



AiM Infotech

HONDA CBR-RR 2003-2004 PLUG AND PLAY KIT

Release 1.01



INSTALLATION DOCUMENTATION	28/07/2004	KIT MOTO	Honda CBR-RR 2003-2004 600 cc
Installation procedure for the Honda CBR - 2003-2004 kit – Vers. 1.01			

HONDA CBR-RR 2003-2004 PLUG AND PLAY KIT



KIT DESCRIPTION

The kit for **Honda-CBR-RR** is composed of the following objects:

- **MyChron 3 PLUS-CBR-RR** or **MyChron 3 GOLD-CBR-RR**
- Plug and play wiring for **MyChron 3 PLUS-CBR-RR** or **MyChron 3 GOLD-CBR-RR**
- Installation kit including: 1 bracket, 3 anchor plugs (2 short and one long), 3 self locking nuts, washers, screws.
- Gyroscope (optional – available for **GOLD** version only) needed to map tracks.
- CD-ROM including **Race Studio 2** software.
- Documentation.

The kit for **Honda CBR-RR** has been developed for 600 cc cubic capacity. Please, refer to the following table in order to understand which Honda CBR-RR is supported by our kit.

Cubic capacity (cc)	Year 2003	Year 2004
600	√	√
900	•	•
1000	•	•

√ = supported - • = NOT supported

MyChron 3 Plus/Gold – Honda CBR – RR version has been designed and developed to be a “plug and play” system You can connect to the “on-board” wiring.

This kit wants to merge the functionalities of the stock dash with these of a professional data acquisition system.

MyChron 3 Plus/Gold – Honda CBR – RR version may be used both on track (lap, split times, engine’s parameters, gyroscope to map tracks) and on street (odometer, water temperature, oil pressure alarm, fuel level).

The gauge, as the stock dash, is powered by the bike's master switch. Moreover, when installing your **MyChron 3**, you do not have to cut, bend or to drill anything: each component of the kit has been designed to be plug and play.

The gauge has to be connected to the standard head light using the bracket supplied with the system. The bracket is made in black anodized aluminium, in order to be lightweight and mechanically resistant.

GENERAL NOTES – PLEASE read this before installing the system.

- Do not cut any wiring: the wiring supplied with the kit is plug and play.
- Be careful not to damage the on-board connectors when plugging/unplugging them. In the following pages is described how to correctly manage them.
- The space under the gas tank is quite confined. We recommend to remove the gas tank in order to have a wider available space.
- Be careful not to loose or confuse screws and washers.
- Do not damage the fairings when installing/uninstalling them.

INSTALLATION STEP # 1 – Removing the bike seat.

First installation step consists in removing the bike seat.

The seat is fixed to the bike with two screws, located on the back of the seat: one of them is circled in **Figure 1** and the other is symmetric to the first and its location is indicated by the arrow.

Please unscrew the two screws and uplift the bike seat. Then You can unplug it from the bike.



Figure 1: The bike seat

INSTALLATION STEP # 2 – Removing the gas tank cover and unlocking the gas tank.

Second step is removal of the gas tank cover, shown in **Figure 2**, and unlocking of the gas tank. The cover is fixed with seven screws.

First of all remove the three screws red circled in the figure.

Please note: these screws are longer than the others and, also if all the screws fit all the holes, these first three screws must be inserted in their original holes otherwise the gas tank rubber packing won't be well fixed. So, please, be careful **not to mix these first three screws with the other 4 you are going to unscrew.**

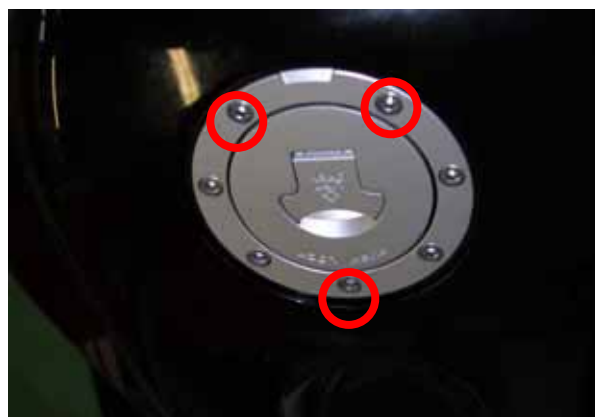


Figure 2: Location of the first three screws of the gas tank cover

Now, please insert the key in the gas tank lock and open it.
Afterwards get the key off the lock and unscrew the other four screws (these red circled in **Figure 3**).



Figure 3: Location of the other four screws of the gas tank cover.

It is now necessary to unscrew the two front hex screws of the gas tank (yellow circled in **Figure 4**).



Figure 4: The two front screws of the gas tank.

INSTALLATION STEP # 3 – Removing the lateral fairings

Please note: You have to remove **both lateral fairings** (left and right). Here below You see the location of all the screws to be unscrewed (the location is the same on both side).

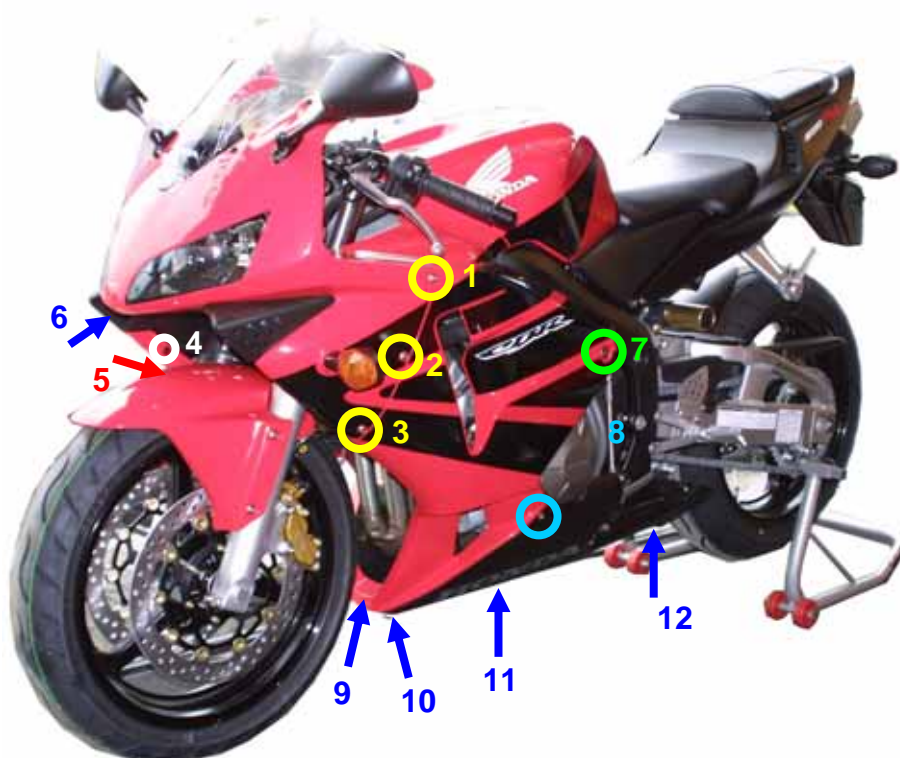


Figure 5: Location of all the lateral and front screws of the bike fairings.

Please unscrew, on both side of the bike, screws labelled as 1, 2 and 3 in **Figure 5** and yellow circled in **Figure 6**.



Figure 6: Screws 1,2 and 3 – particular.

Please unscrew, on both side of the bike, screws labelled as 4 and 5 in **Figure 5**, red circled and highlighted with a red arrow in **Figure 7**.



Figure 7: Screw 4 and 5 - particular.

Please unscrew the screw located under the front light, labelled as 6 in **Figure 5**, blue circled and highlighted with a blue arrow in **Figure 8**.



Figure 8: Screw 6 - particular.

Please unscrew, on both side of the bike, the screw located central on the right of the left lateral fairing, labelled as 7 in **Figure 5** and green circled in **Figure 9**.



Figure 9: Screw 7 - particular.

Please unscrew, on both side of the bike, the screw located bottom right on the left lateral fairing, labelled as 8 in **Figure 5** and light blue circled in **Figure 10**.

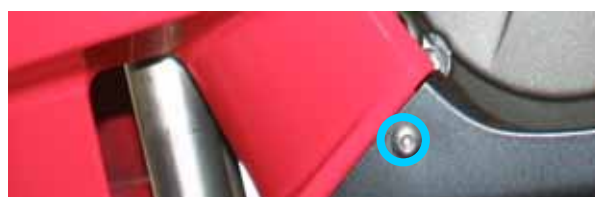


Figure 10: Screw 8 – particular.

Please unscrew the screws located under the bike, labelled as 9, 10, 11 and 12 in **Figure 5**, yellow circled and highlighted with blue arrows in **Figure 11**.

Now You can remove the lateral fairings.



Figure 11: Screws 9, 10, 11 and 12 - particular

INSTALLATION STEP # 4 – Removing the chassis under the lateral fairings and the gas tank fairing.

Step three consists in removal of the little chassis under the lateral fairings.

This chassis is fixed with a pin, red circled in **Figure 12**. To unlock the pin, please insert a tip in the central part of the pin and press until You hear a click. This way You have unlocked the pin; now You can remove it using a flat screwdriver.



Figure 12: Location of the under fairing chassis pin.

It is now time to remove the gas tank fairing You see in **Figure 13**.



Figure 13: the gas tank fairing has been removed.

INSTALLATION STEP # 5 – Removing the lateral mirrors and the front fairings, unplugging the on board connectors.

Step five consists in removing the lateral mirrors and the front fairings.

First of all, please remove both lateral mirrors unscrewing the two screws yellow circled in **Figure 14**.

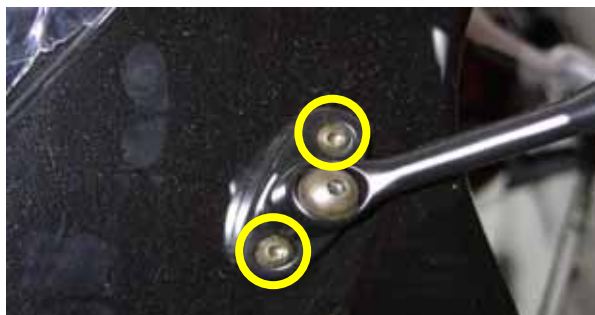


Figure 14: Lateral mirrors screws.

Once removed the 2 lateral mirrors, You can remove the front transparent fairing. This fairing is fixed with 6 screws, yellow / blue circled in **Figure 15**. Please unscrew the screws and remove the transparent fairing.



Figure 15: Front transparent fairing screws

As You can see in **Figure 16**, on the left side of the bike are two on board connectors, yellow circled in the figure. It is now necessary to unplug them. As shown in **Figure 17**.



Figure 16: the two on board connectors.

To unplug these connectors, please use a flat screwdriver. Insert its tip in the connector locking tongue, highlighted with a yellow arrow in **Figure 17** and press. This way You unlock the connector. Now You can unplug the connector. Please repeat this procedure for both the connectors.



Figure 17: unplugging the on-board connectors

INSTALLATION STEP # 6 – Unplugging the on board wiring and removing the stock dash

Sixth step consists in unplugging the on board wiring and removing the stock dash. The on board wiring are only to be manually unplugged as You can see in **Figure 19**.



The stock dash is fixed to the chassis with three anti-vibration mountings fixed on its back. In **Figure 20** the three anti-vibration mountings locations are circled in light blue colour; please remove the anti-vibration mountings and remove the stock dash.

Figure 19: Unplugging the on board wiring.



Figure 20: holes of the anchor plugs of the on board dash

INSTALLATION STEP # 7 – Assembling the kit.

The seventh installation step consists in assembling the kit for **Honda CBR-RR**.

The kit You receive, has already mounted on the backside of your **MyChron 3 Plus/Gold** the anti-vibration mountings, one of which is highlighted with a red / blue arrow in **Figure 21**;

Please install your **MyChron 3 Plus/Gold** on the aluminium bracket and fix it to your **MyChron 3** in correspondence of the 4 anti-vibration mountings, of **Figure 22**.

Figure 22 shows the correct assembly of the kit (rear view).

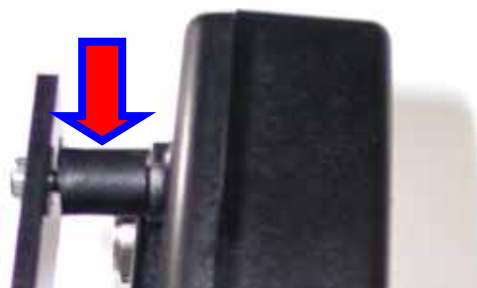


Figure 21: anti-vibration mountings – particular



Figure 22: MyChron 3, bracket – rear view

Before installing the kit on the bike, please insert the 3 anchor plugs, provided with the kit, in the holes of the bracket as shown in **Figure 23**, and then insert them in the holes of **Figure 20**.

Please note: the kit is provided with three anchor plugs: two short and one long. The location of the long one is highlighted with an arrow in **Figure 23**.

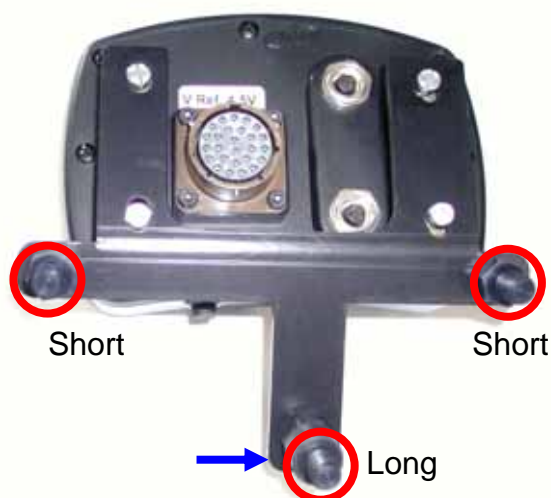


Figure 23: The bracket anchor plugs

Figure 22 shows Your **MyChron 3 Plus / Gold** installed on the Honda CBR-RR, but without **MyChron 3 Plus / Gold** wiring connected.

The anchor plugs, correctly fixed to the bike chassis, are circled in the **Figure**.



Figure 24: MyChron 3 Plus / Gold installed.

INSTALLATION STEP # 8 – Wirings connection.

The 8th installation step consists in installing the wiring supplied with the kit.

The on board wiring is all contained in a rubber girdle. Please bend it down back and connect it to the wiring supplied with the kit.

Then, please, fix **MyChron 3 Plus / Gold** wiring to the bikes chassis using plastic wrappers.

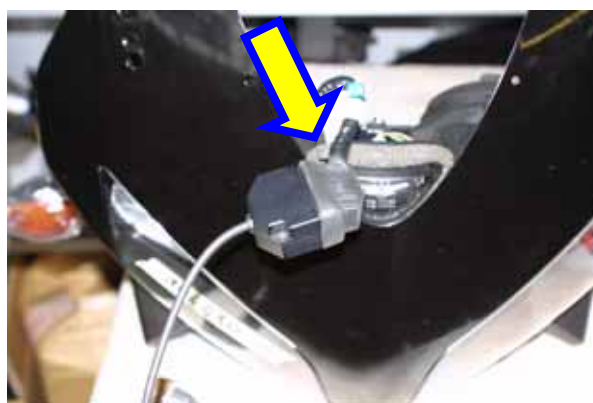


Figure 25: Wiring installation

Before re-mounting the fairings, the seat and the gas tank, we suggested You to turn on the bike in order to check the system's integrity and its correct installation.

PLEASE NOTE: in order to correctly re-mount the gas tank cover, we suggest You to lubricate the rubber packing of the gas tank (highlighted with an arrow in **Figure 26**); otherwise it is very difficult re-mounting it correctly.

Please **be careful** not to let oil falling in the gas tank.



Figure 26: the gas tank rubber packing.

FIRMWARE FOR MYCHRON 3 PLUS/GOLD HONDA CBR-RR - 2003-2004

As your **MyChron 3 Plus/Gold Honda CBR-RR** has been designed both for street and track use and, as the information the driver wants to display are different for street and track use, your **MyChron 3 Plus/Gold Honda CBR-RR** is equipped with a special firmware version which provides you a **second virtual dashboard**. In **Figures 27** and **28** are shown the two display mode, whose explanation is here following.

Please note: when you start running on a track and your gauge records a lap (you pass in front of a switched-on lap transmitter), the display switches automatically to “**Track mode**”.

“**Street mode**”: the display shows:

- RPM graphical bar: settable upper limit;
- RPM digital value/Battery voltage: upper right corner (press **VIEW/QUIT** to switch between the two);
- Total non-resettable odometer / Speed in the lower right corner (use button **>>** to switch among odometer and speed);
- Partial resettable odometer: upper left corner;
- Water temperature: lower left corner.

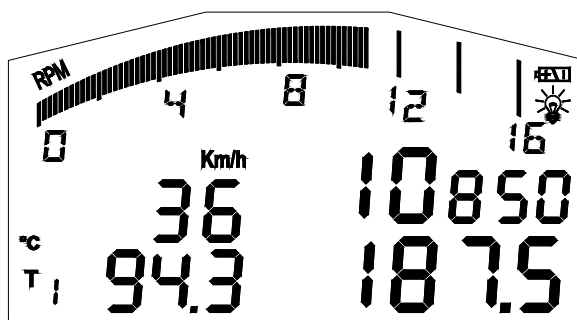


Figure 27: Street display

“**Track mode**” the display shows:

- RPM graphical bar: settable upper limit;
- RPM digital value / Battery voltage / Speed: upper right corner (**VIEW/QUIT**);
- Lap / split times in the lower right corner (use button **>>**);
- Oil pressure in the upper left corner;
- Water temperature: lower left corner.

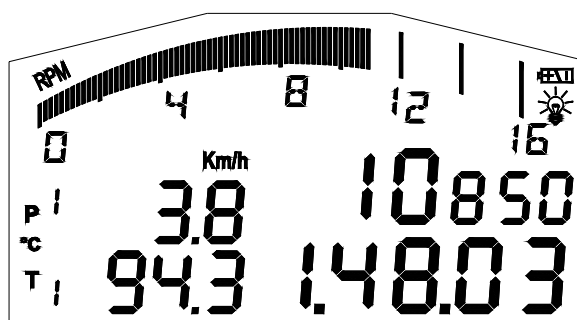


Figure 28: Track display

To step back from “**track mode**” to “**street mode**”, please switch off the gauge and then re-switch it on. The gauge sets automatically to “**street mode**”.

NOTE: for further information concerning the display management and its configuration, please refer to the **MyChron 3 Plus / Gold / Gold XG** user’s manual.

MYCHRON 3 PLUS/GOLD HONDA CONFIGURATION [RACE STUDIO 2]

Your **MyChron 3 Plus/Gold Honda CBR-RR** may be interfaced with the PC to:

- download the data stored in the internal memory;
- upgrade the gauge’s firmware;
- configure the gauge.

Once you buy a **MyChron 3 Plus/Gold Honda CBR-RR**, the gauge includes a configuration properly developed for your Honda bike: all sensors, calibration curves, engine parameters, speed parameters, etc... have already been set to a default value which guarantees you the possibility to plug in the input cable and start running.

Anyway, if you wish to change, for instance, the RPM upper value or the shift lights, if you wish to add a potentiometer sensor or a gyroscope on your **MyChron 3 Gold Honda CBR** and you need to calibrate them, if you change the crown or the pinion with a “different teeth number” one, you need to use our software **Race Studio 2**.

The CD-ROM including software, USB drivers, installation documentation and user’s manual is included in **MyChron 3 Plus/Gold Honda CBR-RR** kit. If you have any doubt about the software or the USB drivers installation, please refer to the installation manuals included in the CD-ROM.

The following table shows the input channels for both **MyChron 3 Plus Honda** and **MyChron 3 Gold Honda**.

Please note that **MyChron 3 Plus** has no free input channels (i.e. the 4 input channels are sampled from the “stock” wiring and there are no “free cable-connectors” for external sensors), while **MyChron 3 Gold** has 2 free input channels and a gyroscope input which need to be configured and calibrated using the software **Race Studio 2**.

MyChron 3 Plus Honda

Ch. 1	Water temperature
Ch. 2	Oil pressure switch
Ch. 3	Fuel level
Ch. 4	Turn signal

MyChron 3 Gold Honda

Ch. 1	Water temperature
Ch. 2	Oil pressure switch
Ch. 3	Free input channel – use Race Studio 2
Ch. 4	Free input channel – use Race Studio 2
Gyroscope	Use Race Studio 2

To correctly configure your gauge and to easily use **Race Studio 2**, please follow these instructions.

Run “**Race Studio 2**” software double - clicking on the corresponding icon on the desktop of Your Pc and follow these steps.

- Select “M3 Auto-Moto Plus / Gold / XG” in the left toolbar.
- Select “System Manager” in the top toolbar.
- Press “New” button in the bottom toolbar of the following screenshot.

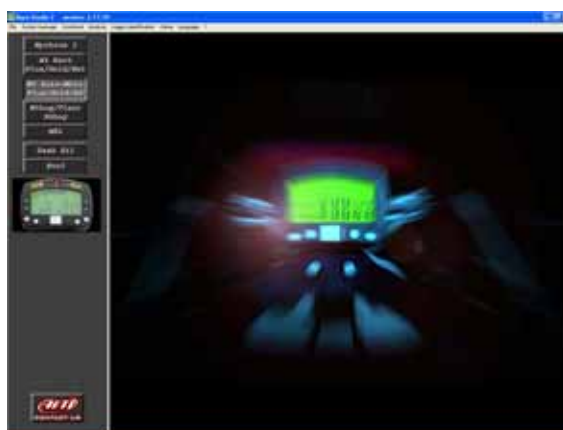


Figure 29: Race Studio 2 – First screenshot

The screenshot shown in **Figure 30** is prompted.

Please, set all configuration parameters (Logger type, vehicle name, speed, temperature and pressure unit of measure) through the pop up menus and then press button OK.



Figure 30: Race Studio 2 – New configuration.

System manager window is prompted on your monitor, as shown in **Figure 31**.

To correctly configure the input channels, please select a configuration among the available ones (in **Figure 31**, for instance, there are 5 available configurations: the yellow-highlighted is the selected one) and press button “Channels”.



Figure 31: Race Studio 2 – System manager window

The screenshot in **Figure 32** is prompted.

MyChron 3 Plus Honda CBR-RR:

This logger has no input channels free, so this page is just a summary and the user may not change anything.



Figure 32: Race Studio 2 – Input channels window

MyChron 3 Gold Honda CBR-RR:

This logger has 2 free input channels, labelled as CH. 3 and CH. 4.

If You Click in the correspondent cell (row “CH 3 / CH. 4” column “Sensor type”) you can set one input channel selecting it in the pop up menu or set a custom sensor selecting “custom sensor manager”.

Moreover, you may set channel name and sampling frequency.

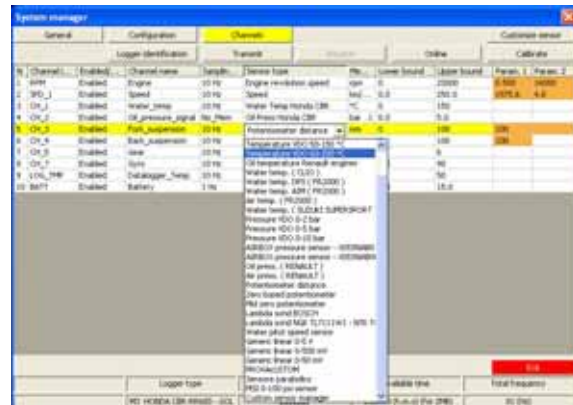


Figure 33: Race Studio 2 – Input channels window

Once all sensors have been correctly set, please press “Configuration” button.

The configuration window, shown in **Figure 34** allows You to set shift lights and alarms threshold value, to change the unit of measure, to modify the speed parameters, etc...



Figure 34: Race Studio 2 – Configuration window

1) Speed:

The speed sensor on your Honda bike is installed on the jackshaft which connects the gearbox to the pinion.

The number of magnets installed on this jackshaft is **4**.

The wheel circumference that fills the related cell is an “equivalent circumference” calculated using the following formula:

$$\text{Equiv Circumf} = \frac{\text{Wheel Circumf} * N_p}{N_c}$$

Default value: 1975.6

Where:

N_p = Pinion teeth number - default value 16

N_c = Crown teeth number – default value 42

Using the default values for crown/pinion teeth number and wheel circumference for a **Honda CBR-RR 600**, the equivalent circumference is **752.6 mm (29.6 inches)**.

2) Shift lights:

The values described in the 5 cells may be modified by the user to switch on the led at the desired RPM value. The 5 default values are the proper ones for a Honda CBR-RR 600. If You have a different cubic capacity bike You may need to modify these parameters.

3) RPM:

Please, DO NOT modify the “Multiply factor” (the default value is **/2**).

In order to change the RPM scale upper limit, please select the desired value among the 7 default ones.

4) Channel 1 Alarm:

As previously described, channel 1 is used to sample water temperature.

The alarm for channel 1 is defined as a “Maximum alarm”, i.e. the led is switched on when water temperature is higher than the threshold value.

The default value is **90 °C (194 °F)**.

5) Channel 2 Alarm:

As previously described, channel 2 is used for oil pressure switch.

The alarm for channel 2 is defined as a “Minimum alarm”, i.e. the led is switched on when oil pressure is lower than the threshold value.

The default value is **2.5 Bar (36 PSI)**.

6) Channel 3 Alarm:

If you have a **MyChron 3 Gold Honda CBR-RR**, you may set the proper threshold values corresponding to the sensor you have installed on channel 3.

If you have a **MyChron 3 Plus Honda CBR-RR**, the 3rd channel is used for fuel level. Please, do NOT modify the threshold values, otherwise you might run out of petrol. The default values for this alarm are:

- HIGH → LED: 3 → Value: 560
- LOW → LED: None → Value: 0 (corresponding to 0.6 gallon)

7) Channel 4 Alarm:

If you have a **MyChron 3 Gold Honda**, you may set the proper threshold values corresponding to the sensor you have installed on channel 4.

If you have a **MyChron 3 Plus Honda**, the 4th channel is used to turn signal. Please, do NOT modify the threshold values, otherwise you might not see the turn signal on the display. The default values for this alarm are:

- HIGH → LED: 4 → Value: 400
- LOW → LED: none → Value: 0

8) Gear sensor:

Honda plug & play kit allows You to sample the gear directly from an “on-board” sensor installed inside the gearbox. To allow your **MyChron 3** sampling the gear, please do NOT modify the gear sensor default value which is set to **calculated** with “with neutral signal” checkbox checked and **highest gear number** set to **6**.

Once you set the desired input channels on your **MyChron 3 Gold Honda** and/or you set the desired threshold values for the alarm led of the shift lights, **you have to transmit the configuration to the logger: to do so, please press OK button and then “Transmit” button on the next screenshot.**

ATTENTION: before transmitting the configuration, please ensure that the logger is connected to the PC as shown in **Figure 35** and the USB drivers must be correctly installed. For further information concerning the USB drivers installation, please refer to the proper manual.

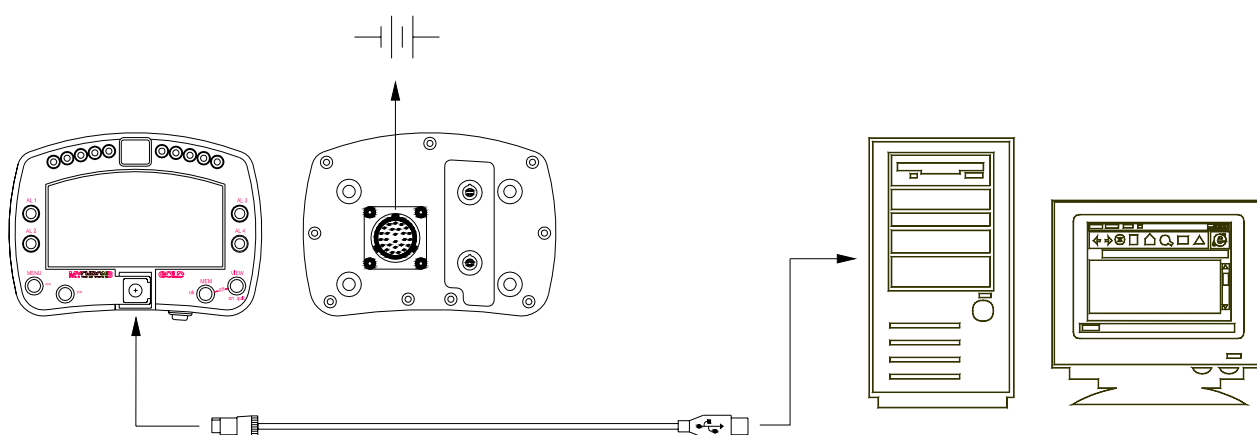


Figure 35: How to connect the logger to the PC

MyChron 3 Plus Honda owners:

Once you modified the desired configuration parameters and you transmitted the configuration, your logger is ready for street and track use.

MyChron 3 Gold Honda owners:

If you have installed a gyroscope (to map tracks) and/or a fork travel potentiometer (or a rear shock travel potentiometer), these sensors have to be calibrated to sample correct data. Please, click on “Calibrate” button: the screenshot shown in **Figure 36** appears.

The sensors are divided into 2 categories: “to be autocalibrated” sensors and “to be calibrated” ones.

“To be autocalibrated sensors” are:

- Gyroscope
- Potentiometer distance

“To be calibrated sensors” are:

- Zero based potentiometer
- Mid zero potentiometer

Please, refer to the user’s manual for further information concerning the calibration / auto-calibration procedure.

Once finished calibrating/auto-calibrating the sensors, you have to transmit the configuration to the logger pressing button “Transmit calibration” inside the “Sensor calibration” window. Now your logger is ready for street and track use.

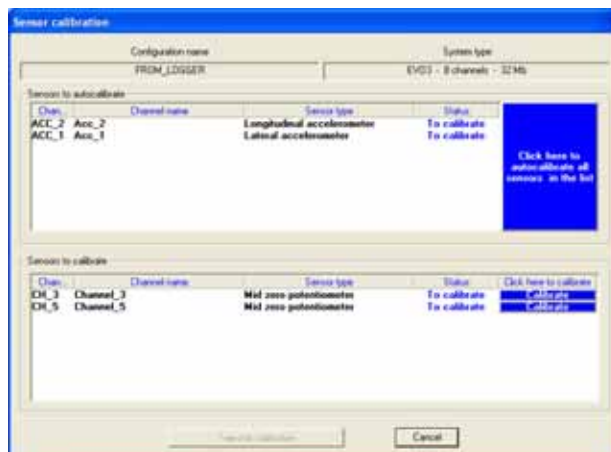


Figure 36: Race Studio 2 – Calibration window

“SOFTWARE – FIRMWARE” INFORMATION

ATTENTION: This documentation was written using the following versions of software and firmware:

- Race Studio 2 – **Ver. 2.17.10**
- MyChron 3 Plus/Gold – **Firmware 5.02**