AiM Infotech

MyChron 3 Plus / MyChron 3 Gold Plug and Play kit for Kawasaki ZX-6R and Kawasaki ZX-6RR

Release 1.00

INSTALLATION DOCUMENTATION	16/05/2005	P&P KIT	Kawasaki ZX6R – 6RR 2003-2004-2005
Installation procedure for **MyChron 3 Plus / Gold** **Kawasaki ZX6R-ZX6RR - 2003-2004-2005** kit – **Version 1.00**			

MyChron 3 Plus / MyChron 3 Gold Plug and Play kit for Kawasaki ZX-6R and Kawasaki ZX-6RR

KIT DESCRIPTION

The kit for **Kawasaki ZX-6R – 6RR** 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.

The following table shows which **Kawasaki ZX–6R/6RR** are supported by our kit.

Cubic capacity (cc)	Year 2002	Year 2003	Year 2004	Year 2005
ZX-6R (600cc)	•	√	√	√
ZX-6RR (636 cc)	•	√	√	√

√ = supported
• = NOT supported

MyChron 3 Plus / Gold - Kawasaki ZX–6R/6RR 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–6R/6RR 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 and when installing **MyChron 3 Plus / Gold**, you do not have to cut, bend or 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 anodized Aluminum, 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.
- If You bought a **MyChron 3 Gold** and you want to connect the **TPS** cable, please do not install it when the engine is hot, because the on-board **TPS** connector is quite near to the engine and you can burn yourself.
- 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. The lateral mirrors are fixed to the bikes chassis through 2 screws fixed to a little internal chassis. This chassis is covered by a little fairing and to remove this last one you need to remove the screw circled in **Figure 2**. Please repeat this operation on both sides of the bike.

Figure 2: .Lateral screw to remove.

Once removed the external lateral screw of Figure 2 and the plastic fairing, please remove the two screws highlighted with two arrows in **Figure 3**, that fix the lateral mirror to the bike chassis, and the screw circled in **Figure 3** that fixes the stock dash to a little internal chassis. It is now possible to remove the lateral mirror. Please repeat this operation for both mirrors.

Figure 3: Lateral mirrors screws.

INSTALLATION STEP # 2 – Removing the stock dash.

The second installation step consists in removing the stock dash.
The stock dash is fixed to a little internal chassis and to remove it you need to unthread the same chassis. In **Figure 4** are circled the three screws that fix chassis and stock dash to the bike. Please unscrew them.

Figure 4: Location of the little internal fairing screws

Before removing the stock dash you need to unplug the stock wirings connector. In **Figure 5** you see the connector. To unplug it, please press the little black tongue highlighted with an arrow in the figure, and unplug the connector.
It is now possible to unthread the chassis where the stock dash is fixed together with the same dash.

Figure 5: the on board wiring connector

Once the chassis and the stock dash have been unthread from the bike you need to separate one from the other.
Please unscrew the three screws circled and highlighted with an arrow in **Figure 6**.

When the stock dash has been separated from the chassis, please remount the chassis on the bike without any dash using the screws you removed before (see **Figure 4**).

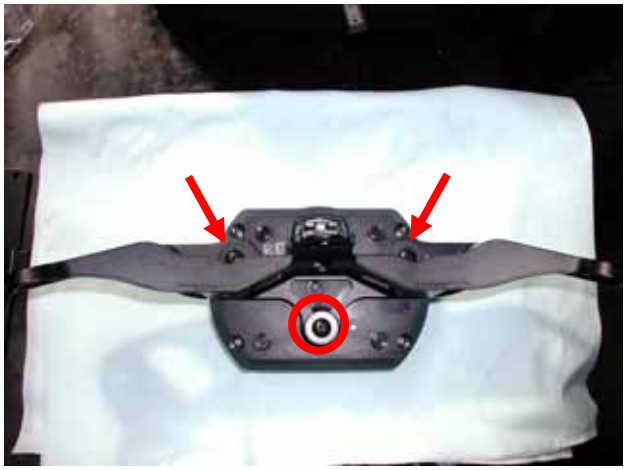

Figure 6: screws that fixes the stock dash

INSTALLATION STEP # 3 – Assembling the kit.

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 a blue / yellow arrow in **Figure 9** and plug the stock connector in the kit one. You can then replace the plastic cover.
Please note: if you have a **MyChron 3 Gold** in the kit you will find the **TPS wiring** too. This cable, that is highlighted with a red arrow in **Figure 9** will be connected later and we suggest you to leave it with the connectors looking the right side of the bike.

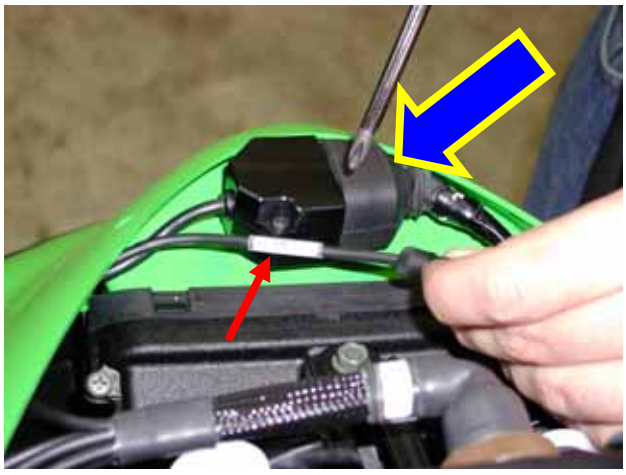

Figure 9: wiring connection

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 on a **Kawasaki ZX–6RR**.

Figure 10: MyChron 3 Plus correctly installed.

INSTALLATION STEP # 5 – Connecting the TPS cable.

If you have bought a **MyChron 3 Gold** you find in the kit an **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**).
If you want to connect this cable, please follow this procedure.

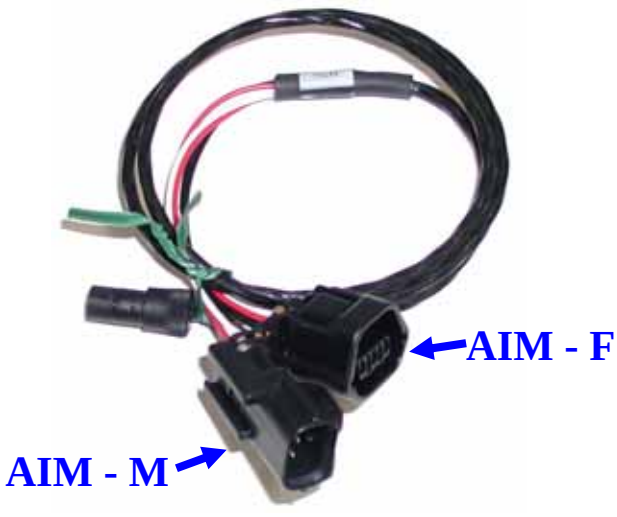

Figure 11: AIM TPS Cable

To find the stock **TPS** connector you need to remove the bike seat and to uplift the gas tank.
The bike seat is fixed to the bike with **two screws** hidden by two little lateral plastic chassis. To remove them, please unscrew the screw circled in **Figure 12** and the two screws located on the other side of the bike.

Figure 12: location of right plastic chassis screw

When the little protective plastic chassis has been removed, you need to unscrew the two screws that fix the seat to the bike. The **first screw** is circled in **Figure 13**, while **the second** is specular on the other side of the bike.

Figure 13: the screw that fixes the seat to the bike.

When the bike seat has been removed it is necessary to uplift the bike gas tank. In **Figure 14** is circled the screw that fixes the gas tank to the bike, please unscrew it and uplift the gas tank using the bracket supplied with the bike.
Please remember not to do this installation when the bike is hot, because the available space is quite reduced and you can burn yourself.

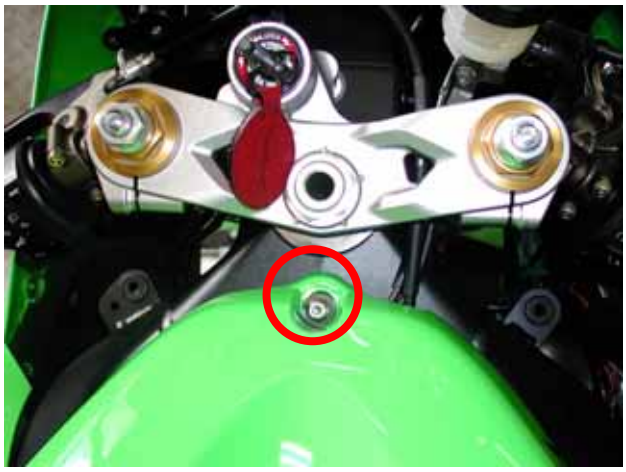

Figure 14: location of the gas tank screw

When you have uplifted the gas tank, the bike is as in **Figure 15**. The **TPS Connector** is very deeply hidden behind the engine on the right side of the bike. Please follow the wirings of the white connector circled in **Figure 15** and you will reach the primary throttle valve and the **TPS connector**.

Figure 15: the gas tank has been uplifted

The stock **TPS connector** is a male one, like the one labelled as "**M**" in **Figure 16**. Please unplug it and connect it to the AIM female connector (labelled as "**AIM - F**" in **Figure 11**); then connect the other connector, labelled as "**F**" in **Figure 16**, with the AIM male connector (labelled as "**AIM - M**" in **Figure 11**).

Figure 16: the TPS connector

PLEASE NOTE: before re-mounting the front transparent fairing, the mirrors, the seat and the gas tank, 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, **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.

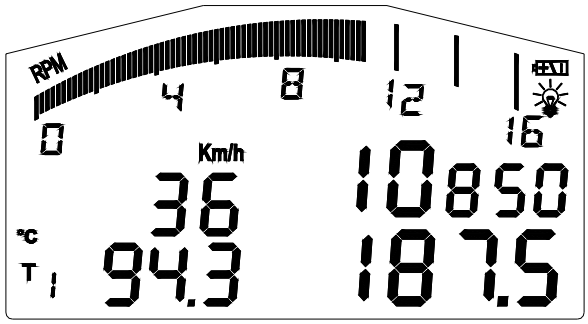

Figure 17 Street display

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 automatically switches 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.

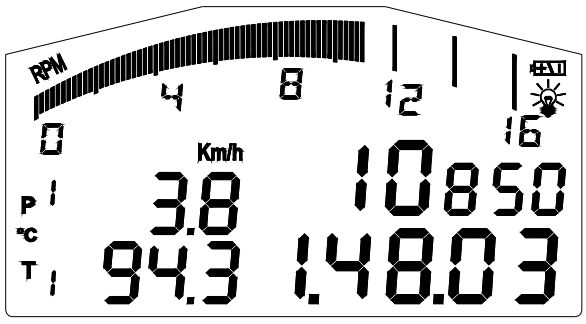

Figure 18: Track display

In order 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.

MyChron 3 Plus / Gold Kawasaki kit includes a configuration properly developed for a **Kawasaki ZX10R**. The only parameters you need to set are Shift Lights and RPM Max value.

If you wish to change any value, to add a potentiometer 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 the 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 19** is prompted.
Please, set all the configuration parameters (Logger type, vehicle name, speed, temperature and pressure unit of measure) and then press button OK.

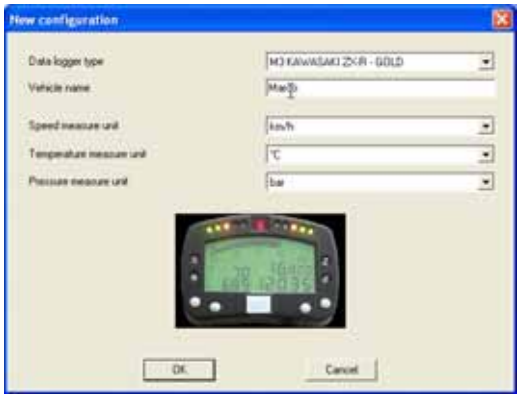

Figure 19: Race Studio 2 – New configuration

System manager window is prompted on your monitor, as shown in **Figure 20**.
In order to correctly configure the input channels, please select a configuration among the available ones (in **Figure 20**, for instance, there are 7 available configurations: the yellow-highlighted is the selected one) and press button “Channels”.

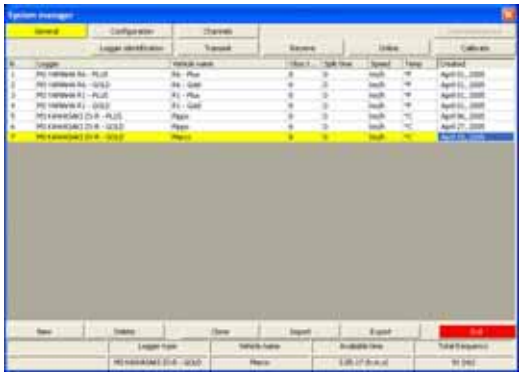

Figure 20: Race Studio 2 – System manager window

The screenshot in **Figure 21** is prompted.
MyChron 3 Plus Kawasaki.
The logger has no free channels this page is a summary; you can change nothing.
MyChron 3 Gold Kawasaki.
The logger has 3 free input channels (CH. 2, CH. 3 and CH. 4). Clicking in the correspondent cell (row “CH_2”, “CH_3”, “CH_4” column sensor type) you can choose in a long list of predefined sensors or set a custom sensor, selecting “Custom sensor manager”. Moreover you can set channel name and sampling frequency.

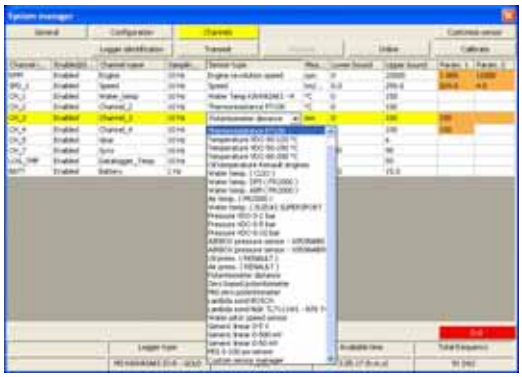

Figure 21: Race Studio 2 – Channels window

When all sensors have been set, please press “Configuration button”.
Configuration window, shown in **Figure 22**, allows you to set shift lights and alarm treasure value, to change the unit of measure, to modify speed parameters, etc…

Figure 22: Race Studio 2 – Configuration window

1) Speed:
The speed sensor on your **Kawasaki** 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**). 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.** If you have a **Kawasaki ZX-6R – 6RR** we suggest you to set these value (starting from Led 1 onward): 14.000 - 14.300 – 14.500 – 14.800 – 15.000.

3) RPM:
Please, DO NOT modify the "Multiply factor" (the default value is **/1**).
In order to change the RPM scale upper limit, please select the desired value among the 7 default ones. For a **Kawasaki ZX-6R – 6RR** we suggest to set it to 16.000

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", and 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 the 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: 4th channel is used for turn signal. Please do NOT modify the threshold values, or you might not see the turn signal on the display. Default values are:

- HIGH → LED: 4 → Value: 380
- LOW → LED: none → Value: 0

8) Gear sensor:
Kawasaki plug & play kit samples the gear from an "on-board" neutral sensor installed in the gearbox. Do NOT modify gear sensor configuration set to **calculated with neutral signal**.

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

Once you set the desired input channels on your MyChron 3 Gold and/or you set the desired threshold values for the alarm led of the shift lights, **to transmit the configuration to the logger**, 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 23**.

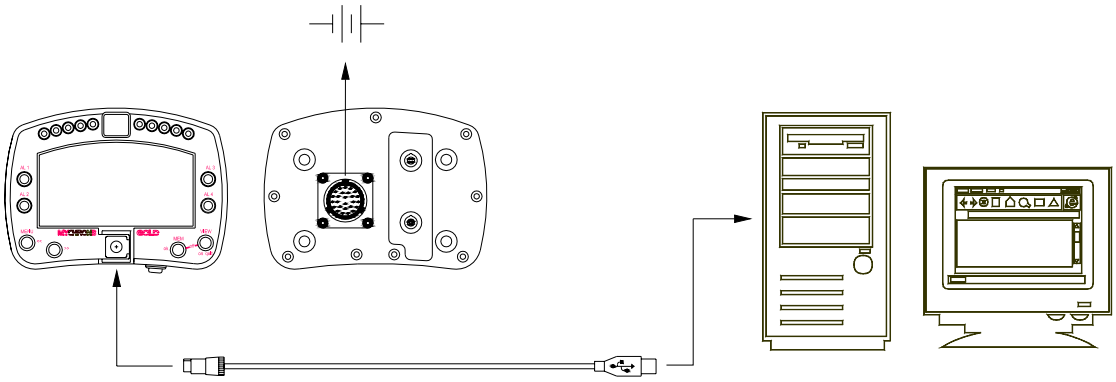

Figure 23: How to connect the logger to the PC

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 24** appears.
The sensors are divided in 2 categories: the "to be auto-calibrated" sensors and the "to be calibrated" ones.

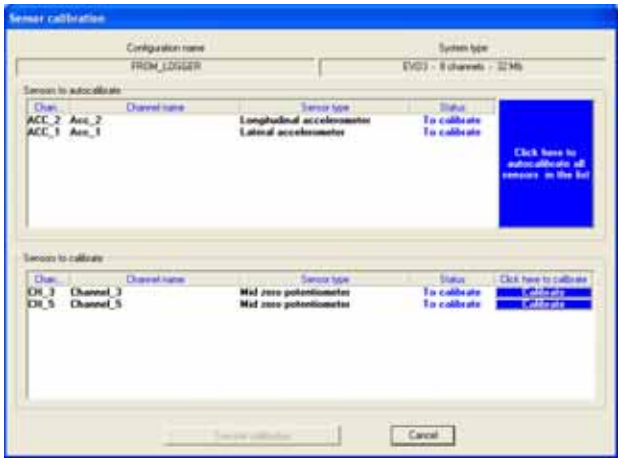

Figure 24: Race Studio 2 – Calibration window

The "to be auto-calibrated sensors" are:

- Gyroscope
- Potentiometer distance

The "to be calibrated sensors" are:

- Zero based potentiometer
- Mid zero potentiometer

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.

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 25**)

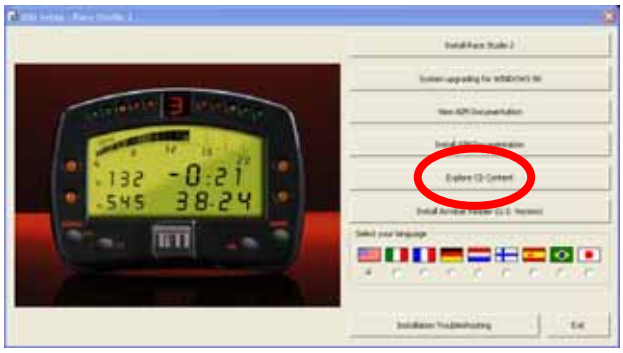

Figure 25: Race Studio 2 first installation window

If auto run option is not enabled please click on “My Computer” icon on your desktop and the screenshot in **Figure 26** is prompted. Please right click on Race Studio CD, highlighted with an arrow in **Figure 26**.

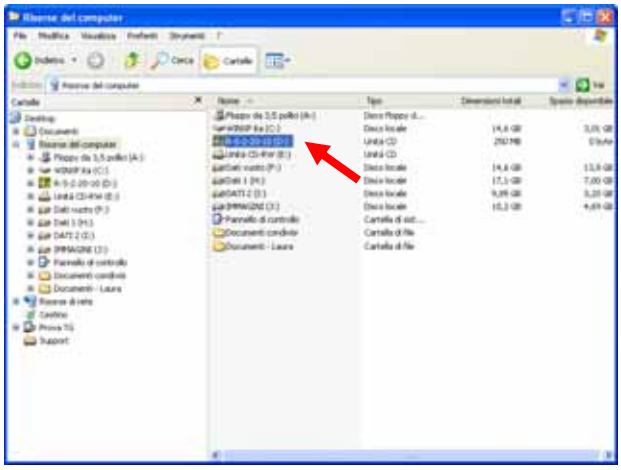

Figure 26: My Computer window

Select Browse Cd option as in **Figure 27**

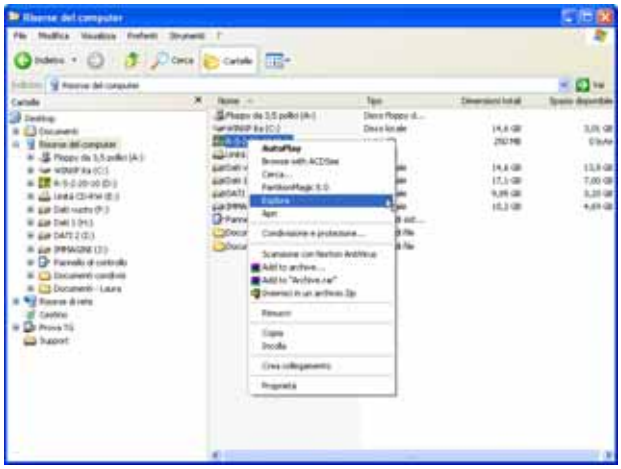

Figure 27: Browse CD option

The window in **Figure 28** is prompted. Please double click on Bike.exe file, highlighted by an arrow in **Figure 28**.

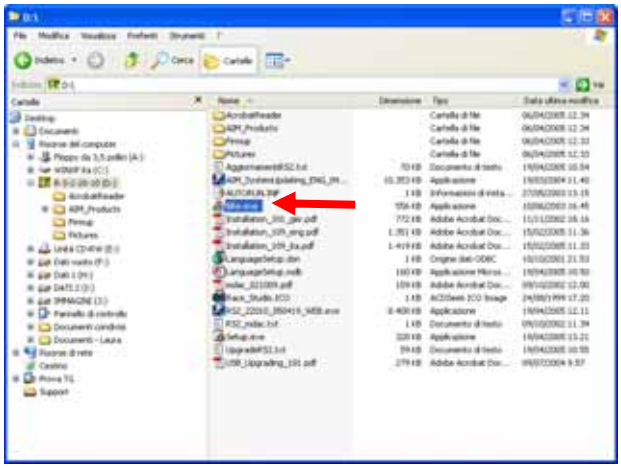

Figure 28: browse CD window

The screenshot shown in **Figure 29** 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 29**.

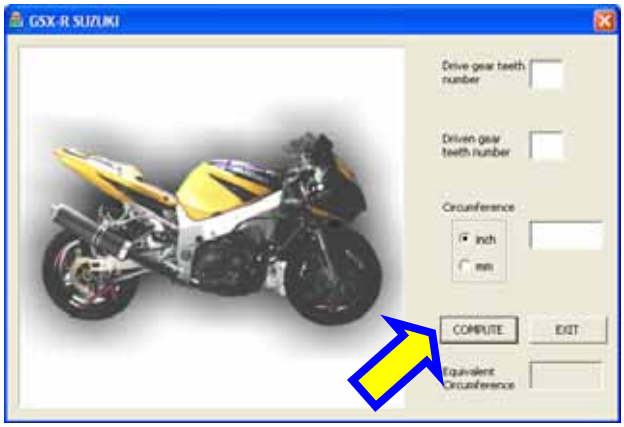

Figure 29: Bike.exe – compute window

The software calculates automatically the equivalent circumference and the result appears in the related cell (red circled in **Figure 30**).

Figure 30: Equivalent circumference computed

Please insert this value in the wheel circumference box in **Race Studio 2** Configuration window, shown in **Figure 31**.

Figure 31: 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 Kawasaki ZX-6R – 6RR** 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.