

FIA CROSS CAR CHAMPIONSHIP	
Engine type	Yamaha MT 09 - 889
Map name	MT21AE01
Firmware version	01.18.XX
Fuel type	ETS IRF 102
Fuel pressure	3,4 bar

Follow this document and apply the changes to the throttle body before starting the engine

To obtain the maximum benefits from the ECU, a reconfiguration of the hoses mounted on the throttle bodies is necessary.

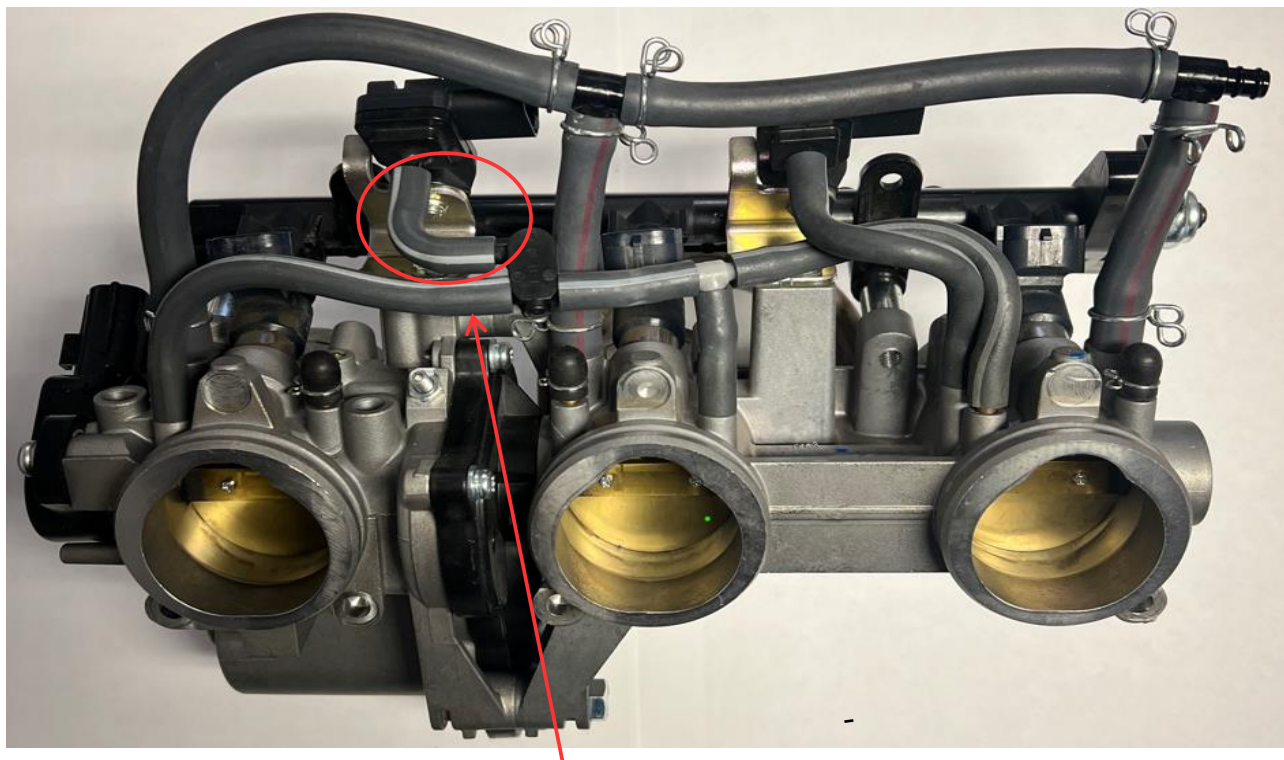
The race ECU, is able to read pressure with angle base sample (every 5 crank shaft degrees). By using this type of sampling, it is possible to more accurately measure and calculate the intake air quantity.

At the same time, the ECU uses this signal to detect the Intake Stroke for cylinder 1 (for synchronization).

Below is an image of original configuration of the throttle bodies.

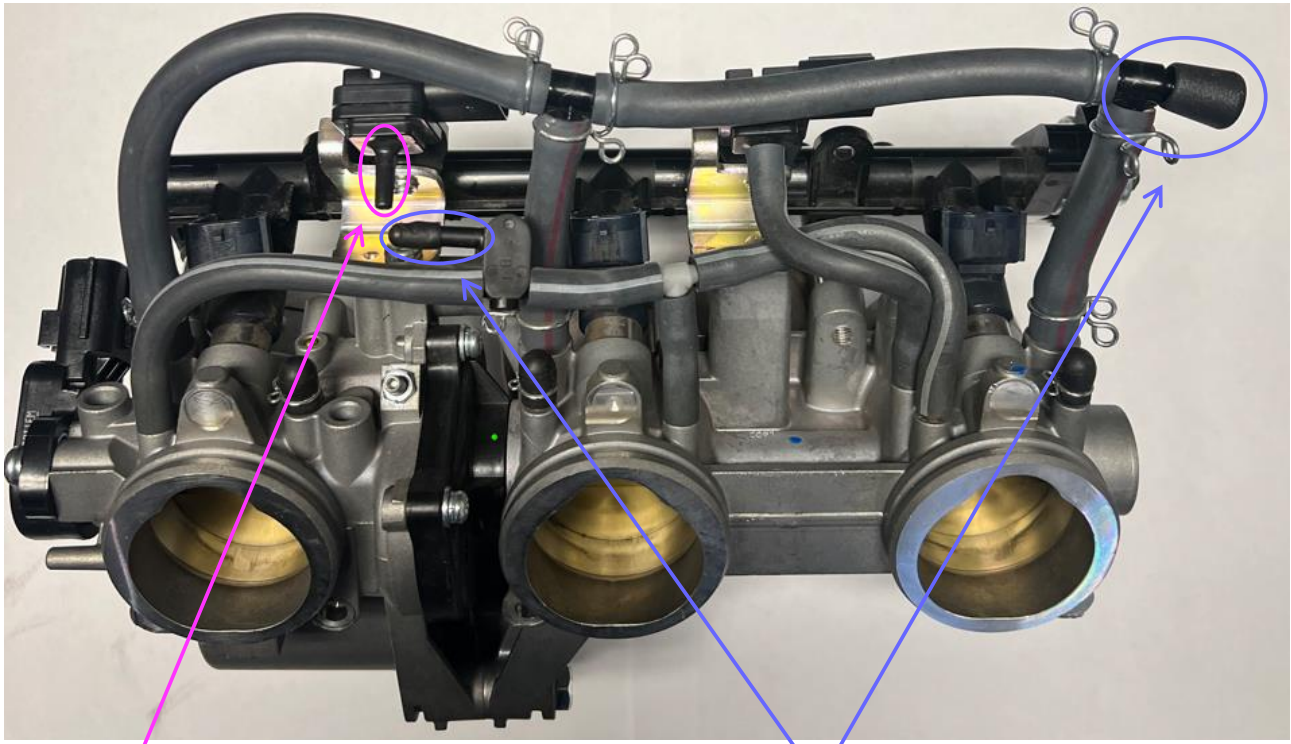
Follow the instructions step by step and make the changes shown in the document.

Step number one :



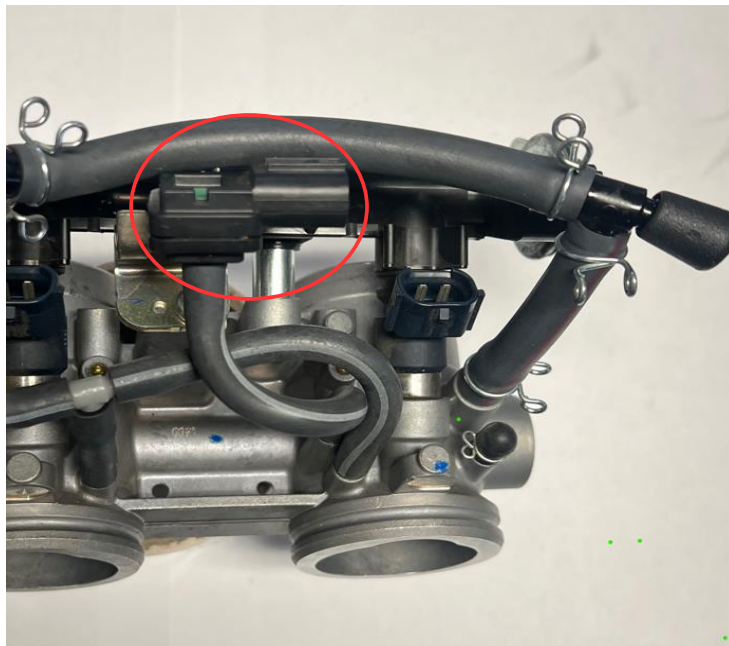
Remove the marked pipes

Step number two :



Close the marked pipes

Leave the sensor connected to the wiring without connection to the pipe.  
The sensor will be used as BAP sensor (Barometric Air Pressure).

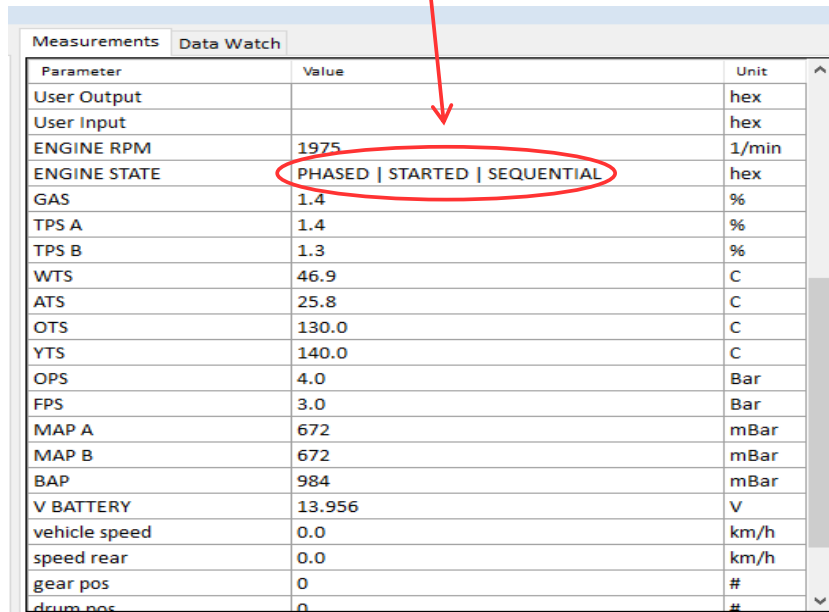


The MAP sensor must remain connected as in the original configuration.  
This is very important for the engine synchronization.

### Step number three :

Open the Mecal software and check in the ENGINE STATE parameter that the value is

PHASED/STARTED/SEQUENTIAL



Parameter	Value	Unit
User Output		hex
User Input		hex
ENGINE RPM	1975	1/min
ENGINE STATE	PHASED   STARTED   SEQUENTIAL	hex
GAS	1.4	%
TPS A	1.4	%
TPS B	1.3	%
WTS	46.9	C
ATS	25.8	C
OTS	130.0	C
YTS	140.0	C
OPS	4.0	Bar
FPS	3.0	Bar
MAP A	672	mBar
MAP B	672	mBar
BAP	984	mBar
V BATTERY	13.956	V
vehicle speed	0.0	km/h
speed rear	0.0	km/h
gear pos	0	#
drum pos	0	#

If the value in the ENGINE STATE is STARTED, there is something wrong with the system.  
Check the sensor value and the correct connection.