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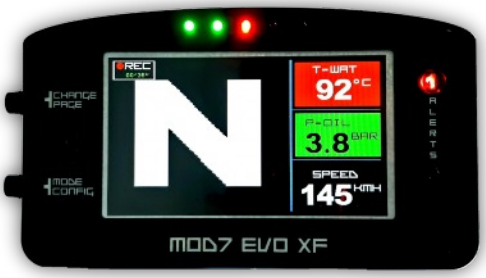
INSTRUCTIONS MANUAL for dashboard MOD7 EvoXF-Data

Thank you for purchasing this instrumentation MOD7CE® for your racing car.
We hope you will be pleased with it to advise you about …

The dashboard **MOD7 EvoXF-Data** is the 2020 evolution of **MOD7 Evo1 'R'** born in 2015 !
This **EvoXD-Data** version is a wired version. It cannot work in Canbus with ECU

New characteristics of the **MOD7 EvoXF-Data** version :
- Faster processor associated to a brighter 4.3" lcd with a lowest power consumption
- Functions are displayed on 2 , 3 or 4 pages according to the configuration
- Bargraph format tachometer on page 1
- New style of needle tachometer on page 2, with bargraph for oil Pressure and Water temperature
- Gearbox indicator for sequential gearbox and for standard gearbox using a calculation between tachometer and speedometer in this case
- 4 possible functions to choose in config menu for the third analog input
- Homepage picture with the **MOD7 RACING** logo
- Brighness can be adjusted on 3 levels



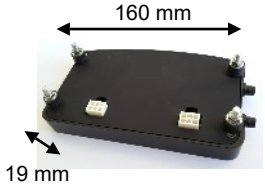
Page 4 display example

Page 2 display example

Package contents for Dashboard MOD7 EvoXF-Data :

- 1 **Dashboard MOD7 EvoXF-Data** equipped with 4 anti-vibrations pads fixing
- 2 looms with 4 and 6 way connectors
- 1 Speed magnetic sensor + 1 magnet
- 1 Instructions manual

Technical specifications of the Dashboard MOD7 EvoXF-Data :



350grs

Using range : 0°C --> 70°C

Sealing : non

Volts

Voltage : 10v --> 15v

Conso : 1,6W * (sous 14volts)

Require Spark plugs with resistor

- **Maximum values :**
  Memorizes the max speed and Displays it after engine shutdown on pages 2 and 4
  Memorizes the max rpm and Displays it after engine shutdown on pages 1 and 2
  Memorizes the max water temperature and pressure(s) and Displays them on pages 1 and 4

- **Tachometer** up to 10000rpm
  Bargraph format on page 1 from 800 to 9000 rpm with 200 rpm accuracy
  Needle format on page 2 from 0 to 10000 rpm
  Digital format on page 1 and 2, from 0 to 10000 rpm with 100 rpm accuracy
  ECU pulses can be divide by 1, 2, 3 or 4 or multiply by 2
  Programmable red zone for bargraph from 4600 to 9000 rpm

- **Shift Light** with 5 leds : green x2, orange x1, red x2
  Sequential turn on and then flashing when all are lighted
  Each led can be programmed to turn on from 3000 to 9900 rpm with 100 rpm accuracy

- **Speedometer** up to 300 km/h with 1 km/h accuracy
  Takes information from an 'Ils' sensor, switched by a magnet (all supplied)
  Programmable wheel circumference form 140cm to 230cm

- **Engine water Temperature** from 0 to 140°C (+/- 2°C)
  Uses the original sensor of the car or a MOD7 sensors (not supplied)
  Possible adjustment of the displayed value from -30°C to 0 and from 0 to +30°C
  Programmable alert (Red led AL1) from 80 to 130°C

- **Engine oil Pressure** from 0 to 9.0 bars (+/- 0,1 bar)
  Uses a 10 bars VDO sensor (not supplied) or may use the original sensor of the car…
  Programmable alert (Red led 'OIL') from 0.5 to 2.0 bars

- **Gearbox Indicator** for none sequential Gearbox, without potentiometer
  Displays N (if Speed=0) or after a calculation between tachometer and speedometer : 1 to 6

Additional analog function 'AD3' to choose in configuration menu :

- **Gearbox Indicator** for sequential gearbox with potentiometer : R, N, 1, 2, 3, 4, 5 and 6

- **Fuel Gauge** up to 60 liters
  Uses the original sensor of the fuel tank. Programmable with steps of 10 liters

- **Fuel Pressure** from 0 to 9.0 bars (+/- 0.1 bar)
  Uses a 10 bars VDO sensor (not supplied)
  Programmable alert (Orange led AL2) from 0.5 to 2.0 bars

- **Turbo Pressure** from 0 to 2.0 bars (+/- 0,1 bar)
  Uses a 2 bars VDO sensor (not supplied)
  Programmable alert (Orange led AL2) from 0.5 to 2.0 bars

Cautions and Warnings :

- This dashboard **MOD7 EvoXF** is only reserved for use in racing cars.
  It is not approved for a road use.
- The **dashboard MOD7 EvoXF** is intended to be used inside the car (unsealed).
- The **dashboard MOD7 EvoXF** is only designed to equip injection powered cars with a non multiplex harness, and equiped with a 12v battery.
  A battery voltage above 16v might cause irreparable damages to the product.
- The **dashboard MOD7 EvoXF** needs eventually some sensors witch are not supplied
  At first, you can use the existing sensors of the car (temperature and pressure).
  The displayed values may be incorrect or false but there is no risk to try them.

Safety Warnings for installation and during wiring :

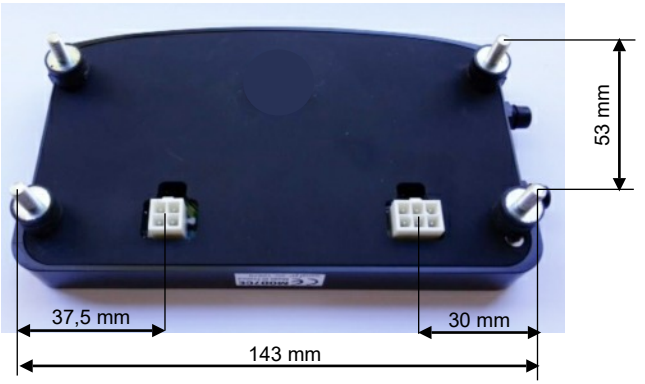
- Switch off the ignition and disconnect the ground terminal of the battery
- Keep the wiring harness far from hot spots of the engine (i.e. temperature)
- Install a fuse of 1 or 2A on the '+' power wire

Warnings for reliability :

- Use the mounting system supplied with dashboard ('silentbloc' x4 parts)
- Make sure that the positive power supply will stay below 16 volts
- Do not pull on wires or harness and Do not spray the counter even at low pressure
- Do not open the dashboard
- Use a dashboard specific sensor for each function of the dashboard. Do not wire in parallel

Fixing the Dashboard MOD7 EvoXF :

- **Choose** the best place for your **dashboard MOD7 EvoXF** in order to see the full screen of the dashboard when you are in your driver seat :
  The best place is at the location of the original instrument cluster
  Replace them with a sheet of carbon or aluminium black painted.
  An other good place is directly on the steering column, closer to you.
- **Drill** your support with 4 holes of 5mm diameter for the 4 silentblocs (see below)
- **Drill** your baseplate or support with 2 holes of 20mm diameter to pass the wires
- **Fix** the dashboard on your support using the 4 silentblocs.



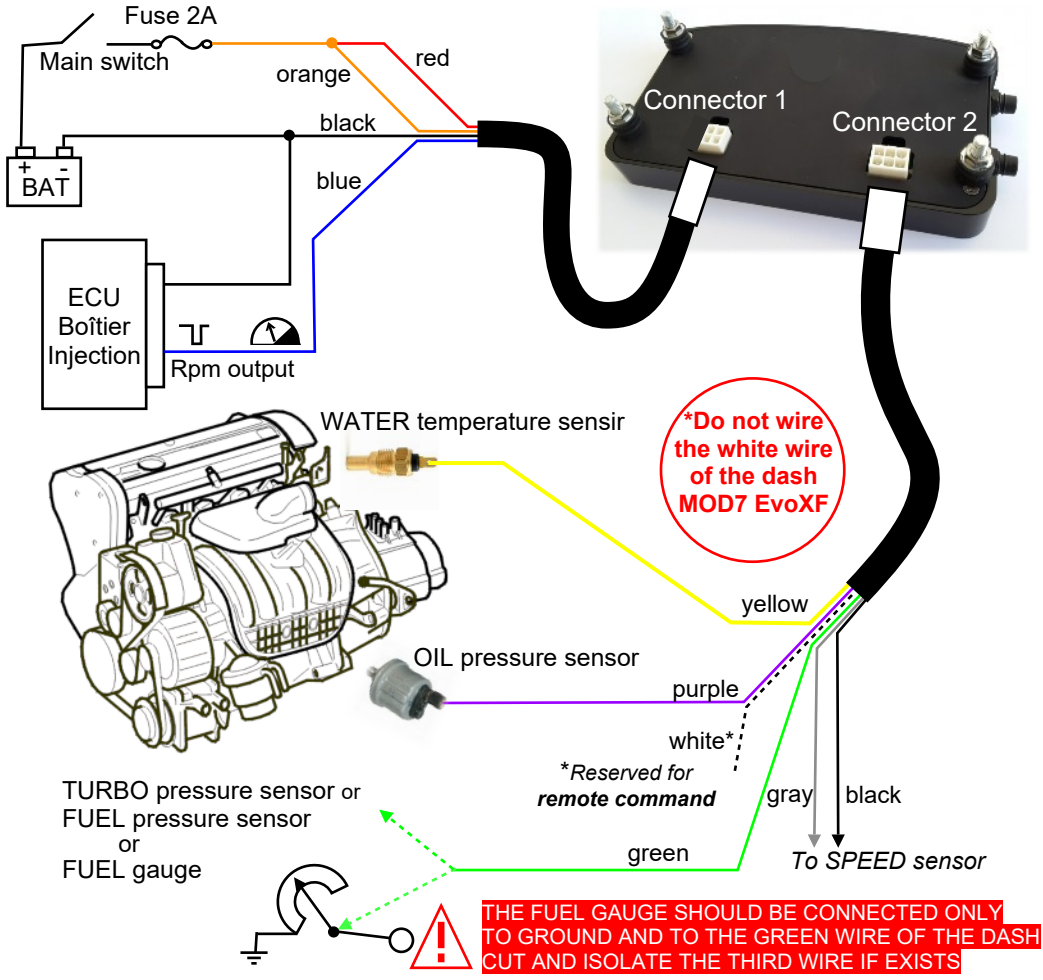
Wiring of the Dashboard MOD7 EvoXF-Data :

- **Connect** the different wires to the vehicle as shown in the diagram

- **Insert** and **Lock** at first, the principal connector 1 with 4 wires, that provides power
- **Switch on the cpower** to check that the dashboard displays the home page (after 3 sec.)

- **Start the engine**. The **dashboard MOD7 EvoXF** must display the tachometer
  If the tachometer is not working well (unstable rpm or the leds flashing sometimes even if the engine is running at low speed), then change the wiring for ORANGE & BLUE wires from A - wiring to B - wiring (see on next page)

- **Insert** and **Lock** the connector 2 with 6 wires for the analog functions and speed
- **Verify** that the engine water temperature, the oil pressure and speed are working well.



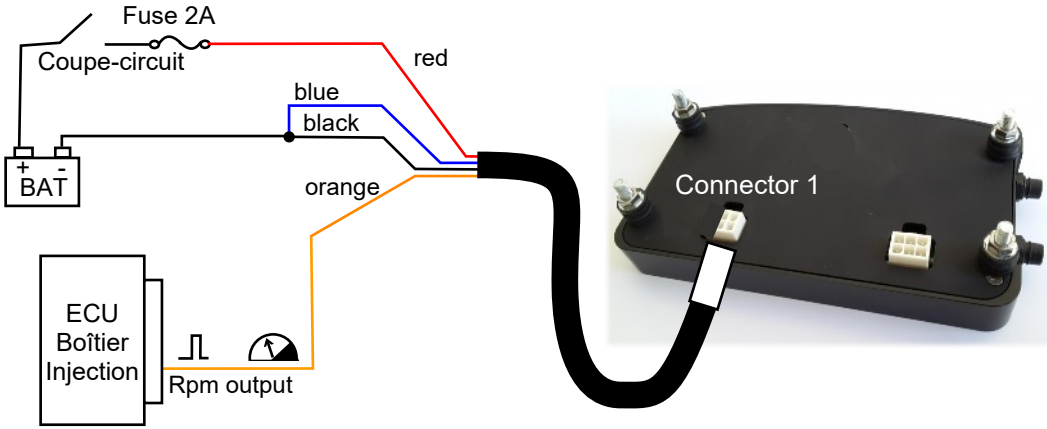
WIRING POSSIBILITIES for Tachometer input :

A **- NORMAL WIRING** (normal case to be tested first)

For a ECU Rpm output that gives negative pulses (ground pulse)
- **BLUE wire connected to the rpm output of the ECU**
- **ORANGE wire to the +12v** after main switch (like the red wire)

B **- VARIANT WIRING** (if the rpm value remains to 000 or if the rpm value is unstable)

For a ECU Rpm output that gives positive pulses
- **ORANGE wire connected to the rpm output of the ECU**
- **BLUE wire grounded** (like the BLACK wire)



OTHER WIRING POSSIBILITIES for Tachometer :

If you're not able to find the rpm output on your ECU, or, if this output is not working with the 2 previous wiring scheme, it is possible to connect the Rpm input directly on one of the command input (primary) of the ignition coil…

The tachometer input of the dashboards MOD7 is designed to detect a square signal 0 - 12v coming from the ECU or a ignition signal which can reach 500 volts !!

C) Normal case, technicaly the same scheme as page 4
The coil input command works with a ground commutation
The wiring scheme is the same either if you have 'pencil' spark plug (one per cylinderà or if you have a coil bloc (one coil for 2 cylinders) :
- **BLUE wire connected to one coil input command from ECU**
- **ORANGE wire to the +12v** after general switch (like the red wire)

COMPLEMENTARY FUNCTION TO BE SELECTED (AD3) :

The **dashboards MOD7 EvoXF-Data** can display a 3rd function (AD3) between :
- Sequential gearbox indicator from a potentiometer
- Fuel gauge of the car
- Fuel pressure (needs a 10bars VDO sensor)
- Turbo pressure (needs a 2bars VDO sensor=

The input for this 3rd function is the GREEN wire on connector 2

For example, on the wiring scheme on page 4, this input is connected to the fuel gauge sensor

• To display the Engaged Gear, **Connect** the GREEN wire to the gearbox potentiometer
On this gearbox potentiometer, you also connect the ground terminal to the dashboard ground (Black wire), and you must cut and isolate the power wire.

ATTENTION !! You have to connect the potentiometer only to the dashboard input and nothing else. If you connect an other electronic equipment in parallel, you may destroy either the dashboard or the equipment… because the internal power are different. This issue will not be guaranteed and you will be charge to repair.

• To display the Fuel Pressure, first **Install** a 10bars VDO sensor on the Fuel injection system and **Connect** the GREEN wire to the sensor terminal

• To display the Turbo Pressure, first **Install** a 2bars VDO sensor on the engine turbo system and **Connect** the GREEN wire to the sensor terminal

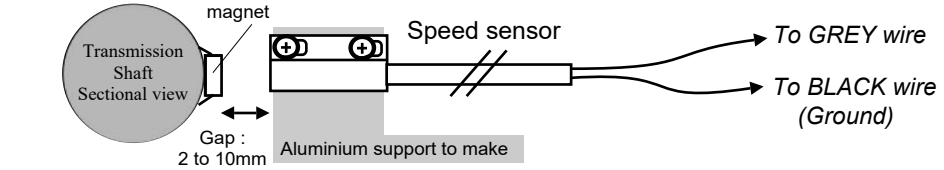
In order to read the proper value, you need to select the right function corresponding to the sensor you install, in the setting menu on the dashboard

INSTALLATION of the SPEED SENSOR : (see diagram on page 4)

• **Paste** the cylindrical magnet on the half-transmission shaft near the gearbox output.
Use a good epoxy glue and even a non-metallic clamp.
• **Install** the 'PLA' speed sensor on an aluminium bracket (don't use steel) attached at one end to the engine block.
• **Connect** one of the sensor wires to the GRAY wire of dashboard **MOD7 EvoXF**
• **Connect** the other wire to the BLACK ground wire of the dashboard (ground)

Speed sensor + Magnet :

Warning : *Sensor is fragile. Avoid hitting the sensor during installation*



OPERATING MODE

A) Display change :

The dashboard **MOD7 EvoXF-Data** can display 3 to 5 pages

Page 0 : welcome page 'MOD7 RACING' displayed after power on
Page 1 : 'RACE' page with bargraph tachometer + several digital values
Page 2 : 'RoAD' page with needle tachometer + Speed and Distance + Trip functions

NOTA : *page 3 is only reachable when AD3 is setting to display the engaged gear*
Page 3 : page with a unique large value to indicate the engaged gear

NOTA : *page 4 is only reachable when AD3 is setting to display the engaged gear OR if the calculated engaged gear is unable*
Page 4 : page with large engaged gear + 3 digital data

- **Press briefly** the 'CHANGE PAGE' button to access to the next page
- If the engine is stopped, **Press durant 1 sec.** on the 'CHANGE PAGE' button to return to the 'Welcome' page 0. So that you can access to the setting/configuration menu

Page 0 : Welcome

Page 1 :
- Bargraph format tachometer
- Engine Water temperature
- Engine Oil pressure
- Engaged gear and/or a 2nd pressure or Fuel Gauge depending on settings

Page 4 :
- Engaged gear
- Engine Water temperature
- Engine Oil pressure
- Speed

Page 2 :
- Needle format tachometer
- Temperature and Pressure bargraph
- Speed + Distances + Engaged gear
- Fuel gauge depending on settings

Page 3
- Engaged gear for sequential gearbox only

B) Configuration menu Entry / Exit :

The **dashboard MOD7 EvoXF** do not require any connection to a PC or tool to be configured. From the page 0, **Press and Hold 1sec.** the 'MODE CONFIG' button.

The different configuration menu and the detailed explanations for the **Dashboard MOD7 EvoXF** are given in this instructions manual from page C1 to C4

In order to save your parameters and to exit form the configuration menu, anytime, **Press and Hold 1sec.** the 'MODE CONFIG' button.

C) Changing the screen brightness :

To change the display screen brightness when you are on page 1 to 4 :
- When the engine is running, **Press and Hold 1sec.** the 'CHANGE PAGE' button, the brightness changing from 'Day' mode (very bright) to the 'Night' mode (very dim)
- **Press and Hold 1sec.** an other time on the 'CHANGE PAGE' button and the brightness changing for an intermediate mode
- **A 3rd Press and Hold** on the 'CHANGE PAGE' button and the brightness returns to the day mode (very bright)

D) Save / Recover configuration data :

You can find interesting to copy all your configuration data in a 2nd memory zone
So that, you can test a different set of parameters or the 'back-up' your parameters…
The **Dashboard MOD7 EvoXF** gives you the possibility !

In case of data lost, or to return your previous parameters, there is a easy way to recover your data from the 2nd memory zone to the main memory using by the **dashboard MOD7 EvoXF**

From the Welcome page 0, and when the engine is not running :

To save your configuration data in the 2nd memory zone :
- **Press and Hold 1sec.** on the 'MODE CONFIG' button, '**AD3+MEMORY MENU**' is displayed
- **Press and Hold 1sec.** on the 'CHANGE PAGE' button, '**AD3 TYPE**' is displayed in white color
- **Press briefly** on the 'CHANGE PAGE' button, '**COPY MEMORY**' is displayed
- **Push** on the 'MODE CONFIG' button, 'OK' is displayed briefly, your configuration parameters has been copied in the 2nd memory zone
- **Press and Hold 1sec.** on the 'MODE CONFIG' button to exit the configuration menu

To recover your configuration data in the main memory zone :
- **Press and Hold 1sec.** on the 'MODE CONFIG' button, '**AD3+MEMORY MENU**' is displayed
- **Press and Hold 1sec.** on the 'CHANGE PAGE' button, '**AD3 TYPE**' is displayed in white color
- **Press briefly 2 times** on the 'CHANGE PAGE' button, '**RESTORE MEMORY**' is displayed
- **Push** on the 'MODE CONFIG' button, 'OK' is displayed briefly, the configuration parameters contained in the 2nd memory zone are copied in the main memory zone
- **Press and Hold 1sec.** on the 'MODE CONFIG' button to exit the configuration menu

CONFIGURATION of the dashboard MOD7 EvoXF :

When Power On, the **dashboard MOD7 EvoXF** entering a initialisation sequence :
1) All the leds light up : Shift light and alerts
2) The Welcome page is displayed
3) The the leds go out…

At this moment, as long as the engine is not running, you can access to the Configuration menu :

- **Press and Hold 1 sec.** '**MODE CONFIG**' button to display a red menu line :
- **Each time you briefly press** the '**CHANGE PAGE**' button, the menu line changes :

AD3+MEMORY MENU :	To configure the 3rd entry + Save/Restore the memory
TEMP+CIRC MENU :	To configure the Water Temp adjustment + Wheel Circonf
ALERT MENU :	To configure the Alerts
RPM+SHIFT MENU :	To configure the tachometer + the Leds of the Shift light
FUEL PROG MENU :	To program the fuel gauge if AD3 is set on 'Gauge'
GEAR PROG MENU :	To program the gear in order to display the engaged gear

For each line of menu described above :
- A **press and hold 1sec.** on the '**CHANGE PAGE**' page displays a sub menu written in white

Use of the Configuration sub menus :

1) To choose the AD3 input function corresponding to the GREEN wire of connector 2 :
NOTA: At first, you need to connect the function corresponding sensor to the green wire

When '**AD3+MEMORY MENU**' is displayed :

- **Press for 1sec.** on the '**CHANGE PAGE**' button : '**AD3 TYPE**' is displayed in white
- **Each pulse** on the '**MODE CONFIG**' button changes the type of the function connected on AD3 :
  - OFF no function is connected to the GREEN wire
  - VOLT (this function is not available - *do not select*)
  - P-FUEL to display the fuel pressure read on a 10 bars VDO sensor
  - TURBO to display the turbo pressure read on a 2 bars VDO sensor
  - GAUGE to display the fuel gauge level
  - GEAR to display the engaged gear of a sequential gearbox only
- **Briefly press** on the '**CHANGE PAGE**' button : '**COPY MEMORY**' is displayed in white
  This function creates a copy of your parameters in a 2nd memory zone
  Please see details of this operation on Page 8 of the main notice
- **Briefly press** on the '**CHANGE PAGE**' button : '**RESTORE MEMORY**' is displayed in white
  This functions restores a back-up of your parameters from the 2nd memory zone to the main memory zone. Please see more details on Page 8
- **Press for 1sec.** on the '**CHANGE PAGE**' button to exit this sub menu written in white…

2) To SET the TEMPERATURE and the WHEEL CIRCUMFERENCE and CLEAR the Distance :

When '**TEMP+CIRC MENU**' is written :

• **Press for 1sec.** on the 'CHANGE PAGE' button : '**ADJ WATER TEMP**' is displayed + '**+0°C**'
The goal is to adjust the value displayed on the dashboard screen compared to the real temp.
The best way is to read this gap when the fan triggers on because it's a known value
This Adjustment value is what the dashboard will add or substract compared to the read value
In example : if the dashboard displays 105°C rather than 90°C, you need to correct by -15°C
• **Each pulse** on the 'MODE CONFIG' button increases the correction by 1°C
Above +30°C, the correction passes to -30, -29, -28… for the dashboard to reduce the value

• **Press briefly** on the 'CHANGE PAGE' button to display '**INIT DISTANCE'**
Press briefly on the 'MODE CONFIG' button to reset the Total Distance

• **Press briefly** on the 'CHANGE PAGE' button to display '**WHEEL CIRCONF**'
Select the wheel circumference for the dashboard to display the exact real speed
• **Each pulse** on the 'MODE CONFIG' button increases the circumference by 1cm
Above 230 cm, the value returns to 140cm. A value of 100 disables the distance function

• **Press for 1sec.** on the 'CHANGE PAGE' button to exit this sub menu written in white

3) To SET the ALERTS :

When '**ALERT MENU**' is written :

• **Press for 1sec.** on the 'CHANGE PAGE' button : '**AL1 WATER TEMP**' is displayed in white
• **Each pulse** on the 'MODE CONFIG' button increases the alert by 1°C. Above 130°C, it goes to 80°C

• **Press briefly** on the 'CHANGE PAGE' button to display '**AL OIL PRESS**'
• **Each pulse** on the 'MODE CONFIG' button increases the Oil pressure alert by 0,1 bar
Above 2,0 bars, the alert returns to 0,5 bar

• **Press briefly** on the 'CHANGE PAGE' button to display '**AL2 FUEL PRESS**'
NOTE : *You have to set it if P-FUEL is selected for AD3 and if you have install a fuel pression sensor*
• **Each pulse** on the 'MODE CONFIG' button increases the Fuel pressure alert by 0,1 bar
Above 4,0 bars, the alert returns to 2,5 bars

• **Press briefly** on the 'CHANGE PAGE' button to display '**AL2 TURBO PRESS**'
NOTE : *You have to set it if P-TURBO is selected for AD3 and if you have install a turbo pression sensor*
• **Each pulse** on the 'MODE CONFIG' button increases the Turbo pressure alert by 0,1 bar
Above 2,0 bars, the alert returns to 0,5 bar

• **Press briefly** on the 'CHANGE PAGE' button to return to '**AL1 WATER TEMP**

• **Press for 1sec.** on the 'CHANGE PAGE' button to exit this sub menu written in white

4) To SET the TACHOMETER and the SHIFT LIGHT :

When '**RPM+SHIFT MENU**' is displayed :

• **Press for 1sec.** on the 'CHANGE PAGE' button : '**RPM PULSE NB**' is displayed in white

NOTE : *This value is a dividing coefficient for the rpm pulses coming from ECU or Coils*
If the tachometer is wired directly to the high voltage primary coil, select 1
To multiply the pulse number by 2, select 9 (like for the 206 RC high voltage coil command)
If the tachometer information is coming from a tacho-output on the ECU, select 2
If you have a 6 cylinders engine, you can try 3, and for a 8 cylinders engines, it's often…

*However : With a 'RPM PULSE NB' from 1 to 4, the flashing frequency of the shift light is '**Soft**'*
*If you prefer a '**Fast**' frequency, simply add 4 to the nominal value :*
5 rather than 1 or 6 rather than 2 or 7 rather than 3 or 8 rather than 4

• **Each pulse** on the 'MODE CONFIG' button increases the value by 1. Above 9, it returns to 1

• **Press briefly** on the 'CHANGE PAGE' button to display '**RPM ZONE ROUGE**'
NOTE : *The red zone is displayed only on the tachometer bargraph of the page 1*
• **Each pulse** on the 'MODE CONFIG' button increases the start of the red zone by 100 rpm
Above 9000 rpm, the start of the red zone returns to 5000 rpm

• **Press briefly** on the 'CHANGE PAGE' button to display '**RPM SHIFT LED1**'
NOTE : *Here you can set the rpm to which the 1st led of the the shift light goes on*
• **Each pulse** on the 'MODE CONFIG' button increases the rpm of the led by 100 rpm
Above 9900 rpm, the value returns to 4000 rpm

• **Press briefly** on the 'CHANGE PAGE' button to display '**RPM SHIFT LED2**'
NOTE : *Here you can set the rpm to which the 2nd led of the the shift light goes on*
• **Proceed** in the same way as for LED1

••• and so on, for the led 3 and the led 4 and the led 5…

• **Press briefly** on the 'CHANGE PAGE' button if you want to return to '**RPM PULSE NB**'
…
• **Press for 1sec.** on the 'CHANGE PAGE' button to exit this sub menu written in white

5) To PROGRAM the FUEL GAUGE :
NOTE: *first of all, you must to have : - wired the output of the fuel gauge to the green wire of connector 2*
*- programmed **AD3 TYPE** on GAUGE (see page C2, paragraph 1)*
- empty the fuel tank

When '**FUEL PROG MENU**' is displayed :

• **Press for 1sec.** on the 'CHANGE PAGE' button : '**FUEL PROG 00L**' is displayed in white, followed by a number representing the resistor of the fuel gauge converted by the processor
ie : FUEL PROG 00L 210LSB is the factory value
• **Press briefly** on the 'MODE CONFIG' button so that the dashboard read the gauge with 0 liter
The value before 'LSB' changes et you will have for example FUEL PROG 00L 198LSB

• **Press briefly** on the 'CHANGE PAGE' button to have '**FUEL PROG 10L'**
• Add 10 liters of gasoline in the fuel tank
• **Press briefly** on the 'MODE CONFIG' button so that the dashboard read the gauge with 10 liters
The value before 'LSB' changes and must be lower than for FUEL PROG 00L

• **Press briefly** on the 'CHANGE PAGE' button to have '**FUEL PROG 20L'**
• Add 10 liters of gasoline in the fuel tank
• **Press briefly** on the 'MODE CONFIG' button so that the dashboard read the gauge with 20 liters
The value before 'LSB' changes and must be lower than for FUEL PROG 10L

Continue in the same way until the fuel tank is full… If the fuel tank is full for 50 liters (ie), you must memorise the step 60 liters (FUEL PROG 60L) without adding any gasoline, of course…

At the end of the programmation :
• **Press for 1sec.** on the 'MODE CONFIG' button to leave the Configuration mode and to save all of your parameters, if you have no other settings to do…

6) To PROGRAM the GEAR for a SEQUENTIAL GEAR BOX :

NOTE : *First of all, you must have : - wired the cursor of the gearbox potentiometer to the green wire*
*- selected GEAR for **AD3 TYPE** (see page C2, paragraphe 1)*

When '**GEAR PROG MENU**' is displayed :

- **Press for 1sec.** on the 'CHANGE PAGE' button : '**GEAR PROG R**' is displayed in white, followed by a number representing the value of the potentiometer converted by the processor
ie : GEAR PROG R 130LSB is the factory value
- Engaged reverse gear
- **Press briefly** on the 'MODE CONFIG' button so that the dashboard read the potentiometer in **R**
The value before 'LSB' changes and correspond now to your potentiometer position

- **Press briefly** on the 'CHANGE PAGE' button, the dashboard displays '**GEAR PROG N**'
- Put the gearbox in the Neutral position
- **Press briefly** on the 'MODE CONFIG' button so that the dashboard read the potentiometer in **N**

- **Press briefly** on the 'CHANGE PAGE' button, the dashboard displays '**GEAR PROG 1**'
- Engage the 1st gear
- **Press briefly** on the 'MODE CONFIG' button so that the dashboard read the potentiometer in **1**

And so on until de 6th gear…

At the end of the programmation :
- **Press for 1sec.** on the 'MODE CONFIG' button to leave the Configuration mode and to save all of your parameters, if you have no other settings to do…

6) To PROGRAM the GEAR for a STANDARD/CLASSIC/H-TYPE GEAR BOX :

NOTA: *First of all, you must have : selected something else than GEAR for **AD3 TYPE***
Note : *In this way, the gear is calculated, so the dashboard cannot display 'R' and will display 'N' when speed is 0*

When '**GEAR PROG MENU**' is displayed :

- **Press for 1sec.** on the 'CHANGE PAGE' button : '**GEAR PROG N**' is displayed in white
- **Press briefly** on the 'MODE CONFIG' button to display **0** if you want no gearbox indicator or **1** to display the gearbox calculated, or **2** in order to learn the gears
*Before the first use, put **2** for GEAR PROG N to do a self-learning while driving*

- **Set** '**GEAR PROG N**' on **2** by giving pulse(s) on the 'MODE CONFIG' button
- **Press for 1sec.** on the 'MODE CONFIG' button to leave the Configuration mode

- **Start the engine** and **Access** to the page 2 (Tachometer in needle format + Speed displayed)
Under the rpm written in digital, you can see '**R1**' that mean you will program the 1st gear :
- **Drive** the car and **Place** the engine speed at 3000 rpm on the 1st gear
- **Keep** this engine speed stable and **Briefly Press** on 'MODE CONFIG', the value at the right of SPEED is memorised. It's the number of rpm pulses during 2 wheel turns
You see that '**R2**' is displayed under the value of the rpm, then engage the 2nd gear
- **Bring back** the engine speed to 3000 rpm on the 2nd gear
- **Keep** this engine speed stable and **Briefly Press** on 'MODE CONFIG' button
- **Do** the same thing for **R3, R4, R5 and R6** (even if your gearbox has only 5 gears, so R6 = R5)

The data are memorised in a temporary memory, you need so save them definitively :
- **Stop the car** with maximum security and **Stop the engine while the dashboard is on**
- **Press for 1sec.** on the 'CHANGE PAGE' button to return to the welcome page
- **Press for 1sec.** on the 'MODE CONFIG' button to enter the configuration menu
- **Press for 1sec.** on the 'MODE CONFIG' button to exit the config menu and save your data.

DATA ACQUISITION on the dashboard MOD7 EvoXF :

The data acquisition combines two functions in order to allow the memorization of several parameters or values during a session or a stage, and to represent them on a graphic to be analysed after the session or stage

This set of functions is available as an option on the **Dashboard MOD7 EvoXF**
When the option is in active mode, the dashboard is renamed **MOD7 EvoXF-Data** and this is written on the welcome page as you can see…

The first step before recording data is to erase the memory from the previous data :
- **Switch on the power** and before the leds go on, so during the first couple of seconds,
- **Press for 1sec.** the 'CHANGE PAGE' button until the display goes on : 'ERASING DATA' and a progress bar is displayed…
- **Release** the button and let the dashboard doing a complete memory erase in 10 seconds When the data is completely erased, the leds light up, then the welcome page is displayed

Data memorized and Memory space :

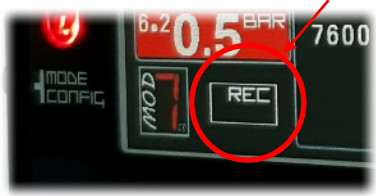
• Engine speed • Vehicle speed • Water temperature • Oil pressure • Engaged gear
The above data are memorised 5 times per second, so one measure every 0.2 second
The **Dashboard MOD7 EvoXF-Data** can store the 5 parameters during 2 hours, i.e
2x 60' x 60sec. x 200ms = 36000 measures of each parameter.
Note : If you don't want to store the engaged gear, you don't have more memory for the rest.

Data storage :

On each page of the **Dashboard MOD7 EvoXF-Data**, there is a little frame named 'REC'

- When the data recording is in progress, a red point is displayed followed by the time since the beginning of the record

- When the data recording is stopped, the 'REC' frame is empty.



Start / Stop of data acquisition :
• **Press briefly** on the 'MODE CONFIG' button to begin the data acquisition and storage if the acquisition was stopped, or the stop it if the acquisition was in progress. The red point in the 'REC' frame indicates the state : Red point = Acquisition/Storage in progress

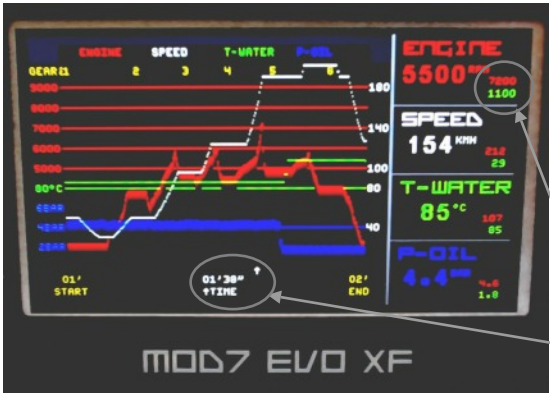
To reset the data acquisition time to 00'00'', • **Power off the dash, then Power it back on**
Attention ! After this operation, the new data will overwrite the previous…

Reading and Displaying data :

To access the visualization graph of recorded data :
• **Stop the engine** and • **Stop the data acquisition** → No red point displayed in 'REC' frame
• **Press for 1sec.** on the 'MODE CONFIG' button, the display will look like the picture below :

To come back to the 'normal' views and quit the graphic mode :
• **Press for 1sec.** on the 'MODE CONFIG' button

From the normal screen, you can resume recording from where it left off
Example : After 4 track loops in 8'40", you may go to pits and visualize your graphics
Then you go back to the track for 4 more loops, you can resume the acquisition from where you leave it, at 8'40"



Max and Min values of the parameter on the reading page

The cursor is à 01'38'' which is indicated by the arrow and the value of 'TIME'

The left side of the screen represents a graphic page of one minute
The start and end times of the page are listed at the bottom of the graph, *here START 01' STOP 02'*
• The **engine speed is displayed in Red** and the vertical scale is indicated by 5 red lines
• The vehicle speed is displayed in White. The vertical scale is written at the right side in white
• The **temperature is displayed in Green**. Only the value for 80°C is represented by a green line
• The **oil pressure is displayed in Blue**. The vertical scale is indicated by 3 blue lines
• The engaged gear is written at the top of the graphic in Yellow only if the gear is actived

The right side of the screen gives the digital values for the cursor position displayed at the bottom of the grpah. The min and max values of each parameter on the selected page is also given
Example : At time = 01'38", the engine speed was 5500rpm, the speed was 154kmh,
the water temperature was 85°C and the oil pressure was 4.4bars
On the displayed page, the engine speed varies from 1100 to 7200rpm, the vehicle from 29 to 212kmh, the temperature from 85 to 107°C and the pressure from 1.8 to 4.4 bars

To move the cursor :
• **Press briefly** on the 'CHANGE PAGE' button to move forward the cursor for 2 seconds
• **Press briefly** on the 'MODE CONFIG' button to move backward the curso for 0.2 seconds
• **Press for 1sec.** on the 'CHANGE PAGE' button to jump to the next page (go forward for 1 minut)