INSTALLATION DOCUMENTATION	16/05/2005	P&P KIT	Kawasaki ZX10R 2003-2004-2005
Installation procedure for MyChron 3 Plus / Gold Kawasaki ZX10R - 2003-2004-2005 kit – Version 1.00			

MyChron 3 Plus / MyChron 3 Gold Plug and Play kit for Kawasaki ZX-10R

KIT DESCRIPTION

The kit for **Kawasaki ZX-10R** is composed of the following objects:

- **MyChron 3 Plus** or **MyChron 3 Gold**.
- Plug and play wiring for **MyChron 3 Plus** or **MyChron 3 Gold**.
- Installation kit including: 1 bracket, screws, anti-vibration mountings, washers.
- Gyroscope (optional – available for **GOLD** version only) needed to track maps.
- CD-ROM including **Race Studio 2** software.
- Documentation.

Please refer to the following table to understand which **Kawasaki ZX–10R** is supported by our kit.

Cubic capacity (cc)	Year 2002	Year 2003	Year 2004	Year 2005
ZX-10R (1000 cc)	•	√	√	√

√ = supported
• = NOT supported

MyChron 3 Plus / Gold - Kawasaki ZX–10R has been designed and developed to be a "plug and play" system to connect to the "on-board" wiring. The aim of this kit is to merge the functionalities of the stock dash with these of a professional data acquisition system.

MyChron 3 Plus / Gold - Kawasaki ZX–10R version may be used both on track (lap times, split times, engine parameters, gyroscope to track maps) 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.
The gauge has to be connected to the standard head light using the bracket supplied with the system. The bracket is made in anodized Aluminum, so to be lightweight and mechanically resistant.

General Notes – Read this before installing the system

- Do not cut any wiring: the wiring supplied with the kit is plug and play.
- Please be careful not to damage the on-board connectors when plugging / unplugging them. In the following pages is described how to correctly manage them.
- Do not install the system when the engine is hot. The on-board connectors are quite near to the engine and you can burn yourself.
- The space under the gas tank is quite confined: be careful not to hurt yourself when plugging and unplugging the connectors.
- Be careful not to loose screws and washers nor to damage the fairing when installing / uninstalling it.

INSTALLATION STEP # 1 –Removing the front transparent fairing and the lateral mirrors.

The first installation step consists in removing the bike front transparent fairing and the lateral mirrors.
The front transparent fairing is fixed to the bike chassis through 6 screws circled in **Figure 1**. Please unscrew them and remove the front transparent fairing.

Figure 1: front transparent fairing – screws location

It is now necessary to remove both lateral mirrors.
First of all, please remove the two internal screws (one of them is circled in **Figure 2** while the other is nearby) and remove the lateral mirror. Please repeat this operation for both mirrors.

Figure 2: .internal screw to remove.

INSTALLATION STEP # 2 – Removing the stock dash.

The second installation step consists in removing the stock dash. To do so you need to slacken the lateral fairing.
Once removed the lateral mirrors, please remove the central external screw you see circled in **Figure 3**. Please repeat this operation for both lateral mirrors.

Figure 3: central external screw.

Now please slacken the lateral fairings and remove the screw circled in **Figure 4**. Please repeat this operation on both sides of the bike.

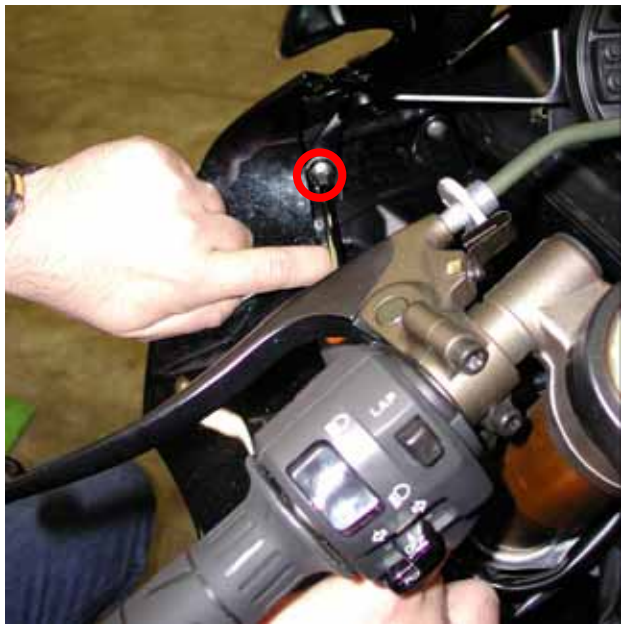

Figure 4: Location of the little internal fairing screws

The stock dash is fixed to the bike through three screws that fix the dash to an internal chassis. To remove the stock dash you need to unthread both dash and internal chassis. To do so, please remove the three screws circled in **Figure 5**. It is now possible to unthread the chassis and the stock dash

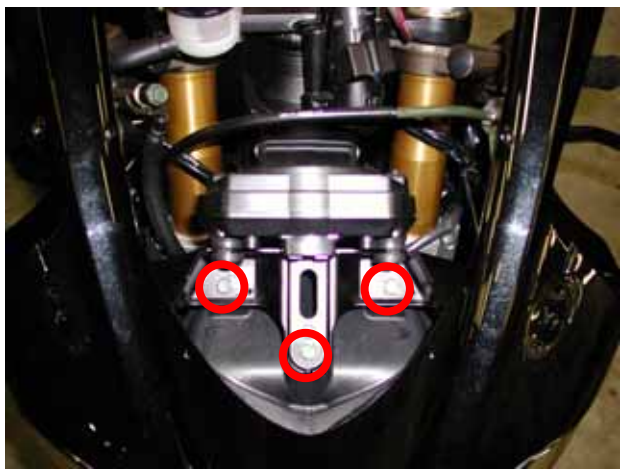

Figure 5: the screws that fix the stock dash to an internal chassis

Once the chassis and the stock dash have been unthread from the bike you need to separate them unscrewing the three screws highlighted in **Figure 6**.
When the stock dash and the chassis has been separated, please remount the chassis on the bike without any dash, using the screws you removed before (see **Figure 5**).

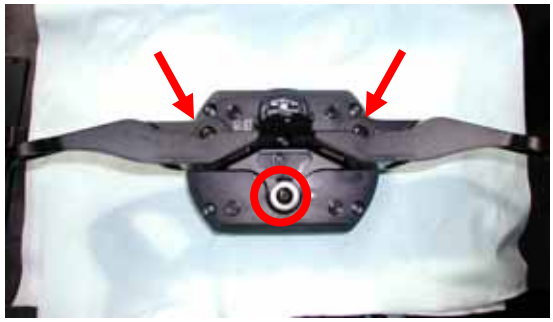

Figure 6: screws that fixes the stock dash

INSTALLATION STEP # 3 – Assembling the kit.

IMPORTANT NOTE: **in your kit MyChron 3 Plus / Gold Kawasaki ZX–10R you find a bracket where to install your gauge on. This bracket needs to be bended for about 10° toward its internal part, before installing your MyChron 3 Plus / Gold on it so, please, put the bracket in vice and bend it.**

The third installation step consists in assembling **MyChron 3 Plus / Gold** kit**.**
First of all, please fix the anchor plugs you find in the kit on the bottom holes of the bracket, as in **Figure 7**.
The other four holes, circled in the figure on the right, are used to fix **MyChron 3 Plus / Gold** to the same bracket.

Figure 7: Anchor plugs are fixed to the bracket

The kit You receive, has already mounted the four anti-vibration mountings on the back of your **MyChron 3 Plus/Gold**;
Install your **MyChron 3 Plus/Gold** on the aluminium bracket fixing the bracket to **MyChron 3** in correspondence of the 4 anti-vibration mounting and using 4 screws and 4 Grover washers.
Figure 8 shows the correct assembly of **MyChron 3 Plus / Gold**, bracket and washers (rear view).
The anchor plugs, highlighted in the figure, will lately be inserted in the holes shown in **Figure 6**.

Figure 8: assembled kit, rear view.

INSTALLATION STEP # 4 – Wiring connection

The fourth installation step consists in installing **MyChron 3 Plus/Gold** wiring.
First of all, please pull back the protective plastic cover highlighted with an arrow in **Figure 9** and plug the stock connector in the kit one; then replace the plastic cover.
Note: MyChron 3 Gold kit contains **TPS wiring** too, that will be connected later. Its connector should look the right side of the bike.

Figure 9: wiring connection

Once the wiring connected, you can install **MyChron 3 Plus / Gold** on your bike, inserting the three anchor plugs (red circled in **Figure 8**) in the related holes (highlighted in **Figure 6)**.
Figure 10 shows **MyChron 3** correctly installed.

Figure 10: MyChron 3 Plus correctly installed.

INSTALLATION STEP # 5 – Connecting the TPS cable.

If you bought a **MyChron 3 Gold** you will find in the kit **AIM TPS cable** too (shown in **Figure 11**). This cable is a split one and is made of two connectors: a male connector (labelled as "**AIM – M**" in **Figure 11**) and a female one (labelled as "**AIM – F**" in **Figure 11**). To connect it, please follow carefully these instructions.

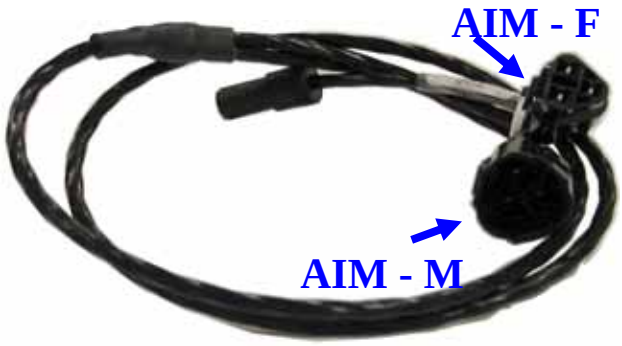

Figure 11: AIM TPS Cable

To find the stock **TPS** connector you need to remove the bike seats, the gas tank and the Airbox.
The passenger seat is fixed to the bike with a bolt, please unthread it from the bolt. In **Figure 13** you see the bike without the passenger seat. The bolt is highlighted with an arrow.

Figure 12: Passenger seat

Once the passenger seat has been removed, you need to remove the little plastic chassis that is located between driver and passenger seats. This plastic chassis is fixed to the bike with two screws red circled in **Figure 13**. Please remove the screws and then remove the little plastic chassis.

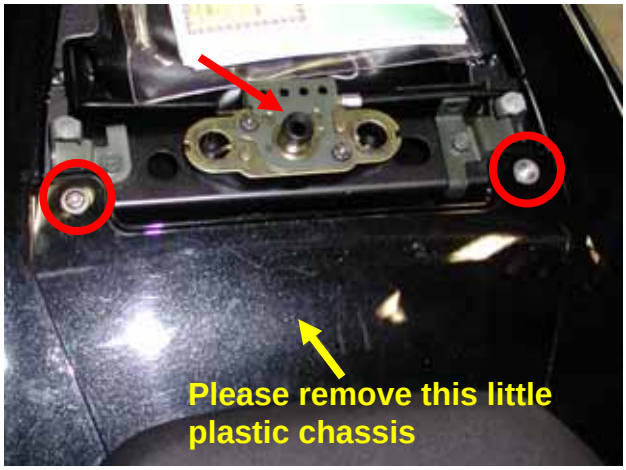

Figure 13: the passenger seat has been removed

When the little plastic chassis has been removed, you need to unscrew the two screws that fix the driver seat to the bike. These screws are covered by two lateral plastic fairings, fixed to the bike chassis by two lateral screws. The **first screw** is circled in **Figure 14**, while **the second** is specular on the other side of the bike.
Under the plastic lateral fairings you find two other screws, one for each side of the bike. Please remove them and remove the driver's seat.

Figure 14: the screw that fixes the plastic fairing to the bike chassis

When the bike seats have been removed it is necessary remove the gas tank. In **Figure 15** is circled one of the screws that fix the gas tank to the bike, please unscrew it.
Please remember not to do this installation when the bike is hot, because the available space is quite reduced and you can burn yourself.

Figure 15: one of the screws that fix the gas tank.

In **Figure 16** are shown the two screws that fixes the gas tank to the bike chassis. Please remove them.

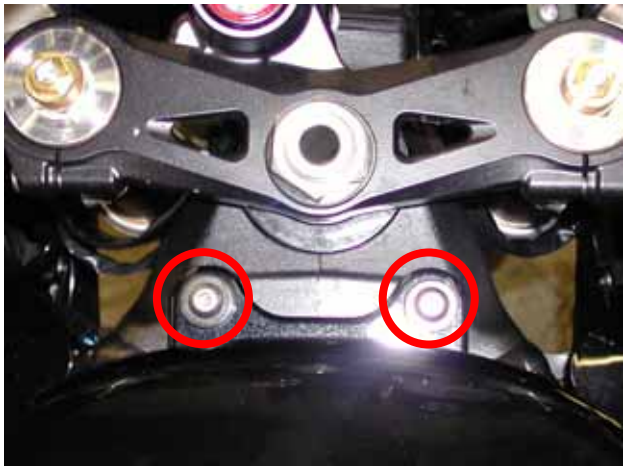

Figure 16 these screws have to be removed

Now, please remove the black connector located on the left side of the bike behind the gas tank, red circled in **Figure 17**.

Figure 17: this black connector has to be removed

In **Figure 18** is highlighted the fuel hose. To remove the gas tank this tube has to be removed. To do so, please refer to **Figure 19**.

Figure 18: the hose that takes the fuel to the engine

In **Figure 19** are highlighted with two arrows two tongues. To unplug the fuel hose, please press them and the fuel hose will be unplugged. Now you can remove the gas tank. Please do so.

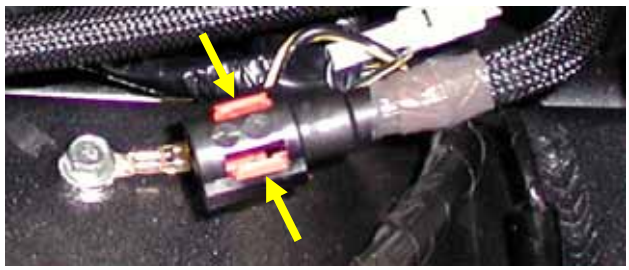

Figure 19:please press these tongues.

Once the gas tank has been removed the bike is as in **Figure 20**. It is now necessary to remove the Airbox. To do so, please remove the eight screws red circled in **Figure 20**.

Figure 20: Location of the Airbox screws.

To remove the Airbox, please follows these steps:

- as said before, please remove the screws red circled in **Figure 21**.
- pull back the black lateral pipe unions, highlighted by two blue/yellow arrows in **Figure 21**.
- counter-clockwise rotate the Airbox.

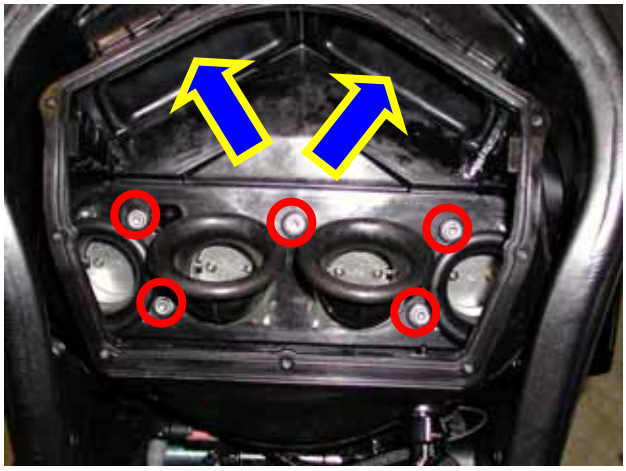

Figure 21: the Airbox

Once the Airbox has been removed, you can finally find the TPS connector, that is red circled in **Figure 22**.
The stock **TPS connector** is a male one. Please unplug it and connect it to the AIM female connector (labelled as "**AIM - F**" in **Figure 11**); then connect the other connector, female type, with the AIM male connector (labelled as "**AIM - M**" in **Figure 11**)

Figure 22: the TPS connector

PLEASE NOTE: before re-mounting the mirrors, the front transparent fairing, the seats, the gas tank and the Airbox, we suggest You to turn on the bike in order to check the system integrity and its correct working.

Firmware for MyChron 3 Plus / Gold Kawasaki – 2003 – 2004 - 2005

As your **MyChron 3 Plus / Gold Kawasaki** has been designed both for street and track use and as the information needed are different, your **MyChron 3 Plus / Gold Kawasaki** is equipped with a special firmware version which provides you a **second virtual dashboard**.

When you are driving on a street, the display is set to **"street mode"** and shows the following parameters:

- RPM graphical bar: settable upper limit;
- RPM digital value / Battery voltage: upper right corner (button **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: top left corner;
- Water temperature: lower left corner.

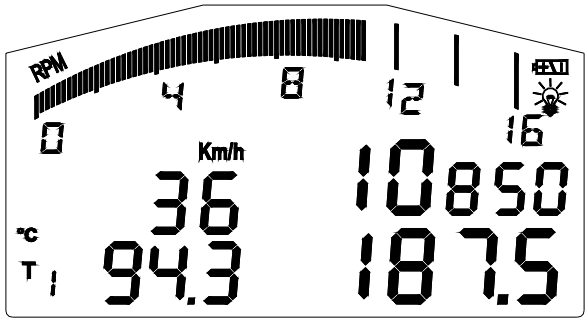

Figure 23: Street Display

Once you start running on a track and your gauge triggers a lap (you pass in front of a switched-on lap transmitter), the display switches automatically to **"track mode"** and shows the following parameters:

- 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.

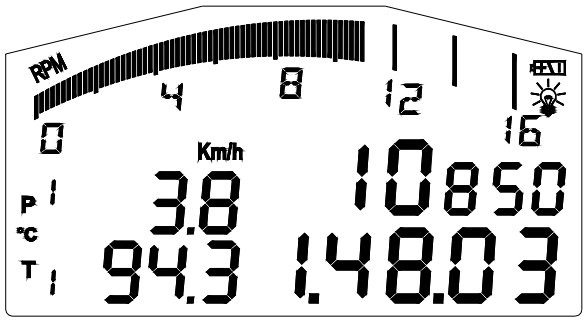

Figure 24: Track display

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 **MyChron 3 Plus / Gold / Gold XG** user's manual.

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

Your **MyChron 3 Plus / Gold Kawasaki** may be interfaced with the PC in order to:

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

The **MyChron 3 Plus / Gold Kawasaki** you buy includes a configuration properly developed for your **Kawasaki ZX10R**: sensors, calibration curves, engine and speed parameters, etc… have already been set to a default value which allows you the possibility to plug in the input cable and start running.

If you wish to change, for instance, RPM upper value or shift lights, to add a potentiometer sensor or a gyroscope on your **MyChron 3 Gold Kawasaki** 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 kit. If you have any doubt concerning software or USB drivers installation, please refer to the installation manual included in the CD-ROM.
The table below shows input channels for **MyChron 3 Plus** and **MyChron 3 Gold Kawasaki**.

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 3 free input channels and a gyroscope input which need to be configured and calibrated using the software **Race Studio 2**.

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

MyChron 3 Gold Kawasaki	
Ch. 1	Water temperature
Ch. 2	Free input channel – use Race Studio 2
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 use **Race Studio 2**, please follow these instructions.

Run **Race Studio 2** and select the "M3 Auto – Moto Plus / Gold / XG" pushbutton in the buttons toolbar.
Press button "System manager" and then "New" button: the screenshot shown in **Figure 25** is prompted.
Please set all configuration parameters (Logger type, vehicle name, speed, temperature and pressure unit of measure) and then press button OK.

Figure 25: Race Studio 2 – New configuration

System manager window is prompted on your monitor, as shown in **Figure 26**.
In order to correctly configure the input channels, please select a configuration among the available ones (in **Figure 26**, for instance, are 7 configurations: the yellow-highlighted is the selected one) and press button “Channels”.

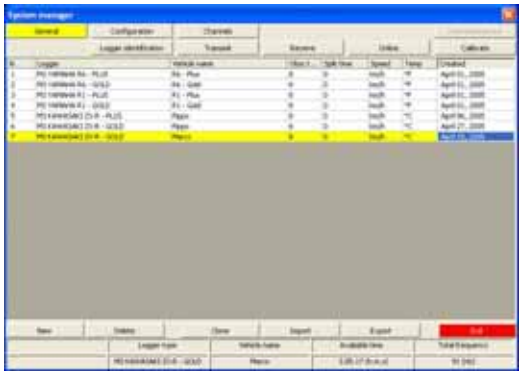

Figure 26: Race Studio 2 – System manager window

The screenshot in **Figure 27** is prompted.
MyChron 3 Plus Kawasaki.
The logger has no free channels; the page is a summary you can change nothing.
MyChron 3 Gold Kawasaki.
The logger has 3 free channels (Channel. 2, 3 and 4). Clicking in the correspondent cell (row “CH_2”, “CH_3”, “CH_4” column sensor type) you can choose in a list of predefined sensors or set a custom sensor selecting “Custom sensor manager”. Moreover you can set channel name and sampling frequency.

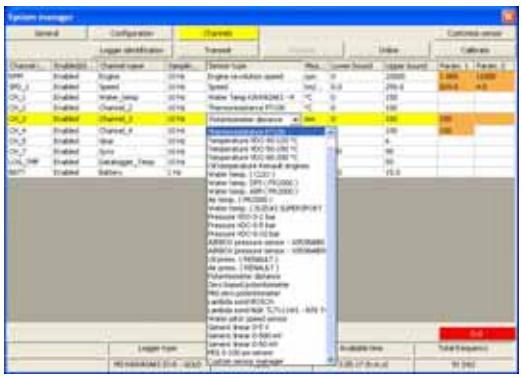

Figure 27: Race Studio 2 – Channels window

When all sensors have been set, please press “Configuration button”.
Configuration window, shown in **Figure 28**, allows you to set shift lights and alarm treasure value, to change the unit of measure, to modify speed parameters, etc…

Figure 28: Race Studio 2 – Configuration window

1) Speed:
The speed sensor on your **Kawasaki ZX10R** bike is installed on the jackshaft that connects the gearbox to the pinion. The number of magnets installed on the jackshaft is **4**.
The wheel circumference written in the proper cell is an "equivalent circumference" calculated using the following formula:

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

N_p = Pinion teeth number
N_c = Crown teeth number

Using the default values for crown/pinion teeth number and wheel circumference, the equivalent circumference is **824 mm** (**32.44 inches**) for **Kawasaki ZX-10R**. If you change the pinion or the crown and you do not want to manually compute the equivalent circumference, please refer to "Equivalent Circumference compute" paragraph.

2) Shift lights:
The values described in the 5 cells may be modified by in order to switch on the led at the desired RPM value. The 5 default values are the proper ones for a **Kawasaki ZX-10R.**

3) RPM:
Please, DO NOT modify the "Multiply factor" (the default value is **/1**).
To change the RPM scale upper limit, please select the desired value among the 7 available.

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"; the led is switched on when water temperature is higher than the threshold value. The default value is **90 °C**.

5) Channel 2 Alarm:
MyChron 3 Gold Kawasaki: you may set the proper threshold values corresponding to the sensor you have installed on channel 2.
MyChron 3 Plus Kawasaki: the 2nd channel is used for oil pressure. Please, do NOT modify the threshold values. The default values for this alarm are:

- HIGH → LED: none → Value: 5
- LOW → LED: 2 → Value: 2.5

6) Channel 3 Alarm:
MyChron 3 Gold Kawasaki: you may set the proper threshold values corresponding to the sensor you have installed on channel 3.
MyChron 3 Plus Kawasaki: 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: none → Value: 300
- LOW → LED: 3 → Value: 150 (corresponding to stock dash fuel reserve value)

7) Channel 4 Alarm:
MyChron 3 Gold Kawasaki: you may set the proper threshold values corresponding to the sensor you have installed on channel 4.
MyChron 3 Plus Kawasaki: the 4th channel is used for 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: 380
- LOW → LED: none → Value: 0

8) Gear sensor:
Kawasaki plug & play kit allows you to sample the gear from an "on-board" neutral sensor installed inside the gearbox. To allow your **MyChron 3** sampling the gear, please do NOT modify the gear sensor default configuration set to **calculated with neutral signal**.

Please note: if you notice that engaged gear number shown on your **MyChron 3 Plus / Gold** gear display does not correspond to the really engaged gear, you need to re-start gear calculation procedure. Please refer to you **MyChron 3 Plus /Gold** user manual to get further information concerning the gear calculation procedure.

Once you set the desired input channels on your MyChron 3 Gold Kawasaki 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 switched on and connected to a switched on PC as shown in **Figure 29**.

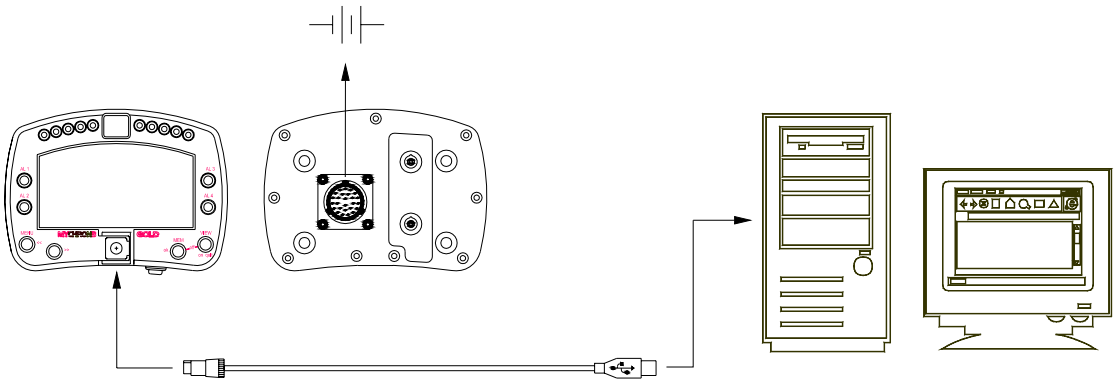

Figure 29: How to connect the logger to the PC

MyChron 3 Plus Kawasaki 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 Kawasaki 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 30** appears.
The sensors are divided in 2 categories: the "to be auto-calibrated" sensors and the "to be calibrated" ones.

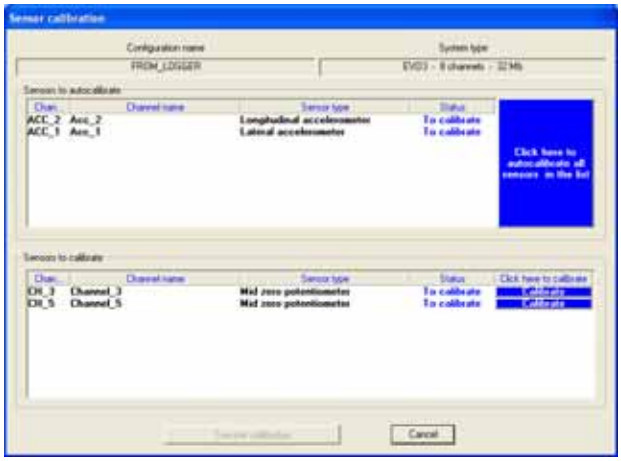

Figure 30: Race Studio 2 – Calibration window

The "to be auto-calibrated sensors" are:

- Gyroscope
- Potentiometer distance

The "to be calibrated sensors" are:

- Zero based potentiometer
- Mid zero potentiometer

Calibration/auto-calibration procedure, is fully explained in the logger user's manual.
Once finished calibrating / auto-calibrating the sensors, you have to transmit the configuration to the logger pressing the related button in "Sensor calibration" window. Now your logger is ready for street and track use.

EQUIVALENT CIRCUMFERENCE COMPUTE

If you change the stock pinion or crown and you install another one with a different teeth number, you have to calculate the equivalent circumference using the following formula:

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

If you prefer avoiding the manual calculation of this value, you can use “Bike.exe” an application you find in **Race Studio 2** CD-Rom. Please insert the CD in the CD-Rom drive and follow these step.

If auto run option is enabled, you will see this screenshot. Please press “Explore Cd Content” button (red circled in **Figure 31**)

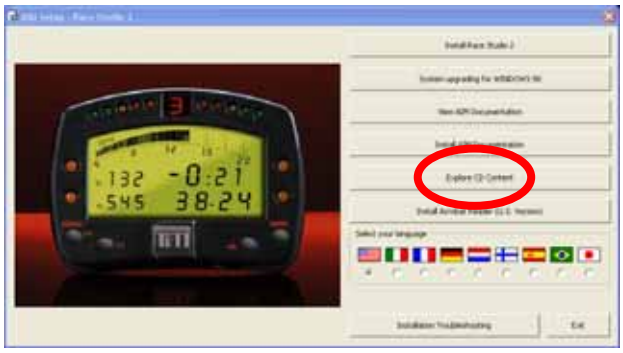

Figure 31: Race Studio 2 first installation window

If auto run option is not enabled please click on “My Computer” icon on your desktop and the screenshot in **Figure 32** is prompted. Please right click on Race Studio CD, highlighted with an arrow in **Figure 32**.

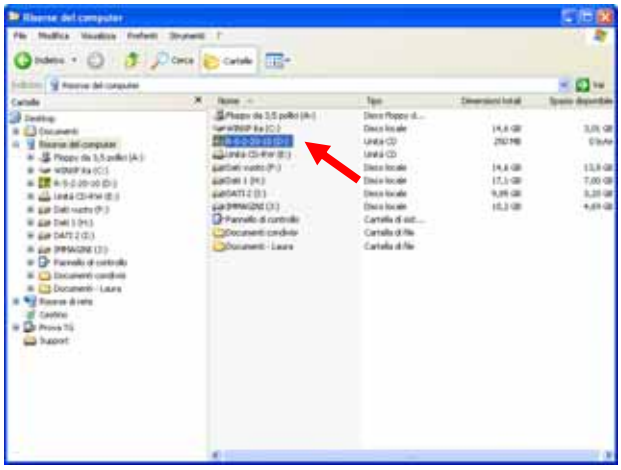

Figure 32: My Computer window

Select Browse Cd option as in **Figure 33**

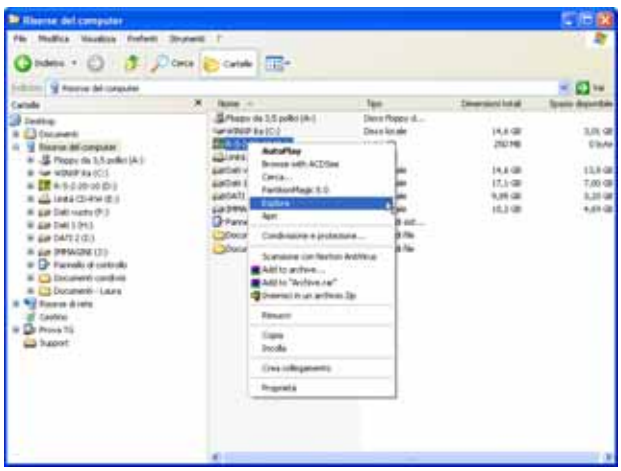

Figure 33: Browse CD option

The window in **Figure 34** is prompted. Please double click on Bike.exe file, highlighted by an arrow in **Figure 34**.

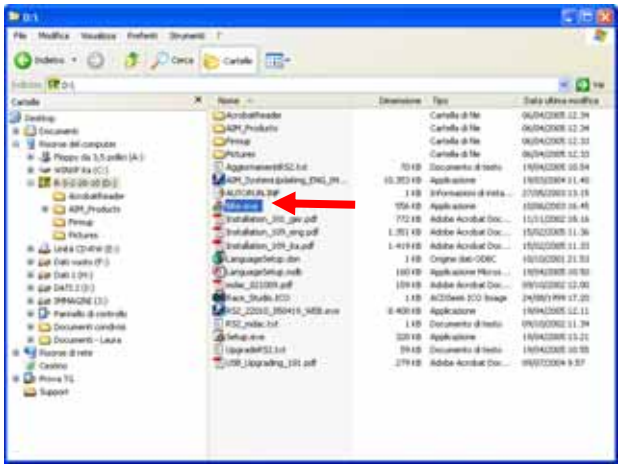

Figure 34: browse CD window

The screenshot shown in **Figure 35** is prompted. Please fill in all needed boxes. to say:

- Drive gear teeth number: please insert the pinion number of teeth;
- Driven gear teeth number: please insert the crown number of teeth
- Circumference: please select the circumference unit of measure and insert the related value.
- Press **"Compute"** button, highlighted by an arrow in **Figure 35**.

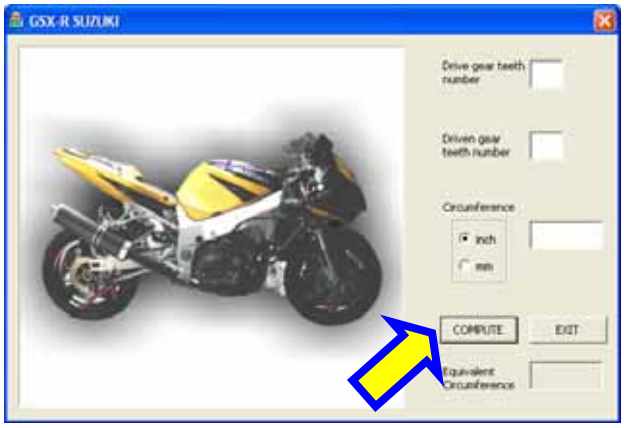

Figure 35: Bike.exe – compute window

The software automatically calculates the equivalent circumference and the result appears in the related cell (red circled in **Figure 36**).

Figure 36: Equivalent circumference computed

Please insert this value in the wheel circumference box in **Race Studio 2** Configuration window, shown in **Figure 37**.

Figure 37: Race Studio 2 – configuration window

“SOFTWARE – FIRMWARE” INFORMATION, MAINTENANCE

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

- **Race Studio 2** – **Version 2.20.11**
- **MyChron 3 Plus / Gold** – ***Firmware version*** **5.07**

Your **MyChron 3 Plus/Gold Kawasaki ZX-10R** does not need any special maintenance. Once that adequate care is taken of display unit and components, the only required maintenance is periodical software and firmware upgrading.

To know if a new software / firmware version has been released by ***AIM***, please connect to our website www.aim-sportline.com and go to “Software Download” page. If a new software / firmware version has been released, please download and run it and then follow carefully the instruction prompted on your Pc monitor.