

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

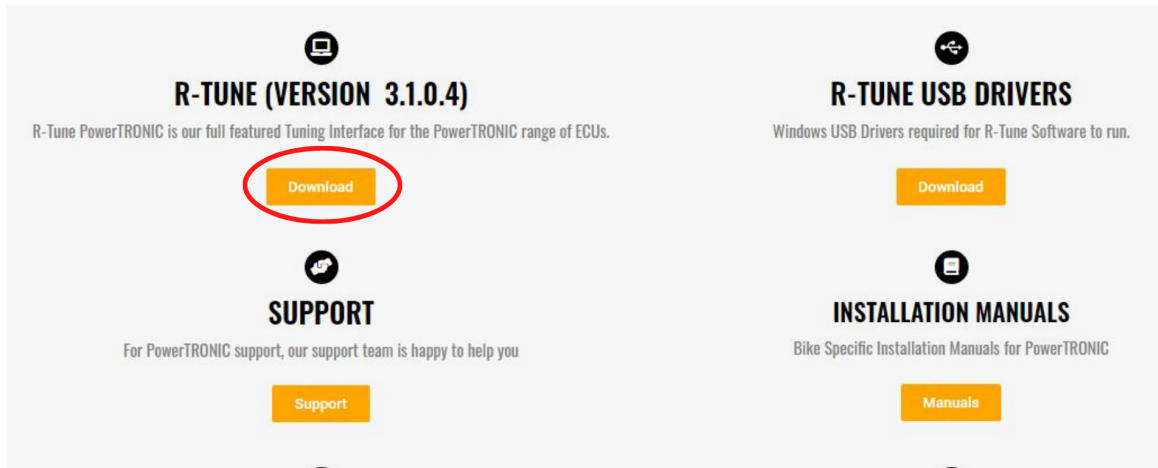
Note:

- 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 and using the stock maps 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
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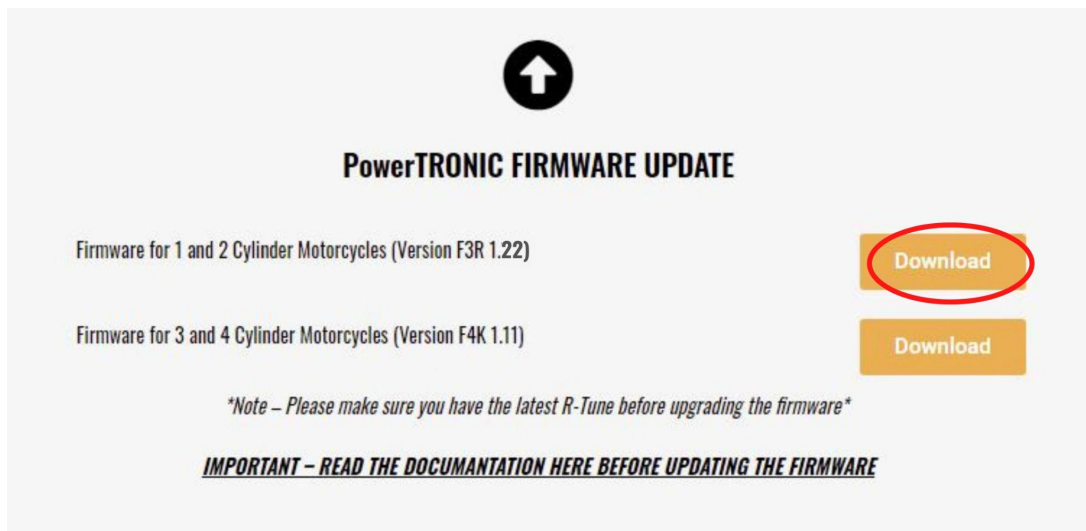
- 1) Uninstall any previous versions of R-Tune from your laptop. **Omit the steps if you already have the R-Tune version 3.1.0.4 installed on your computer**
- 2) Go to [the Downloads](#) section of www.powertronicecu.com
- 3) To upgrade the firmware, first, download and install the latest R-tune Software (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 500-2500 RPM. (Preferably 500 RPM more than the idling RPM. For vehicles with lesser idling RPM, adjust the value accordingly)

Then set the value to 1

Fuel1	Ignition1	Fuel2	Ignition2	Trn Sen	Trn Attck	Quick Shift	Config	Calib Tab					
	500	1500	2500	3500	4500	5000	5500	6000	6500	7000	7500	8000	8500
100%	3	3	3	3	4	5	5	6	6	7	7	8	7
93%	3	3	3	3	4	5	5	6	6	7	7	8	7
86%	3	3	3	3	4	5	5	6	6	7	7	8	7
80%	3	3	3	3	4	5	5	6	6	7	7	8	7
73%	3	3	3	3	4	5	5	6	6	7	7	8	7
66%	3	3	3	3	4	5	5	6	6	7	7	8	7
60%	3	3	3	3	4	5	5	6	6	7	7	8	7
53%	2	2	2	2	3	4	4	5	5	6	6	7	6
46%	1	1	1	2	3	4	4	5	5	6	6	7	6
40%	1	1	1	1	2	3	3	4	4	5	5	6	5
33%	1	1	1	0	1	2	2	3	3	4	4	5	4
26%	1	1	1	0	0	1	1	2	2	3	3	4	3
20%	1	1	1	0	0	0	0	0	0	0	0	0	2
13%	1	1	1	0	0	0	0	0	0	0	0	0	1
6%	1	1	1	0	0	0	0	0	0	0	0	0	0
0%	1	1	1	0	0	0	0	0	0	0	0	0	0

Set all the values of 0-26% and 500-2500 RPM to 1

FTC [%] : 1. 0.0

Original Inj : ---

Cylinder-1

Set Value: 1

Change By Value

Copy

SET CLOSE

ITC [dg] : 1. 0

Injector Duty (%)

8) If the values above the previously selected cells are 0, then make that also 1 (as shown in the figure).

	Fuel1	Ignition1	Fuel2	Ignition2	Trn Sen	Trn Attck	Quick Shift	Config	Calib Tab	Graph				
	500	1500	2500	3500	4500	5500	6500	7500	8500	9000	9500	10000	10500	11000
100%	1	1	1	2	2	2	5	5	5	3	2	1	1	0
93%	1	1	1	2	2	2	5	5	5	3	2	1	1	0
86%	1	1	1	2	2	2	5	5	5	3	2	1	1	0
80%	1	1	1	2	2	2	5	5	5	3	2	1	1	0
73%	1	1	1	3	3	3	5	5	5	3	2	1	1	0
66%	1	1	1	3	2	2	2	3	3	2	2	1	1	0
60%	1	1	1	3	1	1	1	2	2	1	1	0	0	0
53%	1	1	1	2	0	0	0	1	1	0	0	0	0	0
46%	1	1	1	0	0	0	0	0	0	0	0	0	0	0
40%	1	1	1	0	0	0	0	0	0	0	0	0	0	0
33%	1	1	1	0	0	0	0	0	0	0	0	0	0	0
26%	1	1	1	0	0	0	0	0	0	0	0	0	0	0
20%	1	1	1	0	0	0	0	0	0	0	0	0	0	0
13%	1	1	1	0	0	0	0	0	0	0	0	0	0	0
6%	1	1	1	0	0	0	0	0	0	0	0	0	0	0
0%	1	1	1	0	0	0	0	0	0	0	0	0	0	0

If there are values at 80-100% and 500-2500 region, (example 10 as shown in the image), then, set the values in the below cells in such a way that, it would be a gradual increment from 1 to the value at 80-100% region.

ie, the values in the cells should be gradual from 33% to 88%

	Fuel1	Ignition1	Fuel2	Ignition2	Trn Sen	Trn Attck	Quick Shift	Config	Calib Tab	Graph		
	500	1500	2500	3500	4500	5500	6000	6500	7000	7500	8000	8500
100%	10	10	10	9	8	10	9	9	10	8	9	8
93%	10	10	10	9	8	10	9	9	10	8	9	8
86%	10	10	10	9	8	10	9	9	10	8	9	8
80%	10	10	10	9	8	10	9	9	10	8	9	8
73%	9	9	9	8	7	9	8	8	9	7	8	7
66%	8	8	8	7	6	8	7	7	8	6	7	6
60%	7	7	7	6	5	7	6	6	7	5	6	5
53%	5	5	5	5	4	5	4	4	5	3	4	3
46%	3	3	3	4	3	5	4	4	5	2	3	2
40%	1	1	1	3	2	4	3	3	4	1	2	1
33%	1	1	1	2	1	3	2	2	3	0	1	0
26%	1	1	1	1	0	2	1	1	2	0	1	0
20%	1	1	1	0	0	1	0	0	1	0	0	0
13%	1	1	1	0	0	1	0	0	1	0	0	0
6%	1	1	1	0	0	0	0	0	0	0	0	0
0%	1	1	1	0	0	0	0	0	0	0	0	0

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

10) Go to the Ignition1 tab and select the cells 0-26% and 500-2500 RPM. Then set the value to 0

	Fuel1	Ignition1	Fuel2	Ignition2	Trn Sen	Trn Attck	Quick Shift	Config	Calib Tab				
	500	1500	2500	3500	4500	5500	6500	7500	8500	9000	9500	10000	10500
100%	0	0	0	0	2	5	5	5	5	5	5	5	5
93%	0	0	0	0	3	5	5	5	5	5	5	5	5
86%	0	0	0	1	4	5	5	5	5	5	5	5	5
80%	0	0	0	2	5	5	5	5	5	5	5	5	5
73%	0	0	1	3	5	5	5	5	5	5	5	5	5
66%	0	0	2	4	5	6	6	6	6	6	6	6	6
60%	0	0	3	5	6	6	6	6	6	6	6	6	6
53%	0	0	2	6	6	6	6	6	6	6	6	6	6
46%	0	0	1	6	6	6	6	6	6	6	6	6	6
40%	0	0	0	6	6	6	6	6	6	6	6	6	6
33%	0	0	0	6	6	6	6	6	6	6	6	6	6
26%	0	0	0	3	6	6	6	6	6	6	6	6	6
20%	0	0	0	3	5	6	6	6	6	6	6	6	6
13%	0	0	0	3	3	3	3	3	3	3	3	3	3
6%	0	0	0	3	3	3	3	3	6	6	6	6	6
0%	0	0	0	3	3	3	3	3	6	6	6	6	6

Go to the Ignition tab and select the cells 0-26% and 500-2500 RPM Then set the values to 0

Set Value: 0

Change By Value

Copy

SET CLOSE

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						

Set the Standalone Trigger Load Index to 14

13) Go to the Calib Tab. Changes are to be done in the marked region. Set the **AC-Calib (%)** and the **Ignition offset** as follows.

The screenshot shows the 'Calib Tab' interface with a red warning banner: "FACTORY CALIBRATION - DO NOT CHANGE".

Before State:

- AC-Calib (%) table:

	1	2	3	4	5	6	7	8	9	10
▷	0	0	0	10	20	30	40	50	60	70
- Ignition offset: 60

After State:

- AC-Calib (%) table:

	1	2	3	4	5	6	7	8	9	10
▷	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.