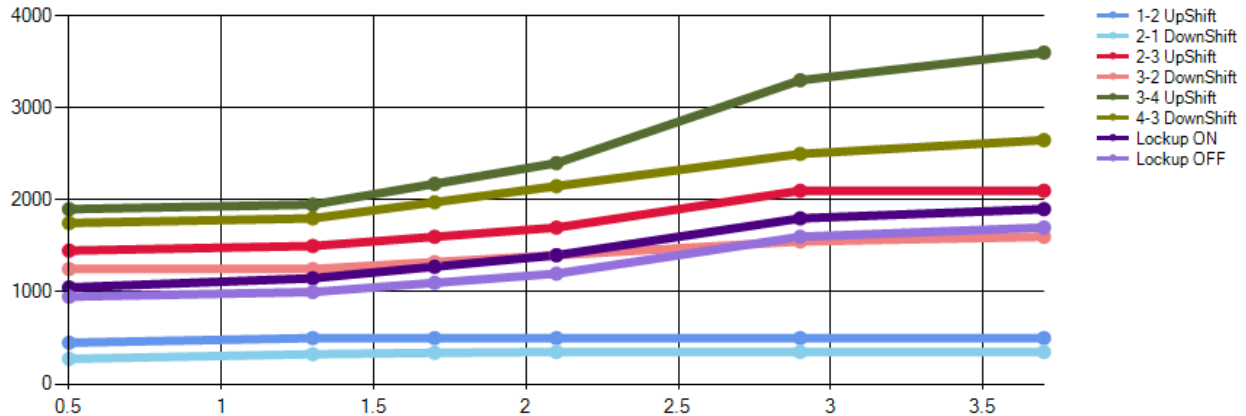# DOWNLOAD COLOUR INSTALL MANUALS AT *www.bddiesel.com*

47RE/48RE Tapshifter Enhanced Mode Editor

This document explains how to use the BD Tapshifter Enhanced Mode Editor software to enable Custom Shift modes and Lock-up mode.

1607258	Dodge TapShifter 48RE

This software upgrade is OPTIONAL and not required for installation of a BD TapShifter kit.

This software is only compatible with PCB hardware version V1.5 and newer.

Disclaimer: BD Diesel does not provide recommendations for shift maps or take responsibility for the updates made to the 48RE Tapshifter using the Tap shifter configurator software. This software is intended for professionals and users should exercise care.

Table of Contents

Introduction

BD's Dodge Tapshifter gives you control over your automatic transmission with just the touch of a button. Dodge 47RE and 48RE transmissions lack the same level of control later model trucks provide over gear selection. This kit gets you back in control of your transmission without the sacrifices associated with manual valve bodies or standalone controllers.

By updating your Tapshifter module with our new enhanced editor software, additional modes will be unlocked. These modes allow custom shift scheduling for upshift, downshift as well as torque converter lock-up and unlock adjustments. All of the original Tap shifter modes and functions remain with this update.

This software requires Tapshifter module hardware V1.5 (This does not refer to the firmware version listed on the sticker). Check Appendix I for instructions to find the module version. To add this functionality an additional wire will need to be added connecting the accelerator pedal to the Tapshifter module. The wiring instructions can be found in Appendix II.

Tools Required for Installation

Micro-USB cable	BD Tapshifter Editor	Tapshifter Module V1.5	1300348* 18-22AWG Posi-Tap	1607266* Wire Pigtail APPS Input
NOT INCLUDED	*Downloadable*			
	BD Tapshifter Editor			

*Provided in New 1031381 Tapshifter kits. Contact BD if you need replacement parts.

Operation

To turn on the TapShifter, tap the **-** button on the shift lever. The BD TapShifter will detect what gear you are in and will light up the BD gear display with that gear. You can now shift up and down using the **+** and **-** buttons as required. Shifting operation and torque converter operation can be configured to be automatic or manual depending on the mode used. See modes below for more details.

To turn off the TapShifter, keep pressing the **+** button until you go past 4th gear. This will turn off the display and let the TCM control the transmission again.

Automatic Mode (Mode 1)

Mode 1 allows the driver to select the maximum gear to shift up to. This means whatever gear you select on the display will be the highest gear the transmission will reach. This mode also provides convenient downshifting capabilities while retaining automatic shifting. The Tow/Haul or OD OFF button still functions like stock with the shifter turned on. This mode works just like the late model 68RFE trucks shifter. This is the default mode when it leaves the factory.

Automatic Mode with TorqLoc (Mode 2)

Mode 2 works the same as mode 1, except now the Tow/Haul button is re-purposed into a lockup button when the shifter is turned on. This means the stock torque converter lockup strategy is maintained, but at the tap of a button, you can achieve lockup (the padlock will illuminate in the display). The TapShifter takes care of the minimum speed engagement and disengage points for you based on the gear you've selected so there is no need to worry about stalling the truck.

Automatic Mode with TorqLoc/TorqUnLoc (Mode 3)

Mode 3 is similar to mode 2 except it keeps the TCM from being able to lock up the torque converter and only engages when the driver commands it.
CAUTION Do not leave the torque converter disengaged for long periods when towing or driving on the highway or it will elevate transmission temperatures.

Custom Modes (Mode 4 & Mode 5)

Mode 4 and Mode 5 allow shift points and lock/unlock to customize to the driver's wants and needs. A base shift schedule is provided as a starting point. From there all gear shift points from off throttle to part throttle and through to full throttle are completely adjustable. Torque converter lock/unlock is also adjustable throughout the throttle range. The software instructions are included later in this manual.

Lock-Up Control Mode (Mode 6)

Mode 6 does not allow the adjustment of shiftpoints. The intention of Mode 6 is to only control the torque converter. There is one lock-up point and one unlock point solely based on output shaft RPM. OE lock-up is disabled in Mode 6. Once the torque converter is locked it will remain that way until output shaft RPM falls below the unlock speed. This mode can be used for drag racing.

Full Manual Mode (Mode 7)

Mode 7 mimics the function of a manual valve body. You can drive in any gear at any time and get full control of the torque converter lockup using the Tow/Haul button which will illuminate the padlock symbol. This mode improves on manual valve bodies as it has downshift over-rev protection and torque converter anti-stall protection, plus as soon as you turn off the TapShifter, the truck regains the convenience of automatic shifting.

Mode Changes

To change a mode, turn the TapShifter off (if not already). Press and hold the **+** button on the shifter for a few seconds until the display lights up with a number. This number refers to the mode the TapShifter is set to. For mode 7 it will show a **3+4**. To change the mode, keep tapping the **+** button to cycle through the modes. To select the mode press the **-** button. The TapShifter will remember modes through power cycles so you only need to set it when you want to make a change.

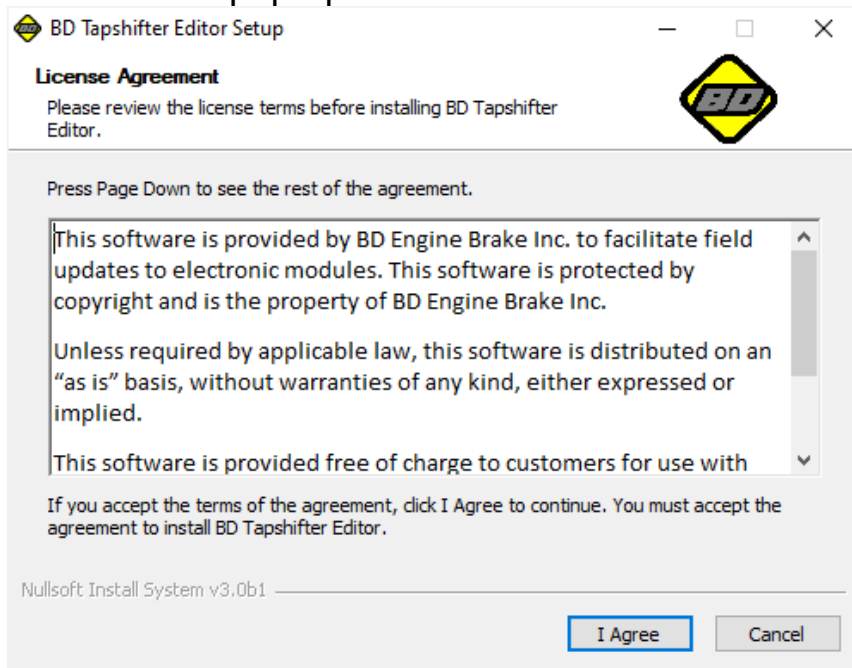| MODE 1	
MODE 2	
MODE 3	
MODE 4	
MODE 5	
MODE 6	
MODE 7	

Instructions

Software Installation

|	
Download the Tapshifter enhanced mode software from the resources tab on the BD Diesel website.	Install BD Tapshifter Editor Program.exe
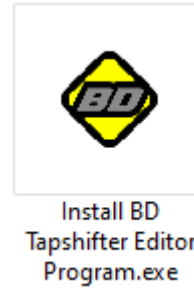
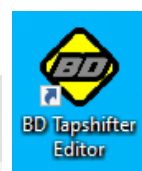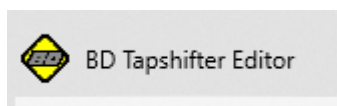Follow the instructions in the pop-up screen to install the software

Choose a location where you want to save the software and make note of this file location.
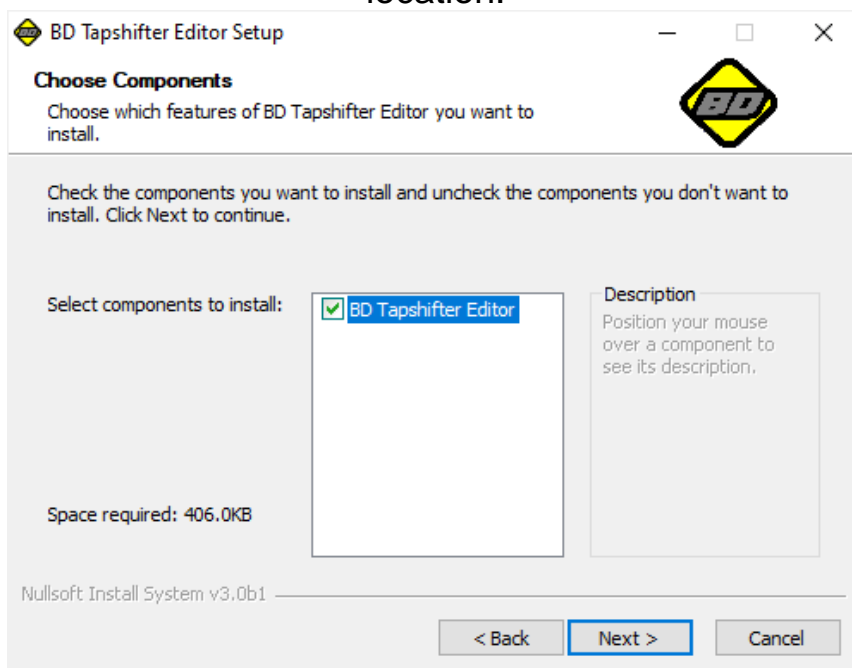
Click install and close the installer once the installation is complete
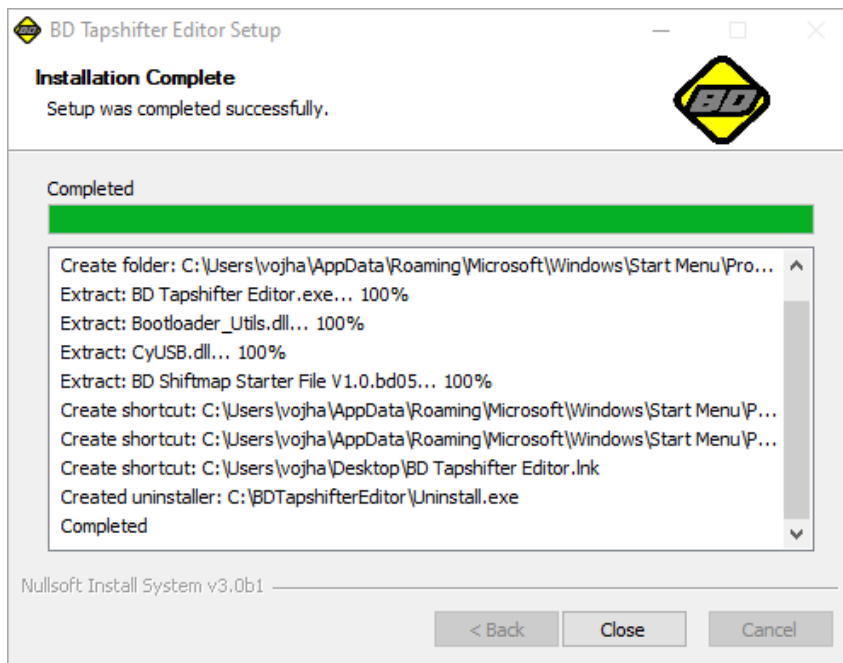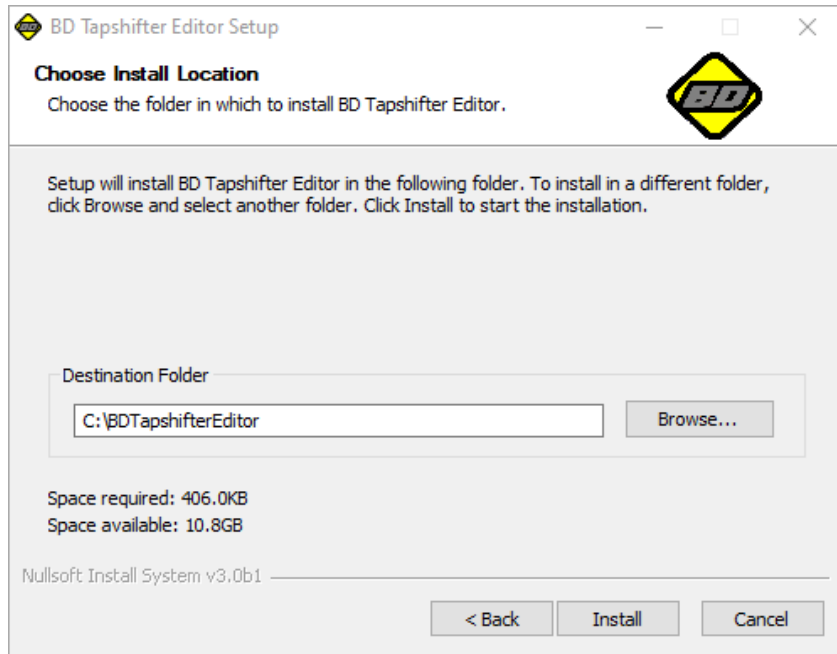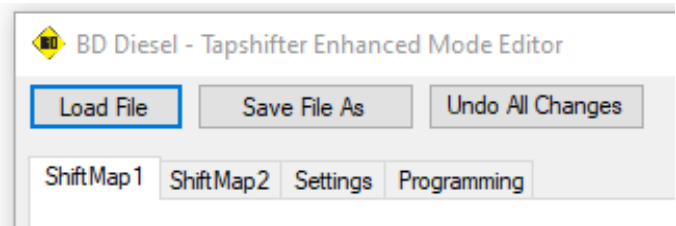

Use the shortcut in the Start menu or use the Desktop shortcut to launch the software.

Using the Software

Launch the configurator and click on the "Load file" button to open a file. Select the file from the browser to open it.
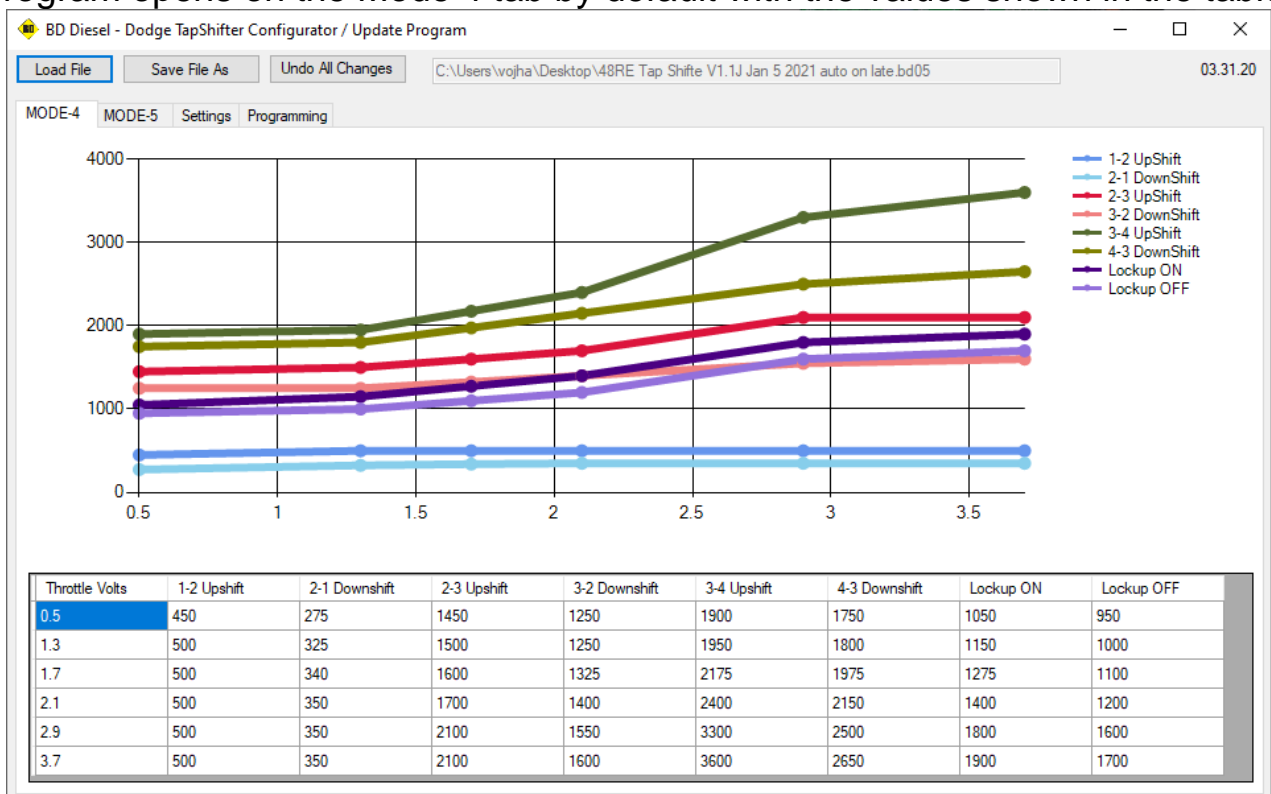
Navigate to the location where the program was saved to find the Shift map starter file. This file can be saved by a different name after being modified. Ensure the file extension remains ".bd05" after being renamed.

The shiftmap starter file contains a stock-like shift schedule in Mode 4 and second gear torque converter lock-up example in Mode 5.
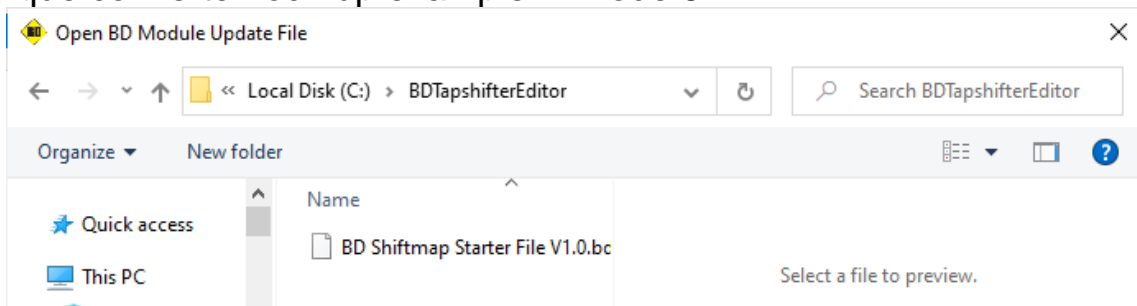
The program will load the file and display the values on the graph as shown. The program opens on the Mode 4 tab by default with the values shown in the table.

Throttle Volts	1-2 Upshift	2-1 Downshift	2-3 Upshift	3-2 Downshift	3-4 Upshift	4-3 Downshift	Lockup ON	Lockup OFF
0.5	450	275	1450	1250	1900	1750	1050	950
1.3	500	325	1500	1250	1950	1800	1150	1000
1.7	500	340	1600	1325	2175	1975	1275	1100
2.1	500	350	1700	1400	2400	2150	1400	1200
2.9	500	350	2100	1550	3300	2500	1800	1600
3.7	500	350	2100	1600	3600	2650	1900	1700

The table contains the throttle position sensor voltage and the corresponding output wheel RPM at each shift point. The throttle voltage dictates the throttle percentage as shown in the table below:

Volts to throttle percent conversion:

2003-04		2005-07	
Volts	Percent	Volts	Percent
0.7	0%	0.5	0%
1.3	20%	1.3	20%
1.7	33%	1.7	30%
2.1	47%	2.1	40%
2.9	73%	2.9	60%
3.7	100%	3.7	80%

In order to change the value select the box and type in the desired value.

Throttle Volts	1-2 Upshift	2-1 Downshift	2-3 Upshift	3-2 Downshift	3-4 Upshift	4-3 Downshift	Lockup ON	Lockup OFF
0.5	450	275	1450	1250	1900	1750	1050	950
1.3	500	325	1500	1250	1950	1800	1150	1000
1.7	500	340	1600	1325	2175	1975	1275	1100
2.1	500	350	1700	1400	2400	2150	1400	1200
2.9	500	350	2100	1550	3300	2500	1800	1600
3.7	500	350	2100	1600	3600	2650	1900	1700

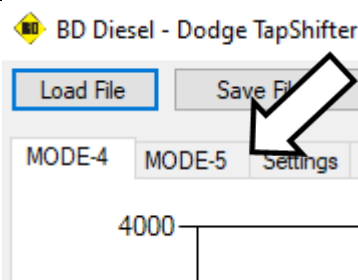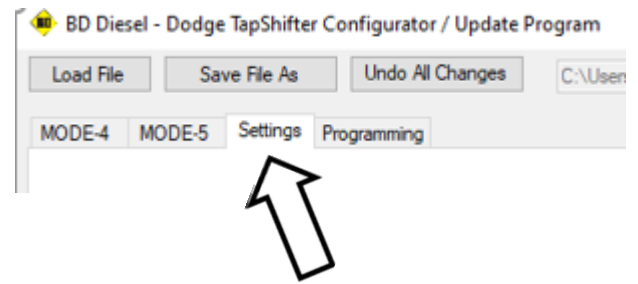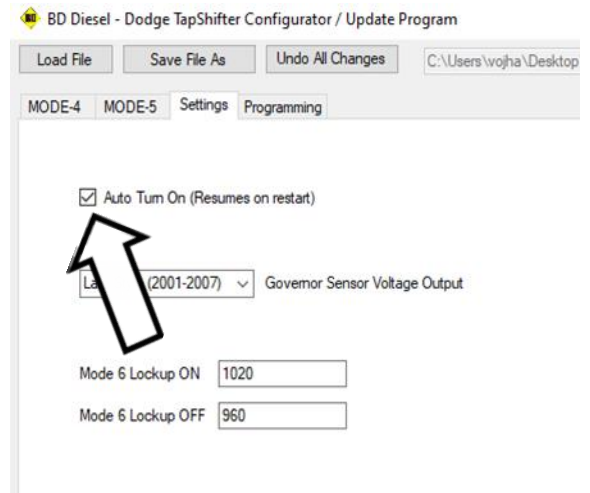|	
If the value is valid*, the changed value is shown in yellow.	
If the value is invalid* then the value is marked in red and the conflicting value is also marked in red.	
If the value entered is too large then the value defaults to the last entered value.	
Use the tabs on the top to set the values for Mode 5. Follow the previous steps to change the values for Mode 5.	

|	
Using the settings tab to set additional options.	
Use the Auto turn on check box if you want the tapshifter to remember its last set state and turn on automatically when the vehicle is started up. Ie: If the Tapshifter was last set to 3rd gear in mode 3 it will return to that state when the vehicle is restarted.	
Mode 6: Use the two boxes to set the output shaft RPM at which the torque converter lock-up turns on and off.	
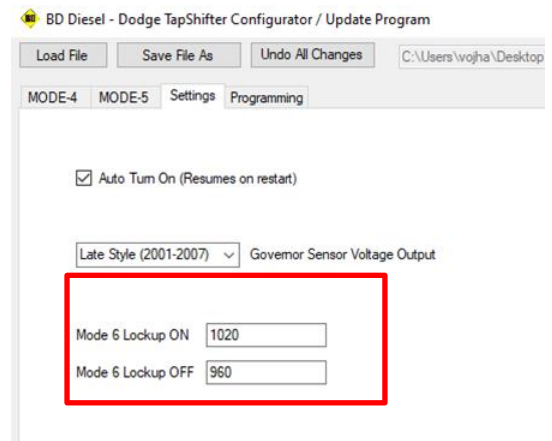
NOTE: The option to choose between early and late styles is not supported at this time.

Valid and Invalid Shift points

The shift points control when the transmission shifts up or down based on throttle position and wheel speed. An acceptable/valid value would be when the upshift value is at least 50 RPM higher than the downshift value to prevent gear hunting. The upshift value must also be at least 50 RPM lower than the downshift value for the next gear. An invalid pair of shift points is one where lines of the graph overlap as shown below:
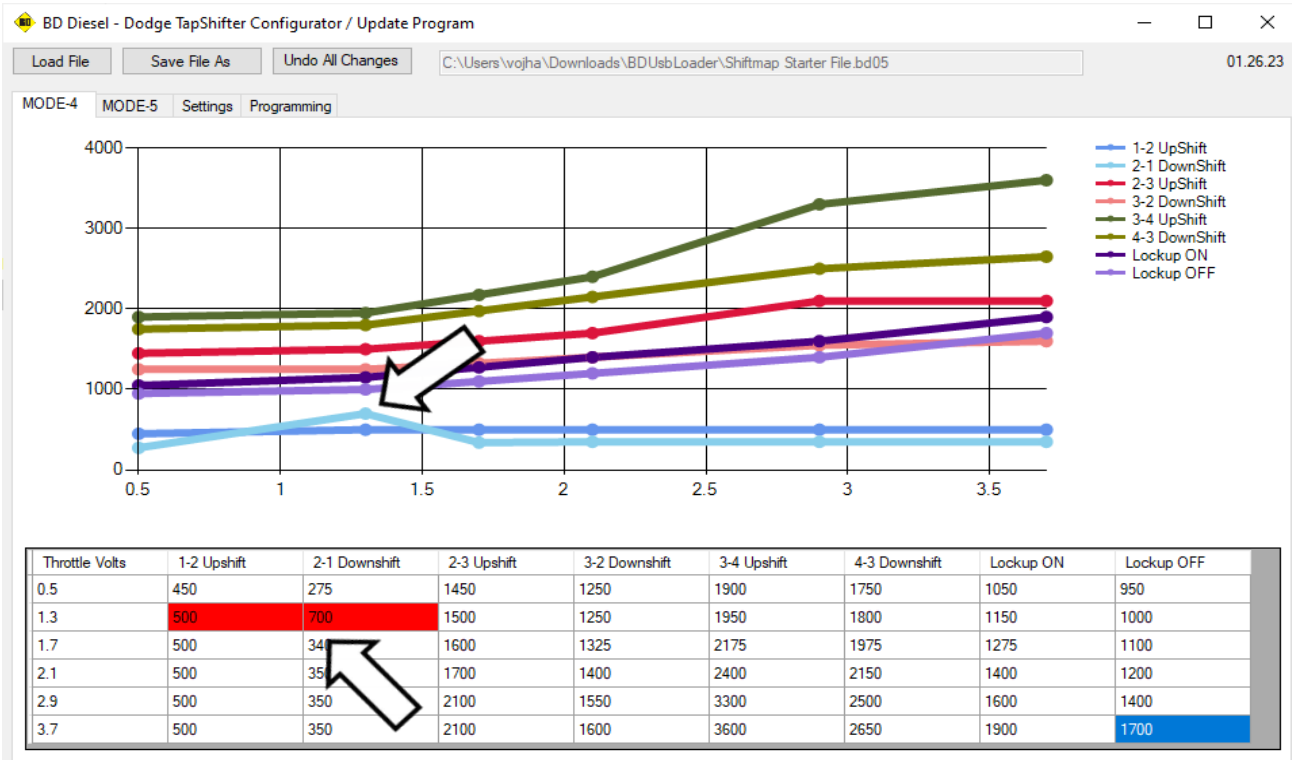
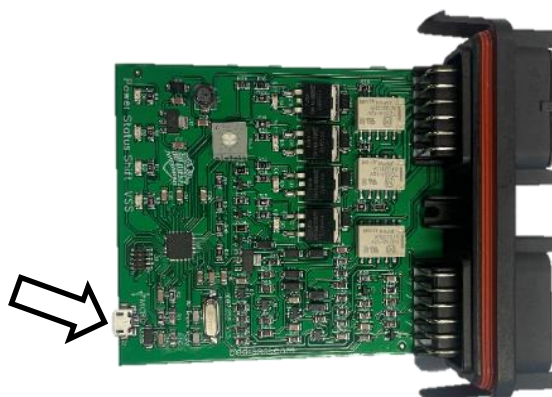## Save and Program the New Shiftpoints

Use the "Save File As" button to save the new map as a new file or to overwrite the previous file on your computer.
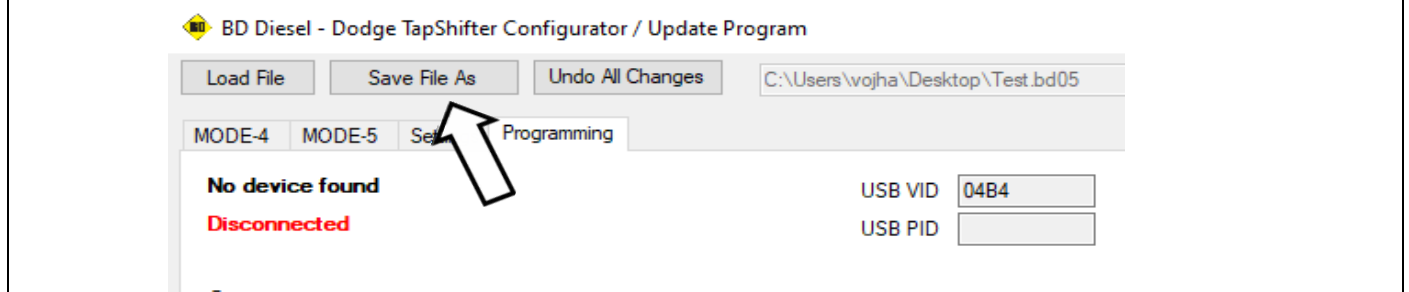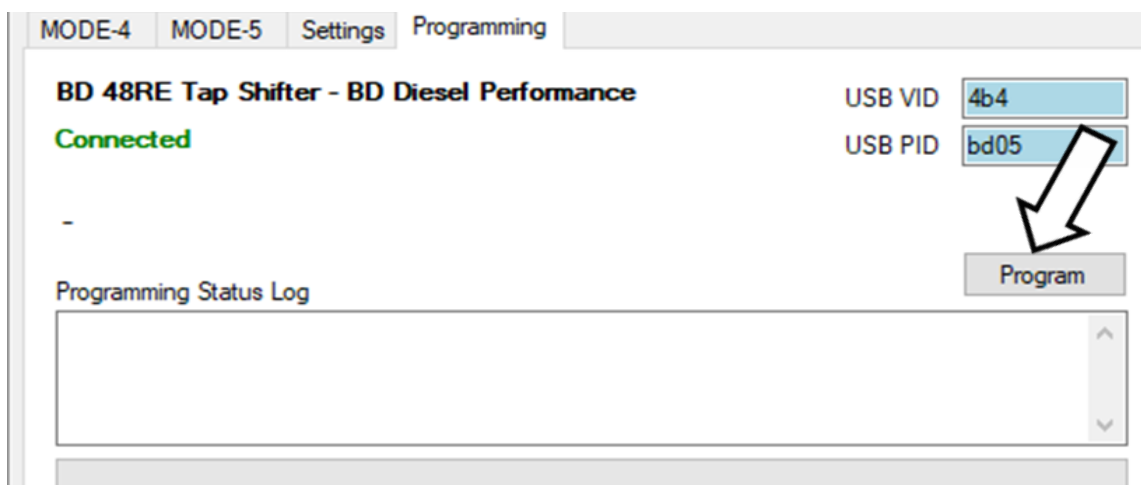
Unplug the control module from the harnesses. Use a screwdriver to press down on the two tabs to open the enclosure.
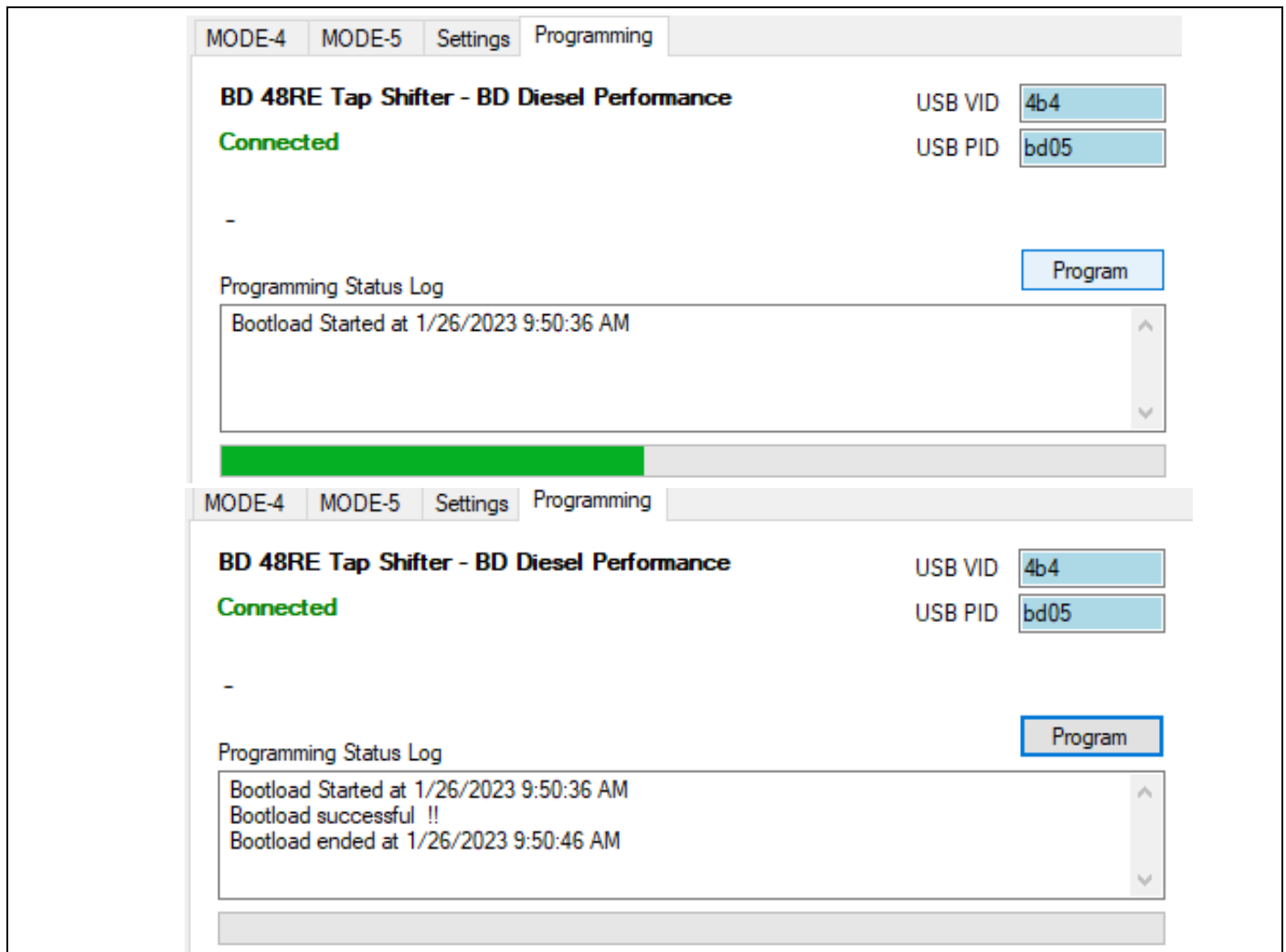

Connect a micro USB cable to the port at the opposite end of the connectors

Use the Program button to upload the new shiftpoints and settings to the module.

Troubleshooting

Cannot install the software	This software can be used only on windows XP, Windows 7, Windows 10 and Windows 11 devices.
Cannot find the shift map file.	The shift map starter file is available in the same install folder as the program.
The module does not get programmed	If the module does not get programmed then check for any invalid shift points. Ensure that the file is saved in the same location as the program. Check that the file extension is a '.bd05' otherwise the module will not get programmed.
Shift points shown in red	Check any cells marked in red with its corresponding red cell to select values that are incorrect.
File does not save	Check that the shift points are valid and the file name and location chosen do not conflict with existing files.
Module is not recognized by the program	Ensure the module is powered by checking the power LED on the module. Try using a different USB cable or port on the computer.

Appendix I
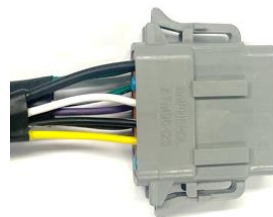
Module Version Number

Use a screwdriver to press down on the two tabs to open the enclosure.

Ensure the module being used is PCB hardware V1.5 or newer. Older versions do not prevent programming but will exhibit inconsistent shifting. Only modules with the version number V1.5 or newer should be programmed using this software. Find the hardware version number as shown below:
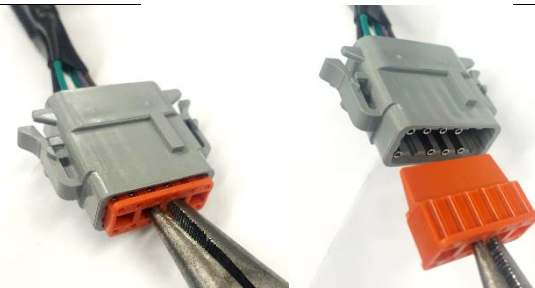

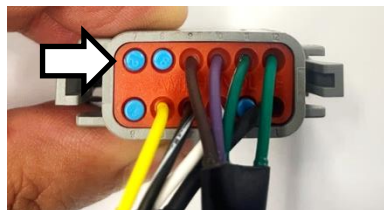# Appendix II-Throttle Sensor Wire Installation
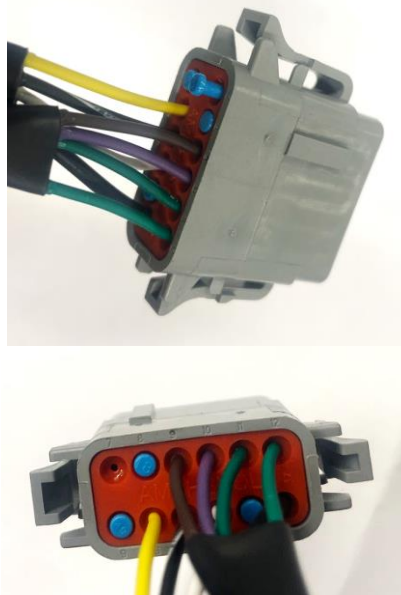
Disconnect the grey connector from the module.	
Remove the orange wedge-lock with a pair of pliers.	

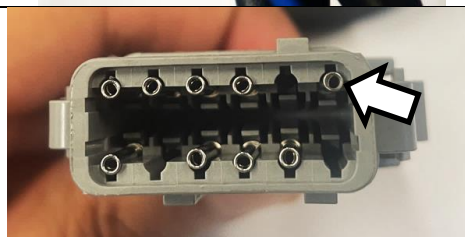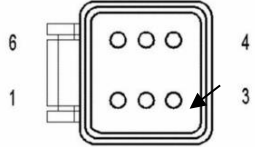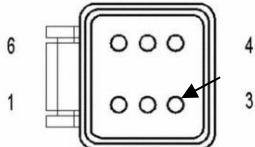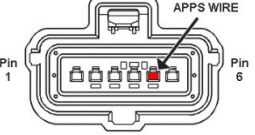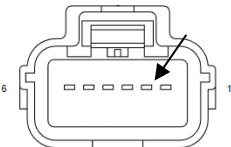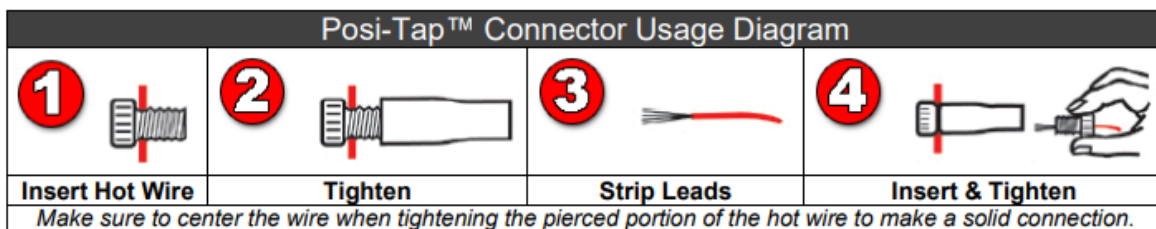|	
Find Pin 7 on the back of the connector. The pin numbers are embossed in the grey plastic.	
Remove the plug covering Pin 7.	
Insert the provided blue wire into the hole in the orange seal. Make sure feel a click to show the wire has been locked in place.	
Make sure the pins sits correctly and is locked in place as shown from the front of the connector	
Once the pin is in place, insert the wedge-lock with the pins in the notches and press the wedge-lock in till it clicks.	
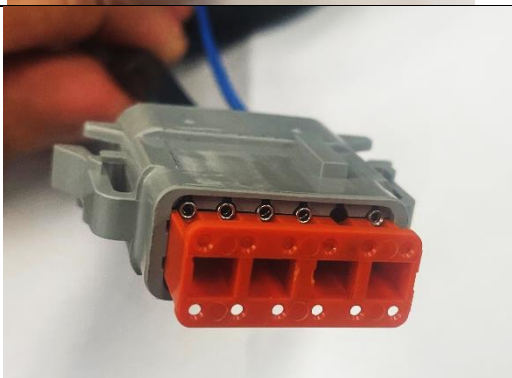
The blue should be routed in the cab of the truck on the driver side. Based on the model year, find the accelerator position sensor connector and the particular pin and wire for the signal as shown below:

Application	Sensor location	Sensor Wire
2003	Engine	APPS Pin 3- YL
2004	Engine	APPS Pin 3- BR/WT
2005-2006	Accelerator Pedal	APPS Pin5- 20BR/WT
2007	Accelerator Pedal	APPS Pin2 - 20BR/WT

After finding the throttle position wire for the model year of the vehicle feed the wire from the grey connector to the point where you want to connect to the wire.
Use the provided posi-tap to tap into that wire.

Posi-Tap™ Connector Usage Diagram

1 **Insert Hot Wire** 2 **Tighten** 3 **Strip Leads** 4 **Insert & Tighten**
Make sure to center the wire when tightening the pierced portion of the hot wire to make a solid connection.

The ground terminals of the vehicle's batteries should be disconnected before performing any piercing/posi-tapping onto any ECM/PCM wire.

Following the steps connect the stripped end of the blue wire to the throttle position sensor wire as shown: