

Firmware upgrade procedure for F3R 1.22 and the changes to be done for the Unbranded/Tuned maps

Document Version	1	Release Date	05 October 2021
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Application information	Firmware upgrade onwards F3R 1.22
Document type	Generic - Applicable to all vehicles with firmware F3R 1.22

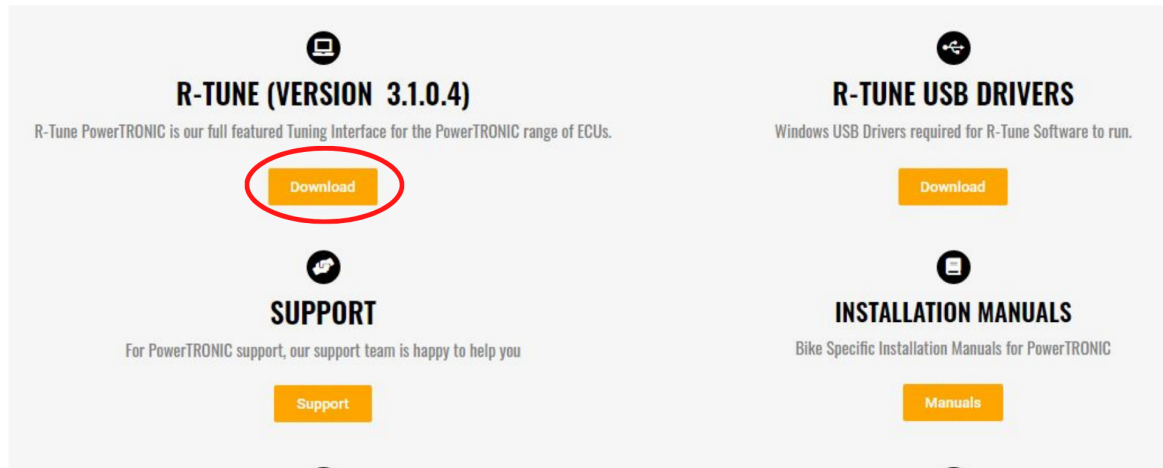
Note:

- Read through all instructions before installation and use.
- These instructions are for the **unbranded/tuned** map only. ie the customer is using a map file that has been tuned specifically for his vehicle with a tuner.
- If your vehicle is in stock configuration or using an exhaust map file from our website: www.powertronicecu.com, you can download and install the same map file again and load it to the ECU for which the changes are already been done.
- PowerTRONIC is intended for motorsport use on a closed course, please check with your local laws before using this product. Race Dynamics / PowerTRONIC is not liable for consequences arising out of using the product.

For Technical Support:

Global	Email:	support@powertronicecu.com
India, Bangladesh, Nepal, and Bhutan	Call/Whatsapp/Google Duo:	+91 9916 22 9292
North and South America	Call:	+1 267 214 9292
	WhatsApp/Google Duo:	+91 9606 044 178
Rest of the world	Call/WhatsApp/Google Duo:	+91 9606 044 177

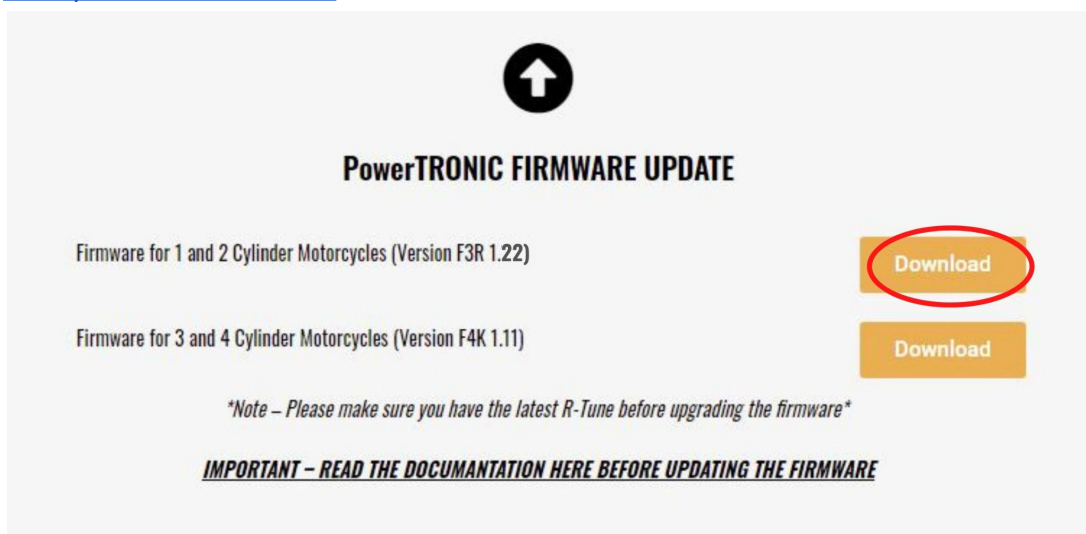
- 1) Uninstall any previous versions of R-Tune from your laptop. **Omit the steps if you already have the R-Tune version 3.1.0.4 installed on your computer**
- 2) Go to [the Downloads](#) section of www.powertronicecu.com
- 3) To upgrade the firmware, first, download and install the latest R-tune Software (Version **3.1.0.4**) on your laptop. **Version 3.1.0.4 is mandatory for the upgrade process.**



For R-Tune (3.1.0.4) installation, refer to the following detailed document:

<https://powertronicecu.com/wp-content/uploads/2020/10/R-TuneDriver-Installation-Connecting-to-ECU-and-Commands.pdf>

- 4) Download the firmware file F3R 1.22 from the [Downloads](#) section of www.powertronicecu.com.



- 5) For the Firmware upgrade procedure refer to the following document:

<https://powertronicecu.com/wp-content/uploads/2020/10/Upgrading-the-Firmware.pdf>

- 6) Before changing the values in the map file, do the TPS calibration procedure. Refer to the TPS calibration document:

<https://powertronicecu.com/wp-content/uploads/2019/10/TPS-Calibration.pdf>

- 7) After the TPS calibration procedure, go to the Fuel1 tab and select the cells 0-26% and 500-2000 RPM.

Then set the value to 1

	Fuel1	Ignition1	Fuel2	Ignition2	Trn Sen	Trn Attck	Quick Shift	Config	Calib Tab
	500	1500	2500	3500	4500	5500	6000	6500	7000
100%	3	3	3	3	4	5	5	6	6
93%	3	3	3	3	4	5	5	6	6
86%	3	3	3	3	4	5	5	6	6
80%	3	3	3	3	4	5	5	6	6
73%	3	3	3	3	4	5	5	6	6
66%	3	3	3	3	4	5	5	6	6
60%	3	3	3	3	4	5	5	6	6
53%	2	2	2	2	3	4	4	5	5
46%	1	1	1	2	3	4	4	5	5
40%	1	1	1	1	2	3	3	4	4
33%	1	1	1	1	1	2	2	3	3
26%	1	1	1	0	0	1	1	2	2
20%	1	1	1	0	0	0	0	1	1
13%	1	1	1	0	0	0	0	0	0
6%	1	1	1	0	0	0	0	0	0
0%	1	1	1	0	0	0	0	0	0

Set all the values of the 0-26% and 500-2000 RPM to 1

Set Value: 1

Buttons: SET, CLOSE

- 8) If the values above the previously selected cells are 0, then make that also 1. If some values are present then leave it like that. But ensure they are 1 or above 1.

	Fuel1	Ignition1	Fuel2	Ignition2	Trn Sen	Trn Attck	Quick Shift	Config
	500	1500	2500	3500	4500	5500	6500	7500
100%	1	1	1	2	2	2	5	5
93%	1	1	1	2	2	2	5	5
86%	1	1	1	2	2	2	5	5
80%	1	1	1	2	2	2	5	5
73%	1	1	1	3	3	3	5	5
66%	1	1	1	3	2	2	5	5
60%	1	1	1	3	1	1	5	5
53%	1	1	1	2	0	0	5	5
46%	1	1	1	1	0	0	5	5
40%	1	1	1	0	0	0	5	5
33%	1	1	1	0	0	0	5	5
26%	1	1	1	0	0	0	5	5
20%	1	1	1	0	0	0	5	5
13%	1	1	1	0	0	0	5	5
6%	1	1	1	0	0	0	5	5
0%	1	1	1	0	0	0	5	5

FTC [%] : 1. 0.0 ITC [dg] :

Original Inj PW Fuel Trim (%) Ignition Adv(deg) Injector Duty (%)

- 9) Repeat the process for the Fuel2 tab as well.

- 10) Go to the Ignition1 tab and select the cells 0-26% and 500-2000 RPM. Then set the value to 0

	Ignition1	Fuel2	Ignition2	Trn Sen	Trn Attck	Quick Shift	Config	Calib Tab
	500	1500	2500	3500	4500	5500	6500	7500
100%	0	0	0	2	5	5	5	5
93%	0	0	0	3	5	5	5	5
86%	0	0	1	4	5	5	5	5
80%	0	0	2	5	5	5	5	5
73%	0	0	3	5	5	5	5	5
66%	0	0	4	5	6	6	6	6
60%	0	0	5	6	6	6	6	6
53%	0	0	6	6	6	6	6	6
46%	0	0	6	6	6	6	6	6
40%	0	0	6	6	6	6	6	6
33%	0	0	6	6	6	6	6	6
26%	0	0	6	6	6	6	6	6
20%	0	0	6	6	6	6	6	6
13%	0	0	3	3	3	3	3	3
6%	0	0	3	3	3	3	3	3
0%	0	0	3	3	3	3	3	3

FTC [%] : 1. 0.0 ITC [dg] : 1. 0

Original Inj PW Fuel Trim (%) Ignition Adv(deg) Injector Duty (%)

- 11) Repeat the process for ignition 2 also.

12) Go to the Config tab. Set the Standalone Trigger load Index to 14

Fuel1	Ignition1	Fuel2	Ignition2	Trn Sen	Trn Attck	Quick Shift	Config
Ignition Selection : Coil Over Plug Fuel Multiplier : Fuel table X1 OEM Inj Type : Multi Pulse Ignition Noise Filter (ms) : 0.20 Injection Noise Filter (ms) : 0.00 RPM channel select : Spark Signal Cylinder 1 Traction Control Config : Traction Disable Standalone Trigger Load Index : 14 Standalone Mode Trigger RPM : 9600 Limiter at RPM : 12000 CKP Trigger : 26							

13) Go to the Calib Tab. Changes are to be done in the marked region.

Fuel1	Ignition1	Fuel2	Ignition2	Trn Sen	Trn Attck	Quick Shift	Config	Calib Tab	Graph	Dials	Firmware																																			
FACTORY CALIBRATION - DO NOT CHANGE																																														
<table border="1"> <thead> <tr> <th></th> <th>500</th> <th>1000</th> <th>1500</th> <th>2000</th> <th>2500</th> <th>3000</th> <th>3500</th> <th>4000</th> <th>4500</th> <th>5000</th> </tr> </thead> <tbody> <tr> <td>D</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> </tbody> </table>											500	1000	1500	2000	2500	3000	3500	4000	4500	5000	D	0	0	0	0	0	0	0	0	0	0	AC-on Ignition Trim : -90														
	500	1000	1500	2000	2500	3000	3500	4000	4500	5000																																				
D	0	0	0	0	0	0	0	0	0	0																																				
<table border="1"> <thead> <tr> <th colspan="11">AC-Calib (%)</th> </tr> <tr> <th></th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>10</th> </tr> </thead> <tbody> <tr> <td>D</td> <td>0</td> <td>0</td> <td>0</td> <td>10</td> <td>20</td> <td>30</td> <td>40</td> <td>50</td> <td>60</td> <td>70</td> </tr> </tbody> </table>												AC-Calib (%)												1	2	3	4	5	6	7	8	9	10	D	0	0	0	10	20	30	40	50	60	70	Ignition offset : 60	
AC-Calib (%)																																														
	1	2	3	4	5	6	7	8	9	10																																				
D	0	0	0	10	20	30	40	50	60	70																																				

Set the **AC-Calib (%)** and the **Ignition offset** as follows.

AC-Calib (%)										
	1	2	3	4	5	6	7	8	9	10
D	40	50	60	70	80	90	90	100	100	100

Ignition offset : 20

14) Click on **Send**. Wait till you get the status “Sent to ECU”

15) Make sure the vehicle is switched off and then Click on **Burn**.

16) If you need any assistance, please get in touch with our technical support team.