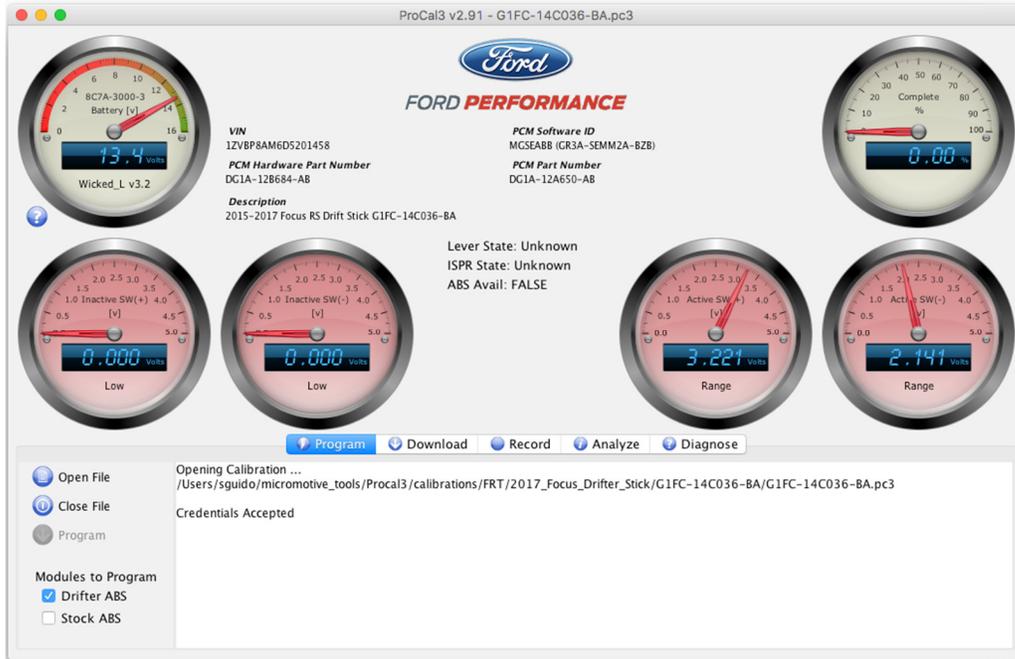
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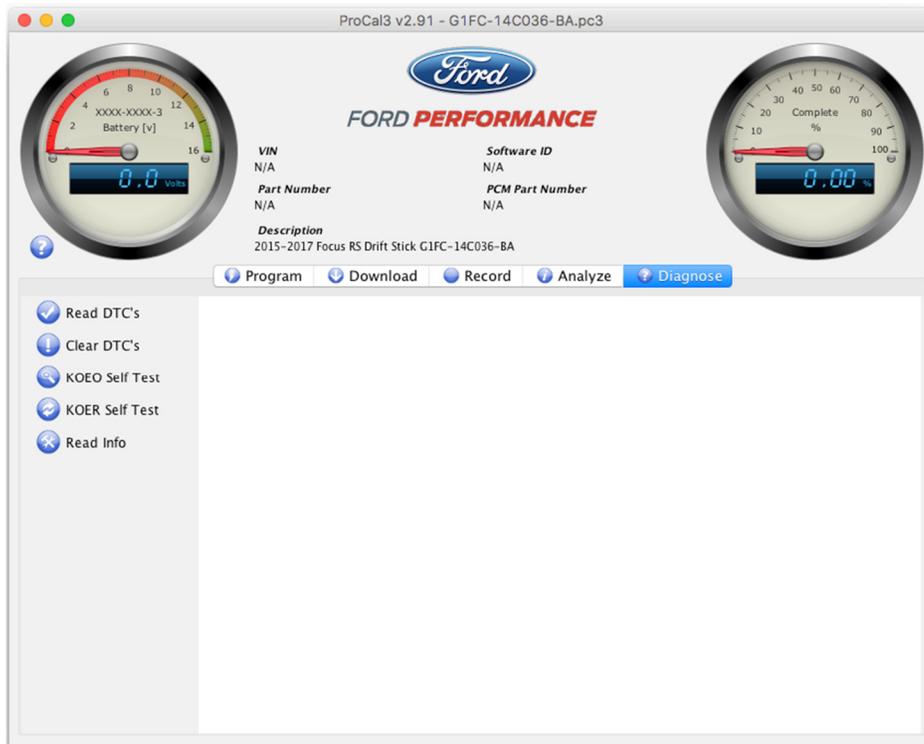
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## Diagnostic Tab



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- **Read DTCs Button** – Click this button to read all Diagnostic Trouble Codes currently being sent by your vehicle's PCM.
- **Clear DTCs Button** – Click this button to clear all Diagnostic Trouble Codes currently set in your vehicle's PCM.
- **KOEO Self-Test Button** – Click this button to perform a Key-On, Engine-Off diagnostic self-test.
- **KOER Self-Test Button** – Click this button to perform a Key-On, Engine-Running diagnostic self-test.
- **Read Info Button** – Click this button to read PCM information.

**!!! SUBSEQUENT STEPS REQUIRE AN INTERNET CONNECTION IN ORDER TO COMPLETE THE INSTALLATION OF YOUR PERFORMANCE CALIBRATION ONTO YOUR VEHICLE'S PCM; IF YOUR VEHICLE IS LOCATED SOMEWHERE WITHOUT AN INTERNET CONNECTION, PLEASE COMPLETE THE CALIBRATION DOWNLOAD BEFORE LEAVING THE INTERNET CONNECTED AREA !!!**

### Prepare Vehicle for Flashing

**STEP 1:** Make sure your vehicle's battery is fully charged (at least 12.0 volts) and all accessories (radio, interior fan, headlights, etc.) are off. Headlights on 'auto' will turn on during programming, so make sure the lights are fully off. If you are unsure if your vehicle's battery is fully charged, connect a battery charger prior to beginning the programming process.

**CAUTION: If your ProCal aborts programming due to low voltage or if the programming process is interrupted for any reason, you can simply repeat the flash process.**

**STEP 2:** Refer to the Drift Stick Installation guide for hardware installation. The ProCal 3 application is able to communicate with the vehicle through the Drift stick.

**STEP 3:** If your vehicle has a physical key, turn the ignition key of your vehicle to the ON (not start) position. If your vehicle has a key fob (instead of a physical key), with your foot OFF of the brake pedal, press the ignition button once.

**STEP 3:** Attach the computers' USB port to the Drift stick. The USB connector is on the bottom of the drift stick.

**STEP 5:** If the drift stick properly connected to the OBD port and USB, the **HOME** screen should now be similar to this:

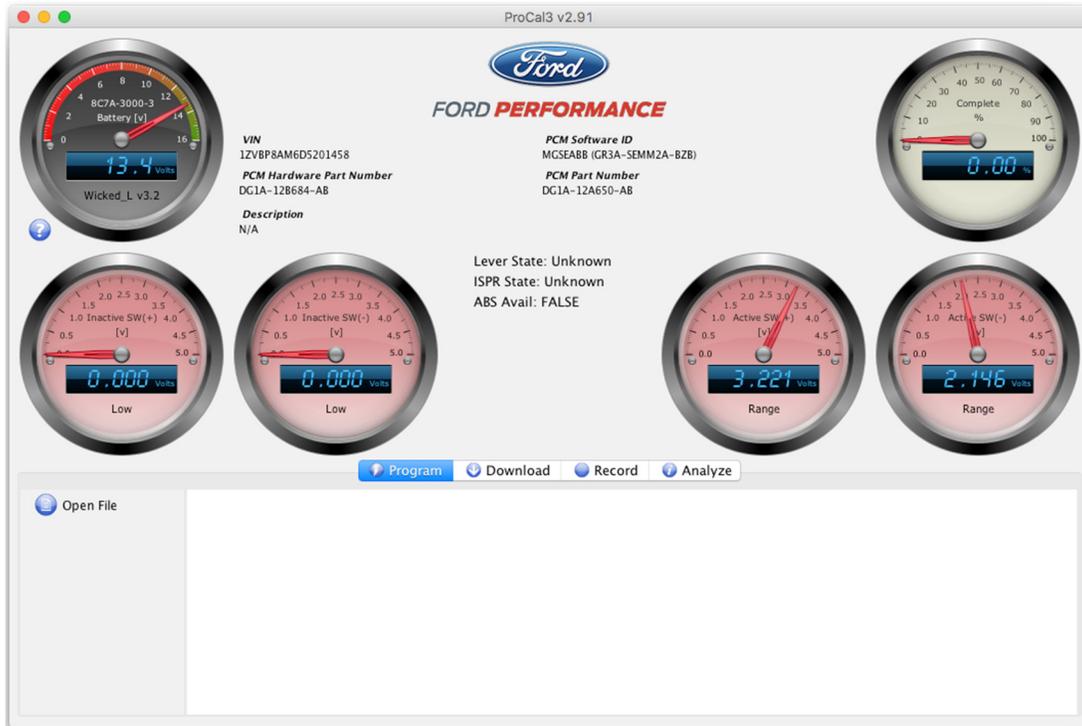
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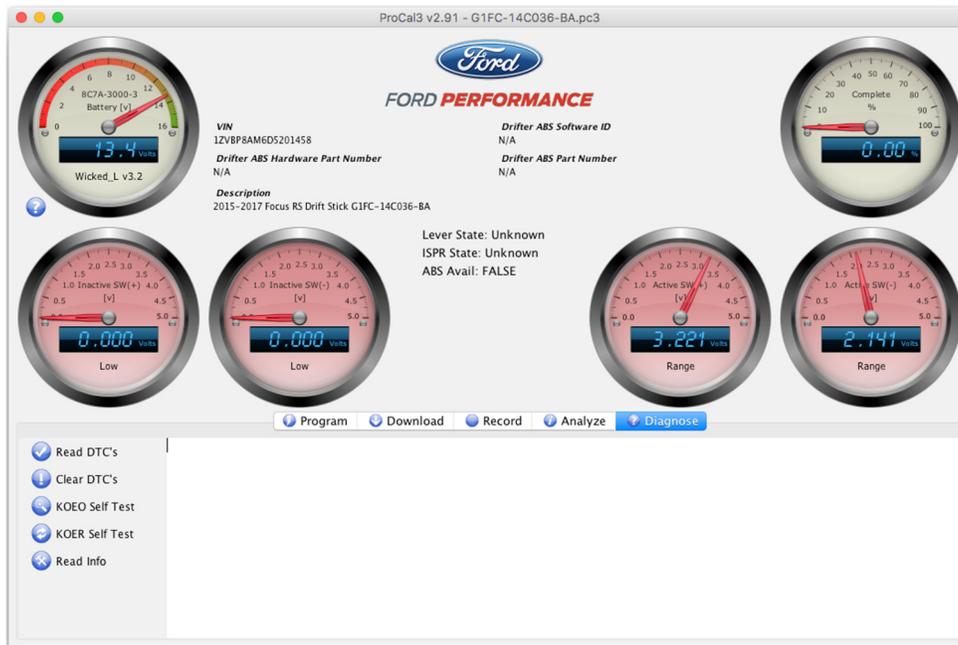
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**STEP 6:** Navigate to the “Diagnostics” tab and click on the “Read DTCs” Button  
Diagnostic trouble codes that exist for your vehicle are displayed.



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Causes of all existing trouble codes must be resolved prior to proceeding with installation of your performance calibration. Write down or copy and paste displayed codes and contact the Ford Performance Techline at 1-800-367-3788 for assistance with resolution of existing trouble codes **before** continuing.

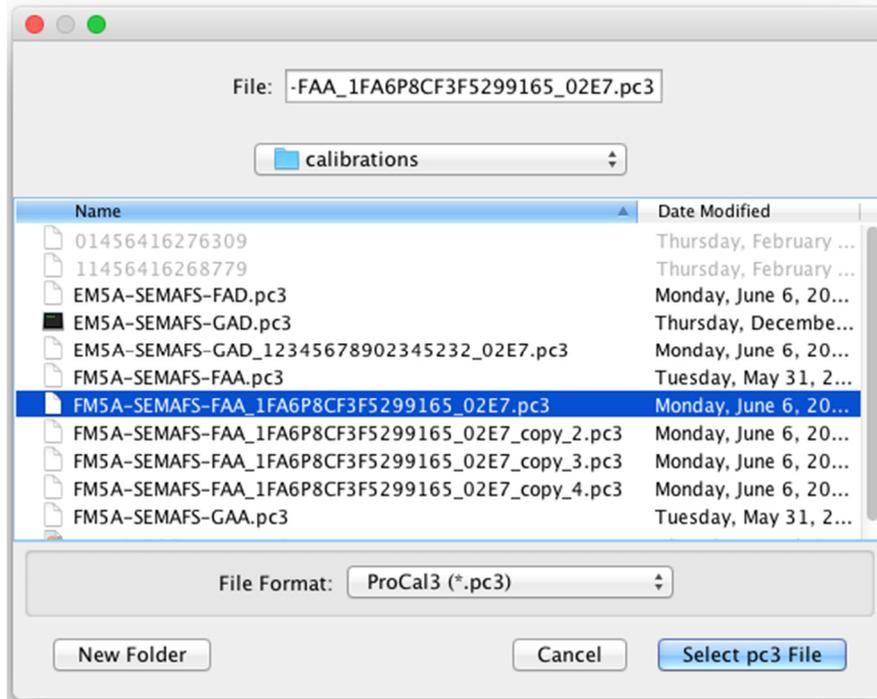
**STEP 7:** Resolve causes of all existing trouble codes then clear DTCs by clicking the “Clear DTCs” button on the “Diagnostics” tab.

**STEP 8:** Click “Read DTCs” again to verify all issues have been resolved.

### Programming Your Vehicle

**STEP 1:** If the ProCal3 file is not open, navigate to the “Main Tab”, and click on the “Open” button.

**STEP 2:** Navigate to the performance calibration file that you downloaded. By default, ProCal 3 will look in the “Documents/ProCal3/calibrations” folder on Windows PC’s or the “<user\_home>/ProCal3/calibrations” folder on a MAC that was created the first time you ran the ProCal 3 application. Double-click on the performance calibration file (should have a .pc3 extension) or single-click and then press the “Select pc3 File” button.



Factory Ford shop manuals are available from Helm Publications, 1-800-782-4356

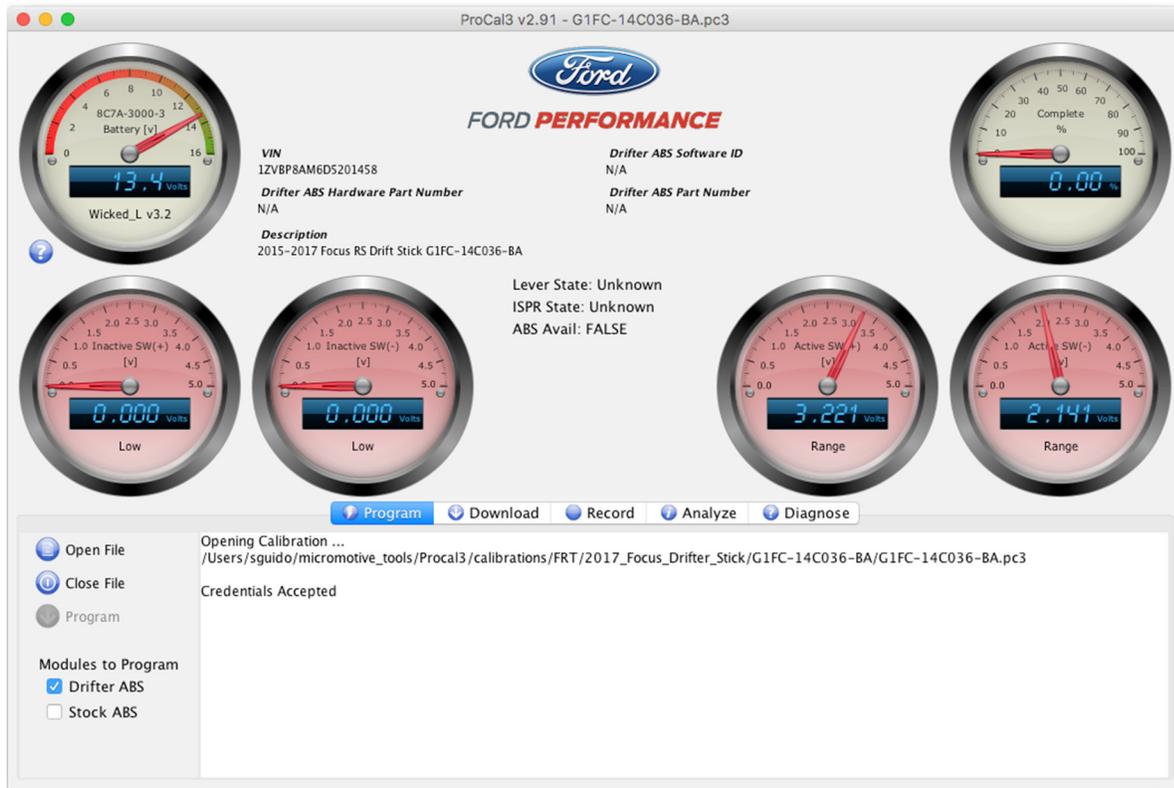


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**STEP 3:** The “Description” field on the “Programming” tab should now display a short description of your performance calibration, similar to what is shown below.



**STEP 4:** After all DTCs have been repaired and cleared and the PC3 file is open, the vehicle is ready to be programmed; On the “Program Tab”, click “Program” to begin installation of your performance calibration.

ProCal may upload the stock calibration first prior to programming in order to save the calibration that is currently in your vehicle. This saved file will be contained within the same PC3 file that is being used to program your vehicle.

**CAUTION!** If a dealer or installation facility has installed and programmed your vehicle, be sure to obtain the USB cable and PC3 file from the installation facility. It is required to restore the previous calibration or make modifications to the vehicle configuration after the vehicle has been programmed.

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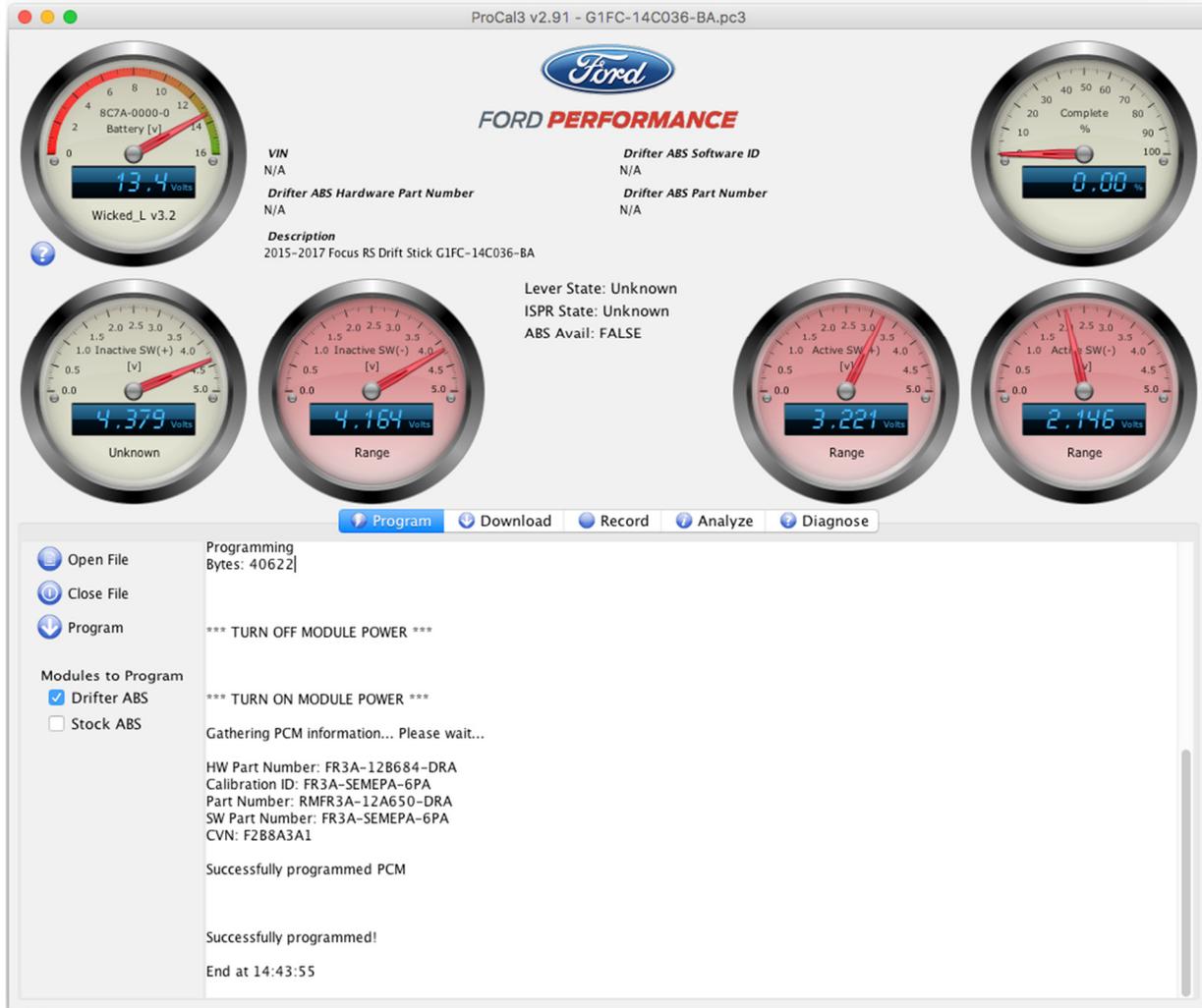


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**STEP 5:** When programming is complete, your screen should appear similar to the one shown below:



**STEP 6:** Once the display shows “Successfully programmed!” turn ignition key to OFF position. Disconnect the USB cable from the computer and wait at least 15 seconds. Turn ignition key to the ON (not start) position and re-connect the USB cable to the computer.

**If your ProCal aborts programming due to low voltage or if the programming process is interrupted for any reason, you can simply repeat the flash process**

**STEP 7:** The programming process is complete, the tool may be disconnected, and the vehicle is ready to drive.

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### Restore the Stock ABS Calibration

- STEP 1:** Navigate to the “Program Tab”, and click on the “Open” button and open the PC3 file that was used to program the performance calibration.
- STEP 2:** Click the Drift ABS checkbox to de-select it. Click the Stock ABS checkbox to select it.
- STEP 3:** Repeat the programming procedure.

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