

Updating the Firmware

Document Version	1.0	Release Date	14 Feb 2023
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Application information	for Bootloader versions 0000000000000 or BT.PT40.008.07 or BT.PT40.008.08
Vehicle	Not Applicable
Model	Not Applicable
Year of manufacture	Not Applicable

Note:

- Read through all instructions before installation and use.
- Ensure that the bike is switched off and the key is out of the ignition before proceeding with the installation.
- When the installation is complete, ensure to secure the wiring loom away from the movable parts or components that tend to heat up during the normal operation of the vehicle at any chance.
- FuelX is intended for motorsport use on a closed course, please check with your local laws before using this product. Race Dynamics is not liable for consequences arising out of using the product.
- The steps demonstrated in the manual are for one cylinder. For multi-cylinder vehicles, the steps have to be replicated for the other cylinders. Customers can choose Lambda 1 or Lambda 2 connectors for any cylinder unless the connectors are different for different cylinders. (for certain vehicles)

Support:	
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Website	: <u>www.powertronicECU.com</u>



REQUIREMENTS:

1) Windows PC with Genuine Windows Operating System (10/11) and have R-Tune V4 software installed. (Refer R-Tune V4 installation document)

2) Uninterrupted power supply.

3) USB Cable (A to B) provided within the kit.

WARNING:

1) Disconnect the ECU from the vehicle and 24-pin main connector before updating the firmware.

2) The update process after selecting the firmware file is automated. If the ECU is updatable/compatible with the new firmware version file, it will automatically start the process. If the ECU is not compatible with the new firmware version file, it will ask you to check for the correct updated version. At this point, you can cancel the process.

3) DO NOT touch/move the ECU once the update process is started.

4) DO NOT click/turn off the computer once the update process is started.

5) DO NOT remove the USB cable once the update process is started.

6) In case the process is not successfully completed or got stuck at any stage of the update process, please contact the support team, before trying multiple times.

7) Make sure you follow step by step as mentioned in this document. The firmware update procedures are different for different Bootloader versions.

8) If your bootloader version is BT.PT40.008.10 and Above then then refer to the respective firmware update document.



1) Connect the R-Tune V4 software to the ECU. Refer to the R-Tune V4 installation and connecting to the ECU document.

	PowerTRONC Device configured successfully Wait. configuring device Device connected. Map-1 : Fuel % adjust (Rpm v Load%)										
Map-1 : Fuel	Map-1	: Fuel S	6 adjus	t (Rpm v	Load%)					
Map-1 : Spark	_	500	1000	2000	3000	4000	5000	6000	7000	8000	8
Map-2 : Fuel	100		3	3	4	5	6	7	8	7	
Map-2 : Spark	93		3	3	4	5	6	7	8	7	
Quickshifter Settings	86		3	3	4	5	6	7	8	7	
Control Settings				-			-				
Factory Settings	80		3	3	4	5	6	7	8	7	
Index Maps	73		3	3	4	5	6	7	8	7	
Dials	66		3	3	4	5	6	7	8	7	
Realtime Graphs											
Device Information	60	_	2	2	3	4	5	6	7	6	
	53		2	2	3	4	5	6	7	6	
	46	0	2	2	3	4	5	6	7	6	

2) Once connected, go to the **Device information** Tab in the software.

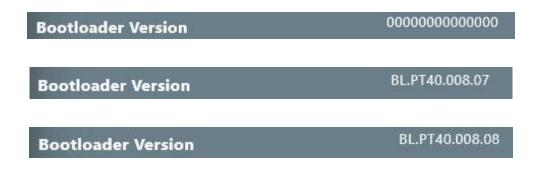
3) Observe the Bootloader Version and the Firmware version. (Make sure the Firmware version on the website is newer than the one in the ECU.)

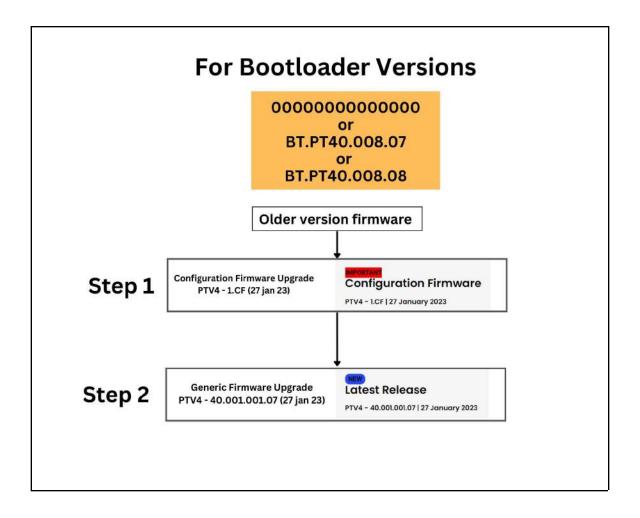
Device Name	PowerTRONIC
Description	Fuel & Ignition controller
Firmware	FW.PT40.001.001.01<16_Jan_2023>
Hardware	HW.PT40.B.034.T.015
Serial	****
Configuration Version	CF.PT40.000.03
Total Calibration memory used	65
Bootloader Version	0000000000000
General Info	Total Calibration memory used



Firmware Update procedure for Bootloader versions 000000000000 or BT.PT40.008.07 or BT.PT40.008.08

4) For Bootloader versions **000000000000000** or **BT.PT40.008.07** or **BT.PT40.008.08** user has to do the configuration firmware update first before updating the regular/generic firmware update.

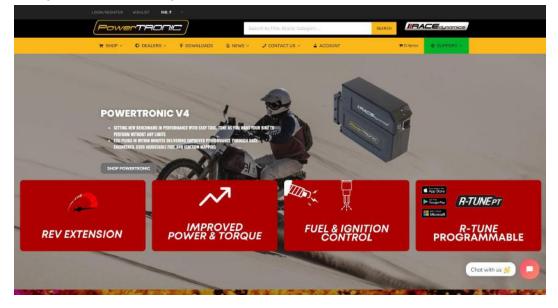




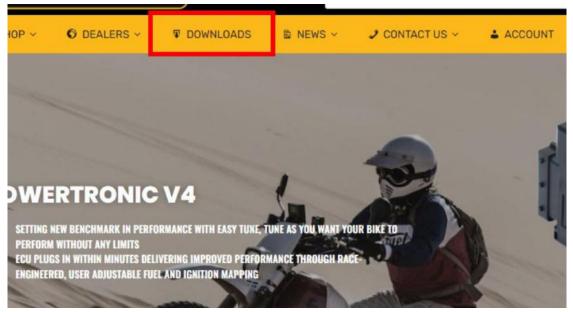


5) To Download the Configuration firmware file, Click on the I	Download button below:
Download	

6) To Download the Regular firmware file, go to https://powertronicecu.com/

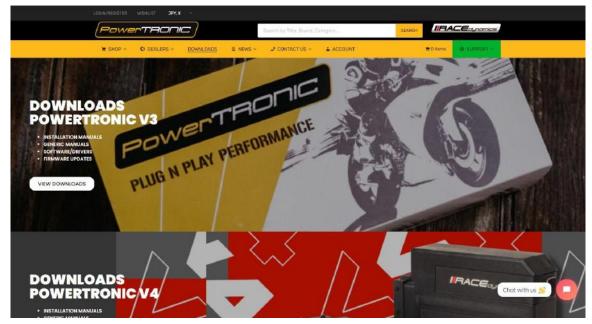


7) Click on Downloads





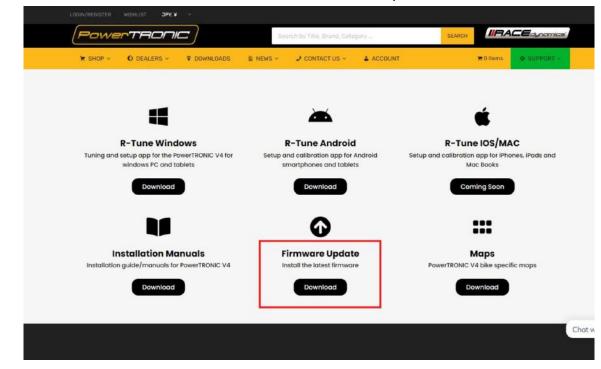
8) You will be directed to the <u>Downloads</u> section. Scroll Down and go to the PowerTRONIC V4 Downloads section



9) Click on the View Downloads section.







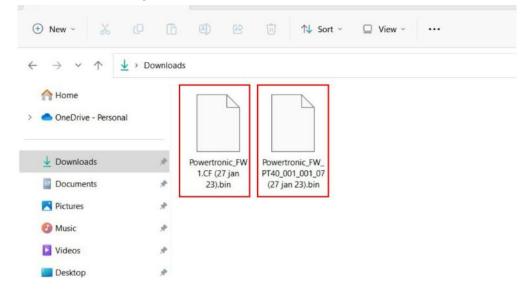
10) From the Menu, Click on the Download button below the Firmware update menu.

11) It will redirect to the Firmware file section. Download Generic/Regular Firmware file named as: Powertronic_FW_PT40_001_001_07 (27 jan 23).bin

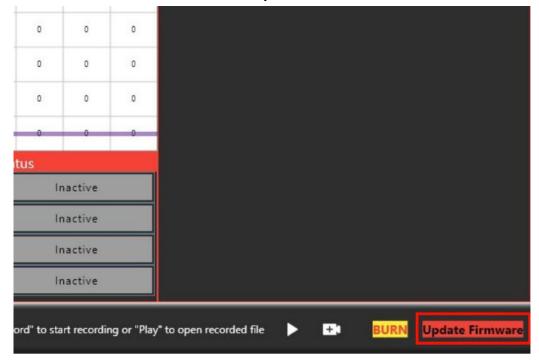
• O DEALERS •	T DOWNLOADS	B NEWS ~	J CONTACT US -	ACCOUNT	🗮 O items	Ø SUPPORT -
	IRACE.		PTV4 - 4 Roul Imp Bug Ensu Min Min Nois Nois	nulacturer ir protacol change ction module optimizations e filter optimizations anced security and other up	on in play on the app a tables are populated with latest	map provided by
			PTV4 - 1. Only for Bo 000 8TF	guration Firm CF 27 January 2023 alloader versions anacosocio 740.008.07 740.008.08	ware	
			CAUTIK Refer to	the "Configuration firmware u	pdate manual" firmware file include vnlood Monual	× ed in the manual



12) The files will be Downloaded to the Downloads section of your computer or to the directory you have chosen previously. **Proceed to the firmware update, with configuration firmware first and with regular firmare next. Refer to the following steps below**.



13) Now, open the R-Tune software and click on the Update Firmware button





14) It will open a dialogue box for the firmware update. Click on the **Open file** button.

	irrent Firn otloader				(40.001.) 000000	001.01<1	16_Jan_2	023>							
ľ	otioadei	version		00000	000000	000									
Je	w Firmwa	are													
		an e.													
			0.00	n Filo				ach EW			6	ancol			
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				States and						a		n a 1			
	3	3	Ope 4	n File	2	D	FI 0	ash FW	0	0	0	ancel	0.	0	

15) It will redirect to you the file folder. Go to the Downloads section and select the **Configuration Firmware** - **Powertronic_FW 1.CF (27 jan 23).bin** file. Click on Open

$\leftrightarrow \rightarrow \lor \land \checkmark \checkmark \checkmark \lor \diamond$	ownloads	✓ C Q Search I
Organize ▼ New folder		
A Home	∼ Last week	
> 🌰 OneDrive - Personal		
🛓 Downloads	*	
Documents	Powertronic_FW Powertronic_FW_P1	
Pictures	1.CF (27 jan 23).bin 40_001_001_07 (27 jan 23).bin	7
🚱 Music	*	
🔰 Videos	*	
E Desktop	*	
This PC	*	

16) Once the Configuration firmware is selected, Click on Flash FW Button.

Current Firmware Bootloader Version	FW.PT40.001.0 000000000000	01.01<16_Jan_2023> 00	
New Firmware	FW.PT40.001.S	PL01<27_Jan_2023>	
	Open File	Flash FW	Cancel
Valid firmware file Reading firmware data			
Valid firmware file			



17) Once the Flash FW button is clicked, a pop-up will ask you to Turn off the vehicle and remove the key from the ignition. Make sure to turn off the vehicle, and disconnect the ECU from the vehicle once it is disconnected, Click on **YES** to proceed.

Boot			740.001.00		o_san_co								
Vew	Firmware U	pdate P	rocess										
	TURN OFF THE	VEHICLE,	REMOVE	e key ff	ROM IG	INITION	. Click '	YES' To	proceed	l, or 'NC	D' to c	ancel	
V	TURN OFF THE	VEHICLE,	REMOVE	e key ff	ROM IG	INITION	l. Click '	YES' To	proceed				n
M R	TURN OFF THE	VEHICLE,	REMOVE	E KEY FF	ROM IG	INITION	l. Click '	YES' To	proceed	l, or 'NC		c	cancel [NO]

18) The Firmware update process will start now. You can see a progress bar for the percentage of processes completed.

Current Firmware Bootloader Version	FW.P140.001.001.01.01<16_lan_2023> 00300000000000
New Firmware	FW.PT40.001.SPL01<27_Jan_2023>
Flashing firmware (Initializing firmware ud	to device. Please wait.
	for fleshing. Do not interruct!
Received success for sta	rt command. Initiating Bash
Progress :	
	verate the software or disconnect the device while firmware update is in progress. Doing so
could permanently da	mage the device.Device will be automatically restarted after firmware update is completed.

19) Once the process is completed, it will notify you that the flashing is completed. Click on . The R-Tune will be restarted now.

Current Firmware Sootloader Version	Firmware deta 00000000000		ilable						
New Firmware	FW.PT40.001.5	SPL01<27_	Jan_202	3>					
							Close		
Flashing completed. Device restarted successfully.									
Flashing completed. Waiting for device to reboot! Checksum verified. Restarting device.									



0	0	0					
itus							
In	active						
Ir	active						
Ir	active						
Ir	active						
lr	active						
' to sta	rt recordir	ig or "Play" to	o open record	ded file	• •••	BURN	Update Firmwar

20) Now once the R-Tune is restarted, click on the **Update Firmware** button again.

21) It will open a dialogue box for the firmware update. Click on the **Open File** button.

4	5 6	7 6	5 0	Ű	0	-1	-2	-3	-3	-3	-3	-3
	Current Firmware		40.001.SPL.01 <	(27_Jan_2)23>							1
	Bootloader Version	BLP14	0.008.10									
141	New Firmware											
24		Open File		FI	ash FW			c	ancel			

22) It will redirect to you the file folder. Go to the Downloads section and select the **Regular/Generic firmware**. - **Powertronic_FW_PT40_001_001_07 (27 jan 23).bin** Click on **Open**

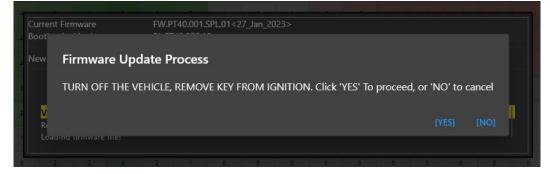
✓ Downloads	×	+		
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✓ Downloads	*	Powertronic_FW	Powertronic_FW_	
Documents	*	1.CF (27 jan 23).bin	PT40_001_001_07 (27 jan 23).bin	
Pictures	*			
🕖 Music	*			
Videos	*			
🛄 Desktop	*			



23) Once the Configuration firmware is selected, Click on **Flash FW** Button.

Current Firmware Bootloader Version	FW.PT40.001.SPL BL.PT40.008.10	.01<27_Jan_2023>		
New Firmware	FW.PT40.001.001	.07<27_Jan_2023>		
	Open File	Flash FW	Cancel	
Valid firmware fil				
Reading firmware dat Loading firmware file!				
2 2	3 2 1	0 0 0 0	0 0 0 0	0

24) Once the Flash FW button is clicked, a pop-up will ask you Turn off the vehicle and remove the key from the ignition. Make sure to turn off the vehicle, and disconnect the ECU from the vehicle once it is disconnected, Click on **YES** to proceed.



25) The Firmware update process will start now. You can see a progress bar for the percentage of processes completed.

-		
	Firmware	FW.PT40.001.SPL01<27_Jan_2023>
Bootloa	ider Version	BLPT40.008.10
New Fir	mware	FW.PT40.001.001.07<27_Jan_2023>
	hing firmware to de	vice. Please wait.
A	alizing firmware udpate	
Initia	ating the procedure for fl	ashinq. Do not interrupt!
2 Receiv	ved success for start cor	mmand. Initiating flash
Progre	ess :	
		the software or disconnect the device while firmware update is in progress. Doing so the device.Device will be automatically restarted after firmware update is completed.



26) Once the process is completed, it will notify that the flashing is completed. Click on Close. The R-Tune will be restarted now.

Current Firmware Bootloader Version	Firmware details no BL.PT40.008.10	ot available							
New Firmware	FW.PT40.001.001.0	FW.PT40.001.001.07<27_Jan_2023>							
1				Close					
2 Flashing completed. Device restarted successfully.									
Flashing completed. Waiting for device to reboot! Checksum verified. Restarting device.									
0 2 2 3	2 1 0	0 0	8 8	0 0	0 0	0			

27) The user can refer to the below image for the completed step.

Device Name	PowerTRONIC
Description	Fuel & Ignition controller
Firmware	FW.PT40.001.001.07<27_Jan_2023>
Hardware	HW.PT40.B.034.T.015
Serial	******
Configuration Version	CF.PT40.000.03
Total Calibration memory used	65
Bootloader Version	BL.PT40.008.10
General Info	
	Total Calibration memory used