

2022 FORD POWERSTROKE GDP TUNING INSTRUCTIONS

W/ SOTF & TRANS TUNING

IMPORTANT NOTE: You will need an unlocked 2021 PCM to complete installation!

Once you have received your GDP Commander tuning device, SOTF switch, preorder number, and have an unlocked 2021 PCM:

1. Download and install the GDP Commander AutoFlasher software to a windows laptop from <https://gdpproducts.com/pages/software>
2. From a web browser surf to the GDP Order Form: <https://gdpproducts.com/pages/order-form>
 - a. Select the “Commander” option
 - b. Enter your pre-order number (printed on a small sheet of paper inside of your GDP Commander storage box)
 - c. Select the Powerstroke option and enter your year, make and model info
 - d. Open the “AutoFlasher” software you installed from step 1 and plug your GDP Commander into your laptop with the included USB cable
 - e. Click on Cable -> Connect, once your GDP Commander is connected your Cable S/N will be shown on the right-hand side of the AutoFlasher. Copy this number to the order form where it asks.
 - i. While you have your Commander connected this is a good time to check for firmware updates and install them before moving on to the actual tuning process. Click once again on “Cable” and then “Update Firmware” and let the process run to make sure you have the latest firmware installed. This may generate a file named “oldCredits.txt” to your Desktop - DO NOT DELETE THIS - it will be needed later on.
 - f. **DO NOT DOWNLOAD THE GDP COMMANDER SOFTWARE OR FOLLOW THE INSTRUCTIONS IN THE LINKS ON THE ORDER FORM, THEY ARE OUTDATED, CONTINUE FOLLOWING THIS GUIDE!**

- g. The following steps will require you to go to your vehicle to connect to the battery to power your PCM tuning harness, so take your GDP Commander with the PCM harness, 2021 PCM, and laptop outside.
- h. Connect the positive and negative battery clips from the PCM tuning harness to your battery and connect your GDP Commander to your laptop with the USB cable, then plug the harness in to your 2021 PCM **NOT** your 2022 PCM currently installed in the truck
 - i. The harness plug connects to the far left port of the PCM (with the label side of the PCM facing down)
- i. Click on Cable -> Connect, once you are successfully connected click on Service Mode -> Identify. Once this is complete your PCM S/N will be displayed in the AutoFlasher under ECU S/N. Copy this number to the order form for ECU Serial Number.
- j. You can now disconnect from the GDP Commander and unplug the PCM and remove the battery power clips
- k. Swap the PCM tuning harness connected to your Commander for the OBD harness and move to the inside of your truck
- l. In AutoFlasher once again click on Cable -> Connect then plug the OBD harness in to the OBD port and turn key on (do not start the truck, just full power accessory mode)
- m. Once connected click on OBD -> Identify, a popup will come up asking ECU or TCU, select TCU. Once this completes your TCU S/N will be displayed under ECU S/N in AutoFlasher. Copy this number to the order form for TCU Serial. You can now disconnect the GDP Commander from the OBD, this is the last you will need it for this part of the process.
- n. Finish filling out the rest of the required information on the order form. **Under “Special Instructions” make sure to paste the following note: “Please enable AsBuilt and PATs in AutoFlasher”**. You can also let them know if you prefer a rumble or a hiss tune in this section.

- o. If an "oldCredits.txt" file was generated to your computers Desktop when you performed the Firmware Update process, attach this file at the end of the order form
 - p. Submit the form and wait for your tune files to be created and sent to you (usually takes 2-5 days)
3. After you receive your tune files, download them to your laptop and move on to the following steps to complete the tuning process
 4. Starting with the factory 2022 PCM installed, connect your Commander up to the computer first then to the vehicle OBD2 port
 5. In AutoFlasher click on Cable -> Connect, once connected click on OBD -> AsBuilt -> Read and save the file in a known location
 6. Remove your factory 2022 PCM from the truck and install your unlocked 2021 PCM in its place. **DO NOT CONNECT ANY CONNECTORS FROM THE TRUCK TO THE PCM YET.**
 7. Set up your Commander in service mode (PCM harness connector straight to the PCM and battery cables) ensure your battery cables are hooked properly to the posts and not on the tightener nuts
 8. With your 2021 PCM installed and the Commander hooked to the furthest outside connector (make sure the center and inside connectors are still unplugged from the truck), proceed with connecting: Click on Cable -> Connect, once connected click on Service Mode -> Identify which should populate the PCM data
 9. Next, click on Service Mode -> Read EE. Save this file in a known safe location with a name that makes sense (ie. ECU EEPROM)
 10. We are now ready to flash the tune file to the PCM! While still connected, select Service Mode -> Write. When prompted for the file to write, select the SOTF file from your downloaded tune files and wait while the tune loads (this can take 10-20 minutes)
 11. Remove Commander from under hood and re-secure all factory connectors from the truck to the PCM.

12. Go back to the vehicle cab with the Commander and reconnect to the vehicle's OBD2 port. Key on. In the AutoFlasher software click Cable -> Connect, once connected click on OBD -> AsBuilt -> Write, select the AsBuilt data file read from the factory PCM in step 5
13. Next, click on OBD -> Misc Routines -> PATs -> BCM EEPROM Read. Save this file in a safe location with a name that makes sense (ie. BCM EEPROM)
14. Next, click on OBD -> Misc Routines -> PATs -> PATs Reset, load the BCM & ECU EEPROM files (from step 9 and step 13) when prompted (look at the top of the open file window to see which file it is requesting and select the corresponding file). Follow prompts on screen until complete.
15. Disconnect your GDP Commander from the truck
16. Under the hood, disconnect the plug from throttle valve (underneath charge air pipe, see pic below). This will remain disconnected for as long as you are running the tuned PCM.
17. Confirm truck starts and runs
18. Install SOTF knob in the cab, route wires into the engine bay, and connect to the IAT sensor wire plug (Note: It does not matter the orientation of the blue SOTF wires into the plug)
 - a. The 2-wire connector in the SOTF kit connects to the 2-wire intake air temp sensor wire on top of the charge air pipe **NOT** the fuel temp sensor connector as shown in the SOTF installation instructions posted on the GDP website



19. Remove exhaust emissions control devices and install race pipe or new exhaust system.

Congratulations, everything is installed and you are ready to drive if you didn't order the optional trans tuning!

a. If you ordered trans tuning continue on....

20. In the cab, reconnect the Commander to the OBDII port and connect to the AutoFlasher with Cable -> Connect

21. Once connected click on OBD -> Write, from the popup select TCU, and then select the KAM Reset 2022 file from the tuning files delivered to you by GDP. You will be prompted for a code, enter DIESELR, then wait for the reset file to complete loading. Once loaded, do not drive the vehicle.

22. Again, click OBD -> Write, from the popup select TCU, and select the TCM trans tune file sent to you by GDP

23. Once the TCM file loads you will need to perform the trans relearn procedure directly afterwards, as follows:

- a. Do the relearn starting by driving at 1/4 throttle, let it shift through all of its gears then pull over, put it in park, shut the truck off, and open the driver's door. Then repeat the same process at 1/2 throttle, 3/4 throttle and full throttle. If it doesn't hold power at that throttle position, then do the previous throttle position again.

Note: Perform the above relearn procedure with your SOTF tune level set at 5

Congratulations, the job is now complete!