Safety Messages

Your safety and the safety of others is very important. We have provided important safety messages in this manual and on the HRC CBR1000RR. Please read these messages carefully.

A safety message alerts you to potential hazards that could hurt you or others. Each safety message is preceded by a safety alert symbol ⚠ and one of three words, **DANGER, WARNING,** or **CAUTION**.

These mean:

⚠ DANGER — **You WILL be KILLED or SERIOUSLY HURT if you don't follow instructions.**

⚠ WARNING — **You CAN be KILLED or SERIOUSLY HURT if you don't follow instructions.**

⚠ CAUTION — **You CAN be HURT if you don't follow instructions.**

Each message tells you what the hazard is, what can happen and what you can do to avoid or reduce injury.

Damage Prevention Messages

You will also see other important messages that are preceded by the word **NOTICE**.

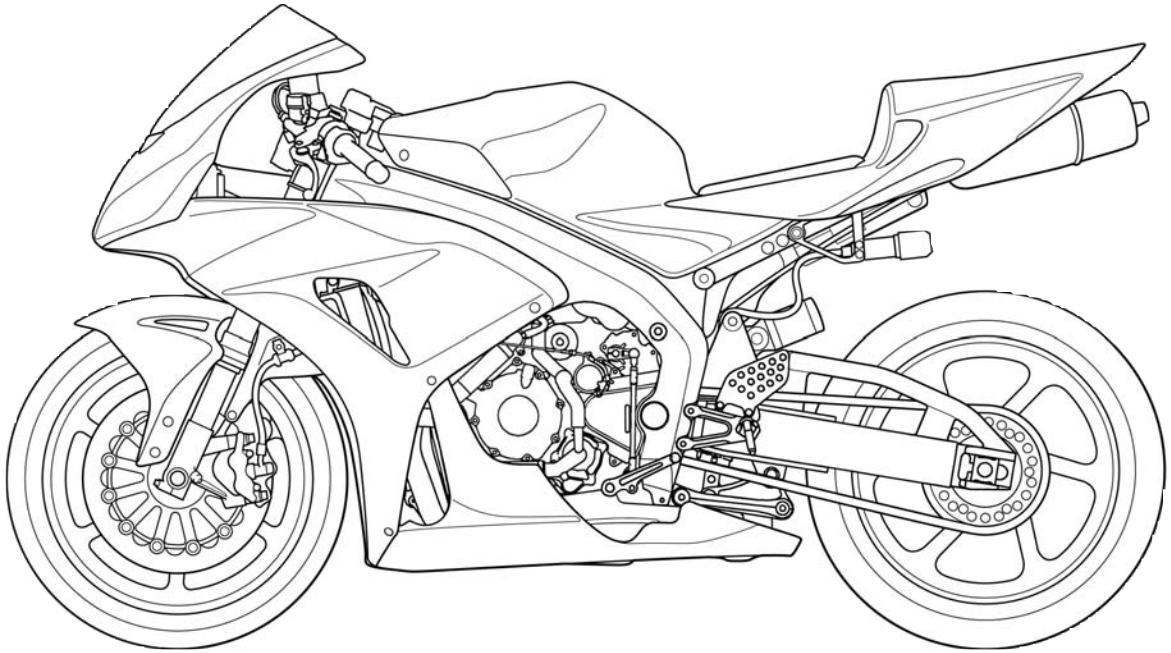
This word means:

NOTICE — Your HRC CBR1000RR or other property can be damaged if you don't follow instructions.

The purpose of these messages is to help prevent damage to your HRC CBR1000RR, other property, or the environment.

HRC CBR1000RR

PGM-FI Setting Tool Manual



Important Information

- This setting tool is sold as is without warranty, and the entire risk as to quality and performance is with the buyer.
- This kit is designed and manufactured to enhance the performance of the CBR1000RR, and as is stated in the CBR1000RR racing kit set-up manual, should be used only in an organized racing or competitive event upon a closed course which is conducted under the auspices of a recognized sanctioning body or by permit issued by the local governmental authority having jurisdiction.
- This kit is not suitable for use with any other parts.

This manual covers the PGM-FI setting procedure by PC communications.

PGM-FI Setting

System requirements and communication attachment

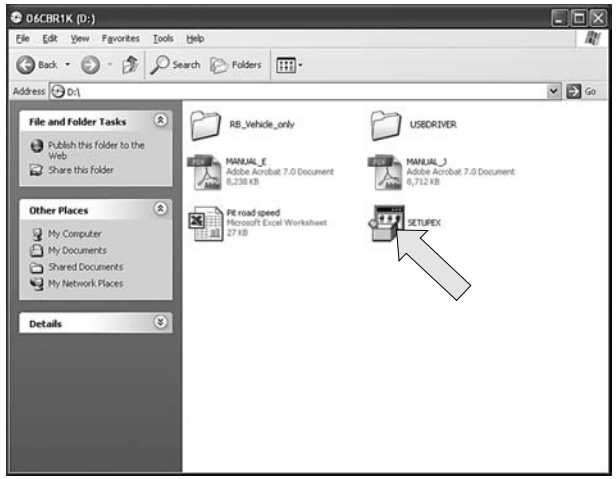
1.System requirements
- IBM AT compatible PC
- OS: Windows 98/Me/2000/XP
- CPU: Pentium 200MHz or higher (recommended)
- Main memory: 32MB or more (recommended)
- Display: 1024 x 768 or higher resolution (recommended)
- CD-ROM: CD-ROM drive is required (The product is provided with a CD-R)
- Serial port: Serial port is required (for communicate with ECU)
  If the serial port is not equipped, use USB-RS232C adaptor or USB type serial I/F unit

2.The attachment
- UNIT, ASSY SERIAL I/F: 38880-NL3-750
- UNIT, ASSY SERIAL I/F (USB): 38880-NL9-C00

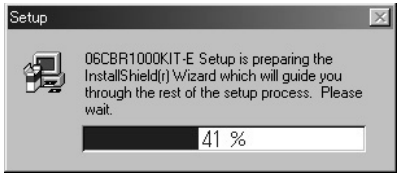
Use USB driver included in Set-up CD-ROM, or download it from HRC web site (http://www.honda.co.jp/HRC/).

Software Install

1. Set software CD-ROM in the CD-ROM drive and click on the CD-ROM icon.
2. When a window like below is displayed, double-click “SETUP.EXE” to install the application.



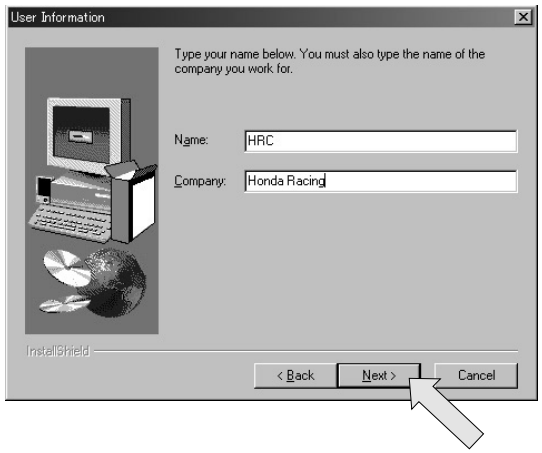
3. A window like below will appear and will prepare for setup process.



4. Then, a window like below will appear. To continue setup, click “Next.”

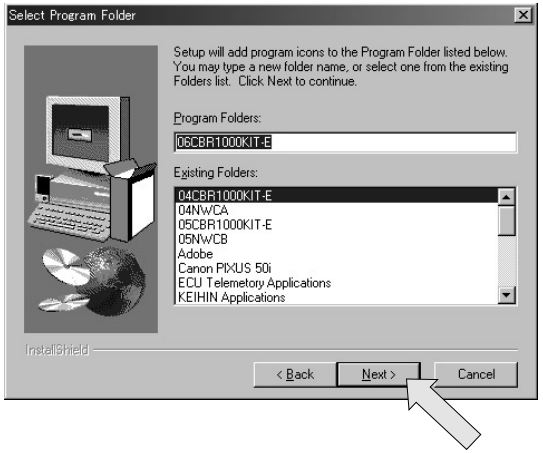
   NOTE:
   • Exit all other programs before starting installation.

5. When you using the Windows XP, the User Information window is appeared. Click “Next.”

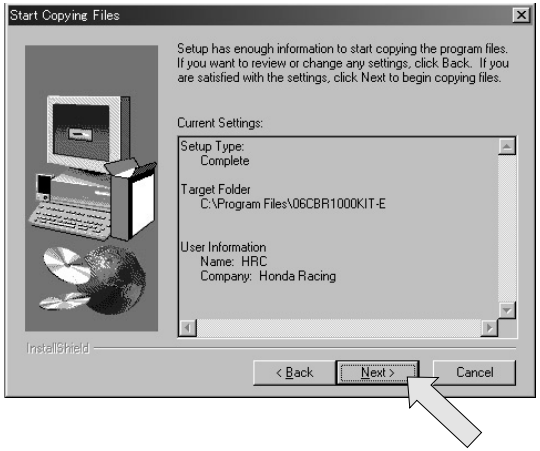


6. Setup will ask you to specify a directory to install the application in here. If you need not change the default directory, click “Next.”

7. Select program folder, then clock “Next.”

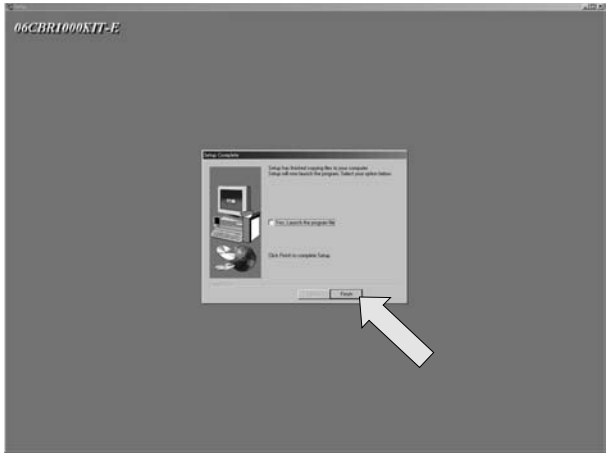


8. Confirm the folder and name etc. to install the application in, then click "Next."

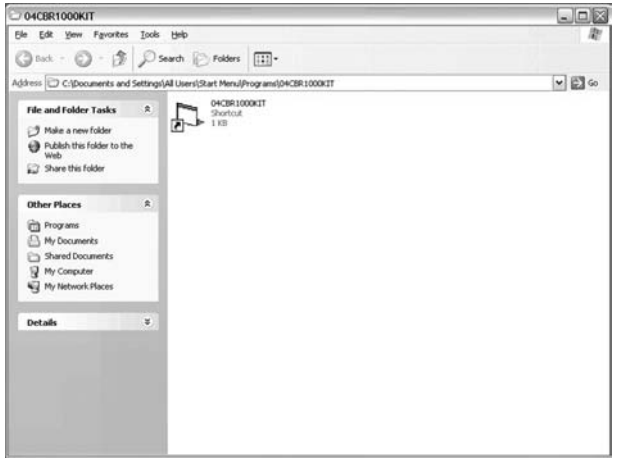


9. A window like below will appear and installation is continued.

10. Now, installation is completed.
Click "Finish."

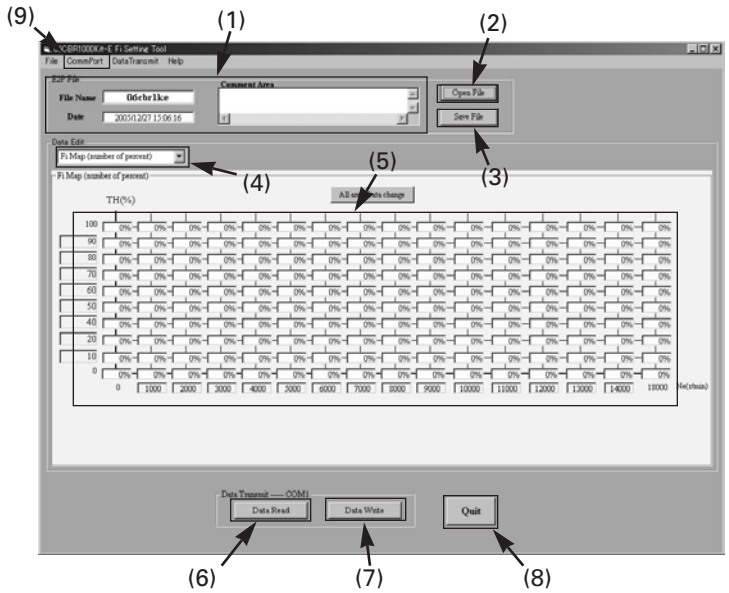


When installation is completed, a shortcut folder like below will appear.
Use this folder putting on the desktop etc.



Operation

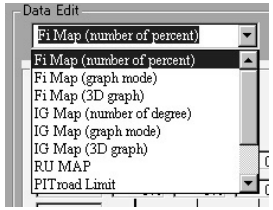
Functional Descriptions
When you start up the setting tool, a window like below will appear.



(Note: The figure above is partly different from actual screen for explanation purpose.)

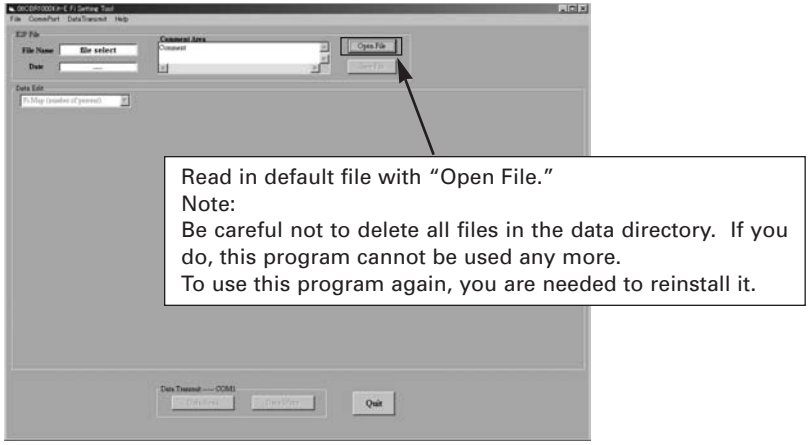
No.	Name	Function
(1)	File information display	Displays information on the setting file.
(2)	Open file	Reads in setting data saved before.
(3)	Save File	Saves setting data you have changed.
(4)	Data Edit Selector	Selects an item to change.
(5)	Data display area	Displays setting data.
(6)	Data Read	Transfers setting data from ECU.
(7)	Data Write	Transfers setting data to ECU.
(8)	Quit	Exits the program without saving data.
(9)	COM Port	Selects communication port (default is COM 1).

Before you begin
• About the pull-down menu
Data Edit Selector of No. 4 in the previous section is a pull-down menu.



Click "▼" as shown in the figure above and a menu will appear below.
Items to edit are changed here.
Reverse video indicates the item to be selected.

• When you started up the application for the first time
Nothing will be displayed like below.

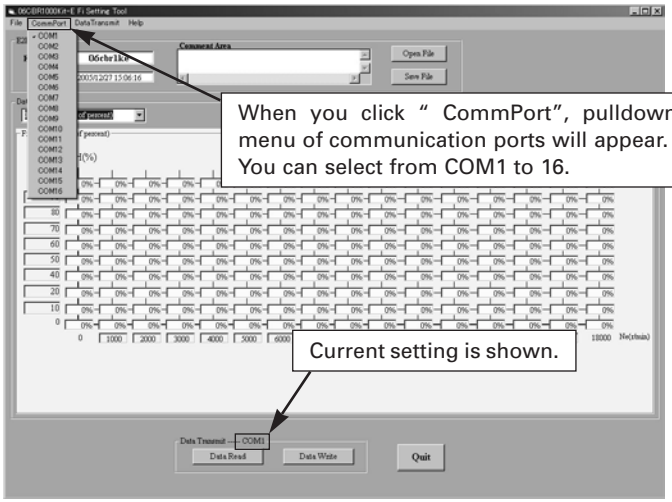


When you start up the program next time, it will automatically open the last file you used.

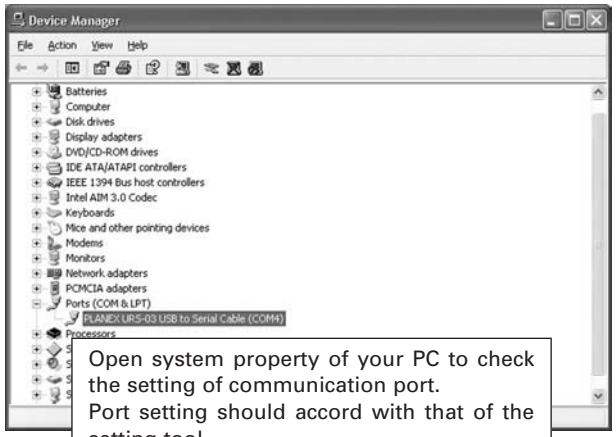
NOTICE

In case default file is not displayed with "Open file ", refer to troubleshooting No.4.

- Checking communication port (COM port)



Checking system property

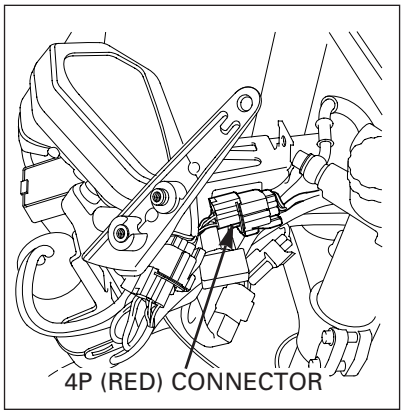


Open system property of your PC to check the setting of communication port.
Port setting should accord with that of the setting tool.
If the communication port (COM1) is marked with "X", communication is impossible.

Connection with the Vehicle

1. Connect the "UNIT, ASSY SERIAL I/F: 38880-NL3-750" to the serial-port of your PC.

2. Connect red connector to the communication connector (4P red connector) near the ECM.

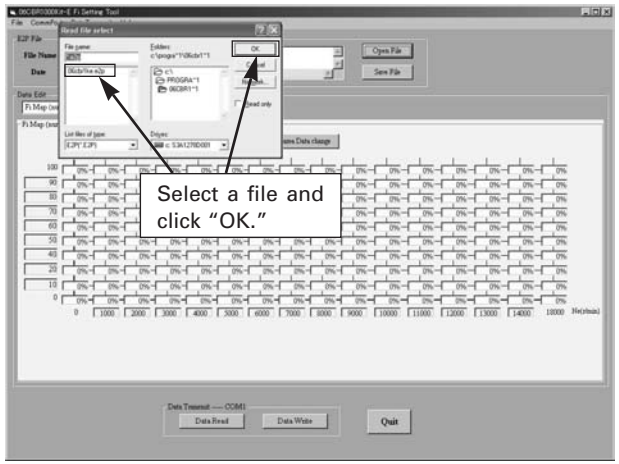


Note:
- Do not drive your vehicle with the setting cord attached.

Use the setting cord only when you change setting.

File Operation

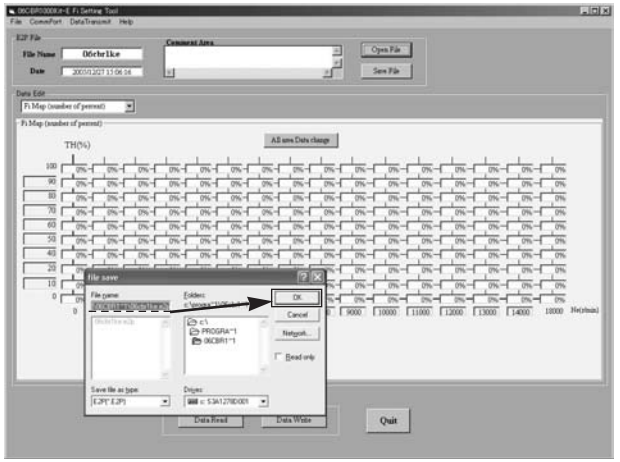
Opening a File
When you click “Open File”, a list of files which can be read in will appear. Select a file you wish to use and click OK. Then, the data will be read in.



Note:
- Displayed file “06cbr1k.e2p” is a default data.

If the process of “Open File” is aborted, the following window will appear. Click “OK” to continue.

Save a File
When you click “Save File”, a list of files already saved will appear and request you to input file name.

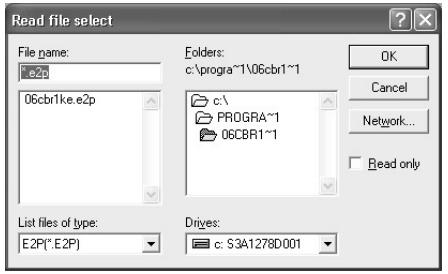


Type a file name and click OK to save your file.

Note:
- Number of characters you may use for a file name is limited to eight or less.

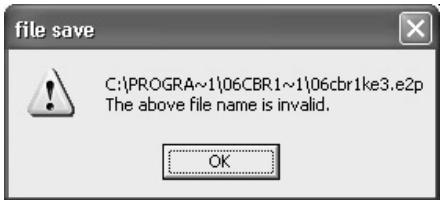
What should be noted when typing in a file name

Note:
- Be sure to put the cursor before “.e2p” when you type in a file name. If you omit the extension (.e2p), you cannot open it. (It will not be listed.)



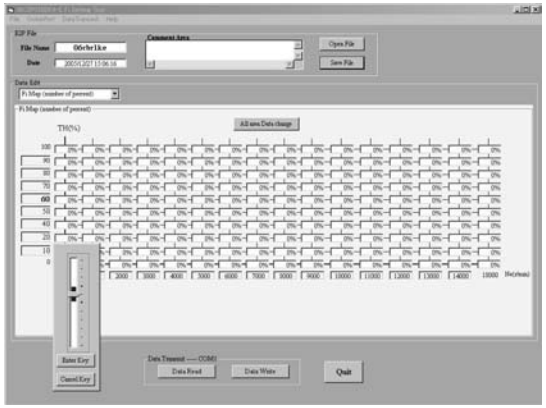
If the process of Save File is aborted, the window below will appear.
Click “OK” to continue.

If you use more than 8 characters for a file name, the window below will appear.
To continue “Save File”, click “OK” and type in again a file name with eight or less characters.



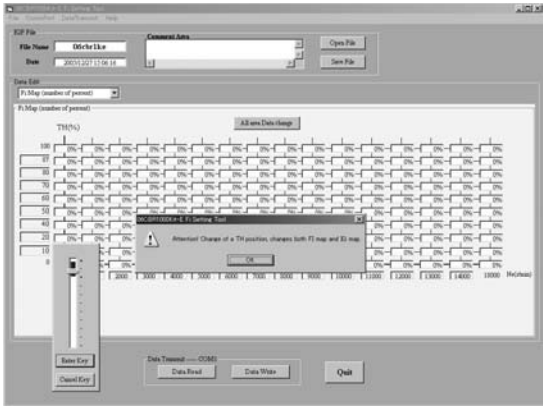
Changing Setting

Changing TH Segmentation
TH position can arbitrarily be changed.

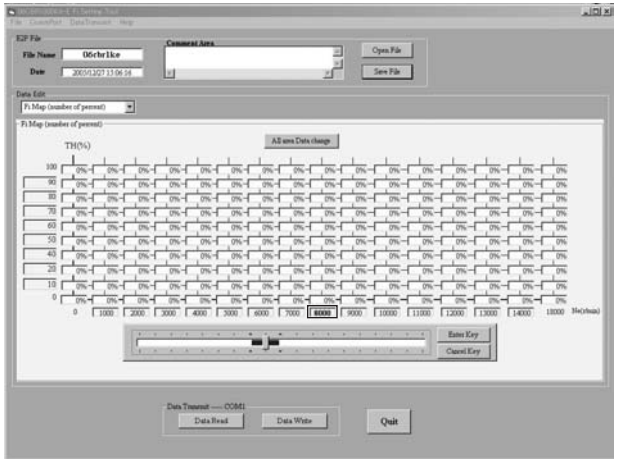


If you click TH segmentation, 60% for example, a scale as shown above will appear. You can change 8 points excluding both ends (0% and 100%).
Use mouse or up/down arrow keys to make change click “Enter key” to enter your change.
The change cancel is done by clicking "Cancel key".
The range in which you can make change is only within the zone of the scale.

Note:
If you change the TH segmentation, both the FI and the IG map are changed.
The ignition map and the FI map cannot be changed individually.



Changing Engine Speed Segmentation
You can arbitrarily change engine speed segmentation.



Engine speed segmentation can be changed like TH segmentation.
For example, if you click on 8,000 min^{-1} (rpm), a scale like above will appear.
You can change 14 points excluding both ends (0 min^{-1} (rpm) and 18,000 min^{-1} (rpm)).

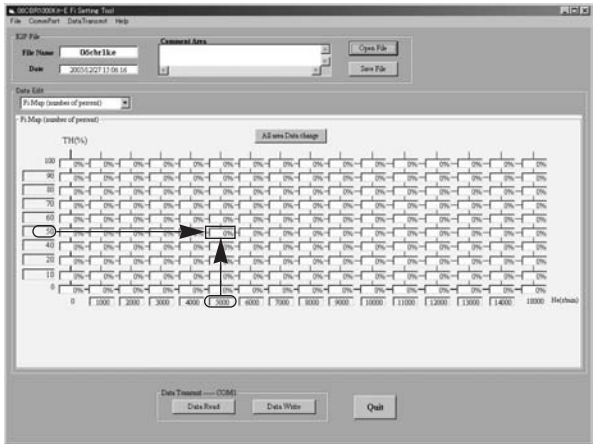
Choose a point to change with mouse or left/right arrow keys and press "Enter key" after you put in a new value.
The range in which you can make change is only within the zone of the scale.
Change of segmentation made here will also take effect in changing ignition timing.
You cannot make setting of segmentation for air-fuel ratio map and ignition timing map separately.

Note:
- TH and engine speed segmentations can only be changed on “Fi Map” screen.

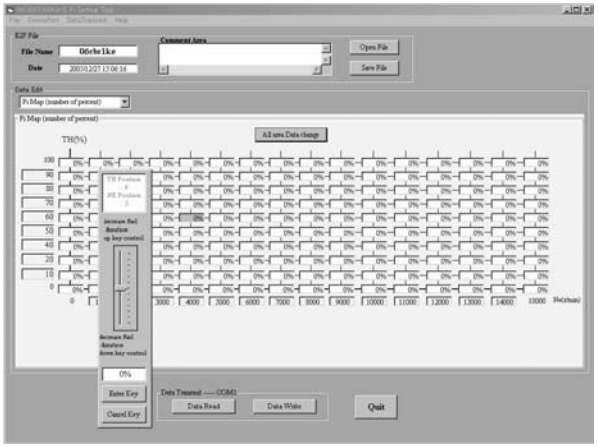
Practice to Change Setting

You can change air-fuel ratio either on map screen or on graph screen.

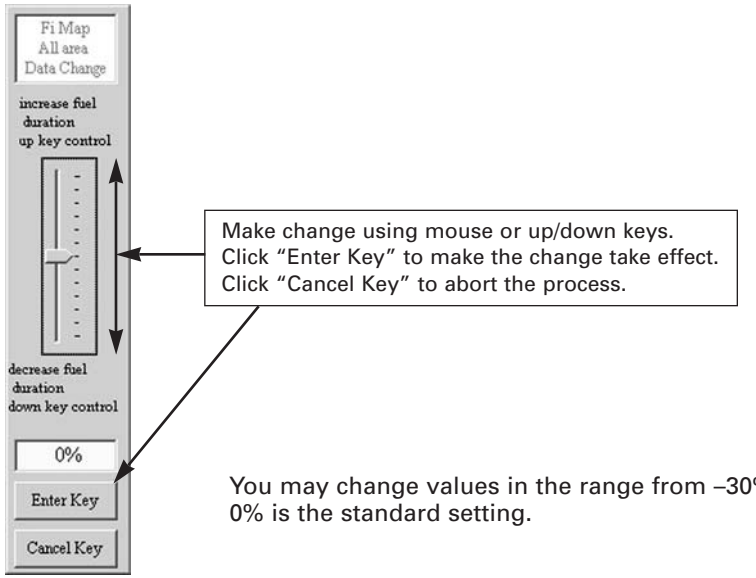
1. Changing air-fuel ratio (on map screen)



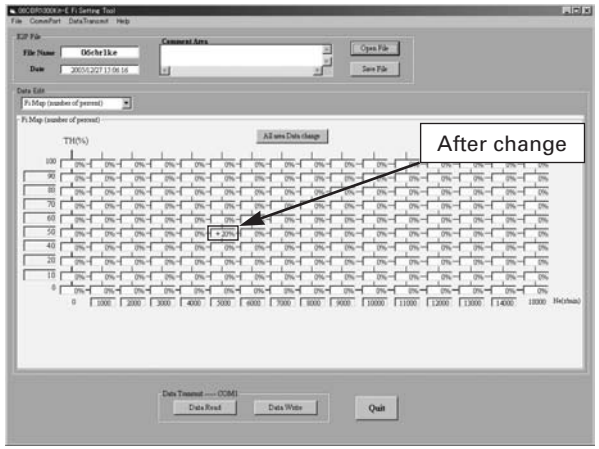
When you select “FI Map (number of percent), a screen like below will appear.
In order to change data, click on the point where desired TH position and the engine speed meets. Then, a scale as shown below will appear.



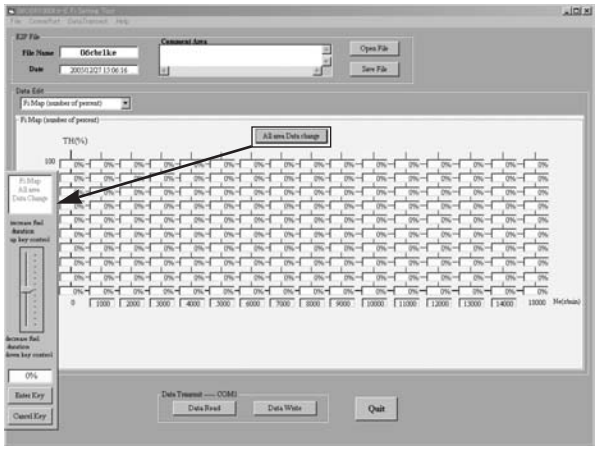
How to change air-fuel ratio



You may change values in the range from –30% to +30%.
0% is the standard setting.

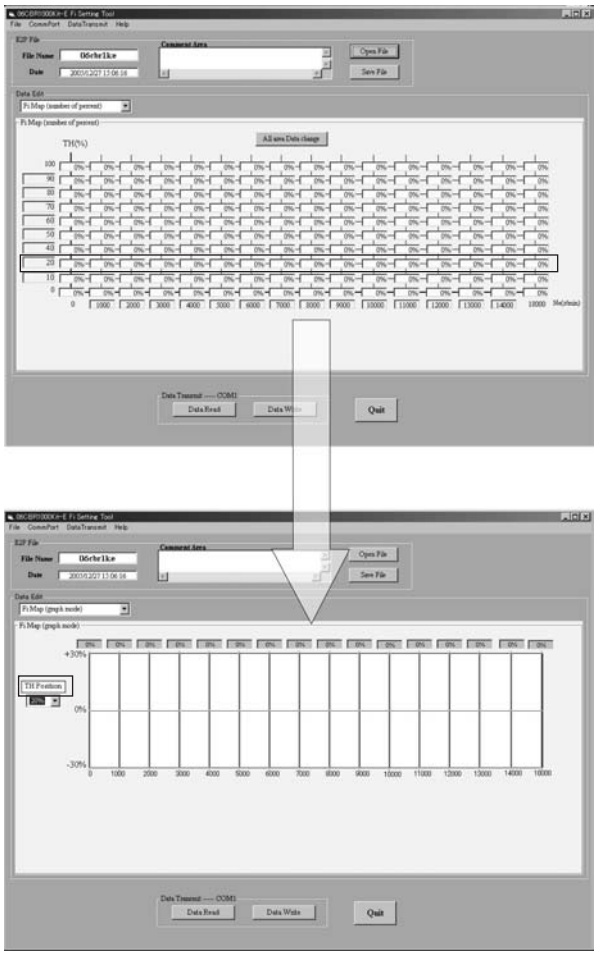


How to change data of all area

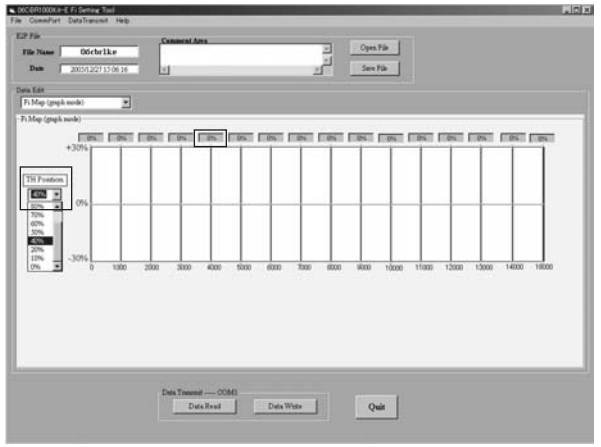


When you click “All area Data change”, the screen will be like above.
This screen enables you to off set all data. Click “Enter Key” to have change take effect.
Only, be aware that this operation makes all data be the same value.

2. Changing air-fuel ratio (graph display)
Graph mode displays a horizontal axis of map display graphically.

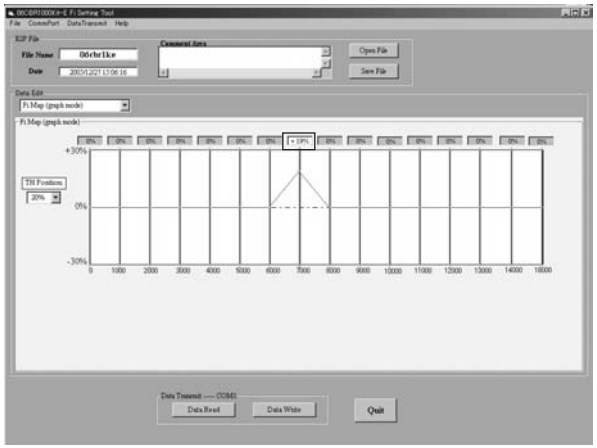


When you select “Fi Map (graph mode)”, a screen like below will appear.

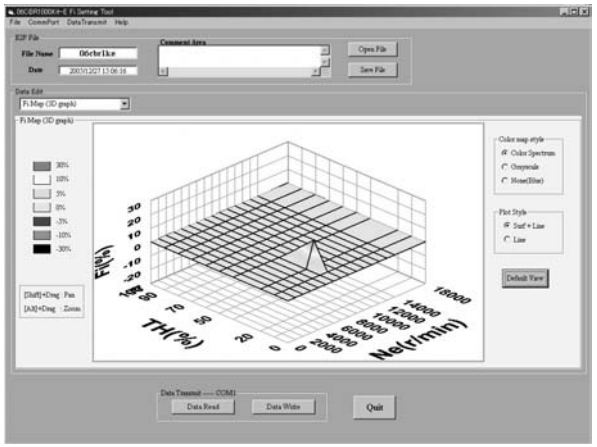


To change data, select TH position you wish to adjust.
Present status of setting will be graphically displayed along with engine speed by TH positions.
Here, click correction value display of the engine speed you wish to adjust.

Adjustable areas will be selected with their color changed color. Use up/down arrow keys to make change.
Change made here will also take effect in the map display.



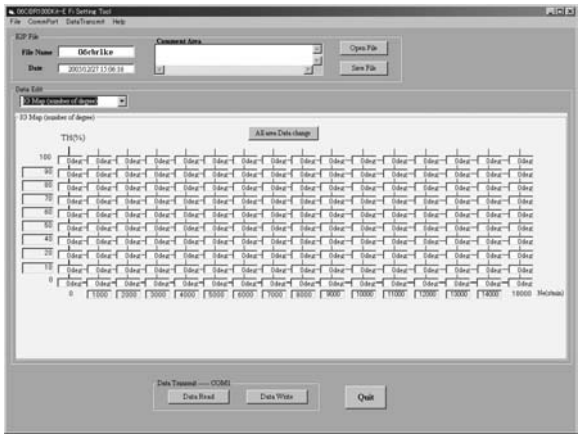
When you select “Fi Map (3D graph)”, a screen like below will appear.



You can change the graph color and graph size referring to the instruction on both sides of graph as shown.

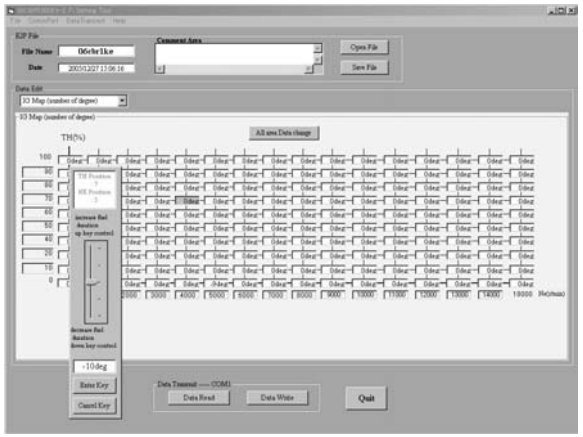
3. Changing ignition timing
When you select “IG Map”, a screen like below will appear.

1). How to change the ignition timing (map display)

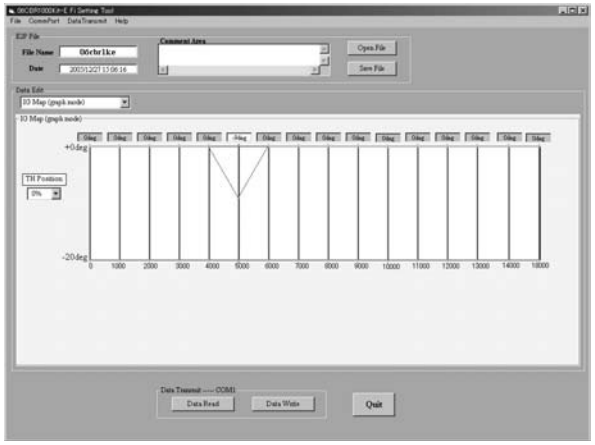


Ignition timing can be changed as same as air-fuel ratio.
When you select “IG Map (number of percent)”, a screen like below will appear.

In order to change data, click on the point where desired TH position and the engine speed meets. Then, a scale as shown below will appear.

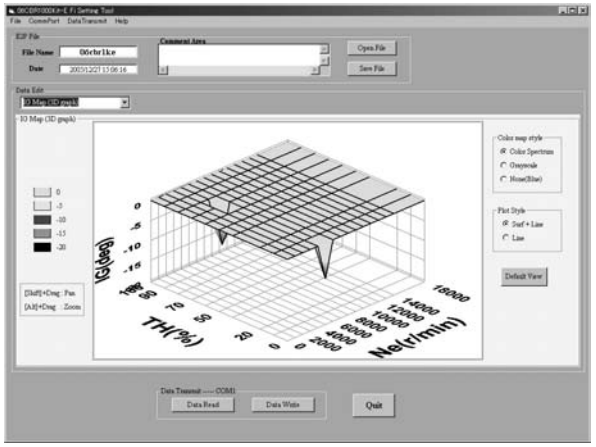


2). How to change the ignition timing (graph display)
When you select “IG Map (graph mode)”, a screen like below will appear.

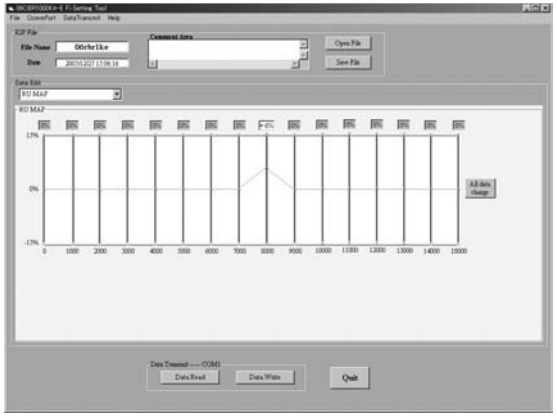


To change data, select TH position you wish to adjust.
Present status of setting will be graphically displayed along with engine speed by TH positions.
Here, click correction value display of the engine speed you wish to adjust.

When you select “Fi Map (3D graph)”, a screen like below will appear.



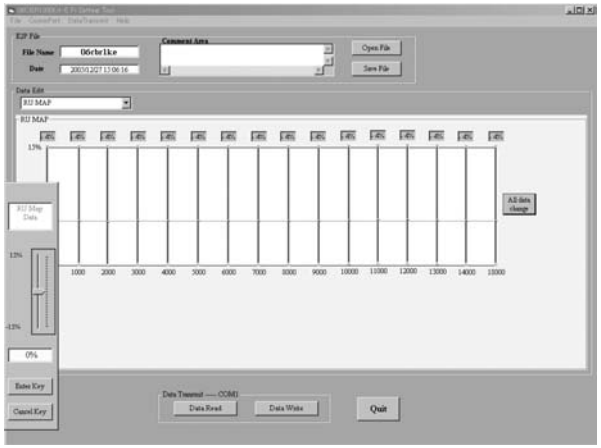
4. Changing fuel distribution percentage between the upper and lower injector
When you select “RU MAP”, a screen like below will appear.



You can change the fuel distribution percentage between the upper and lower injector.

Same with “IGN OFFSET”, fuel distribution percentage can be changed based on engine speed.
TH position based changing is impossible.
To make change, click correction value display of the engine speed you wish to adjust. Then, adjustable areas will be selected with their color changed.

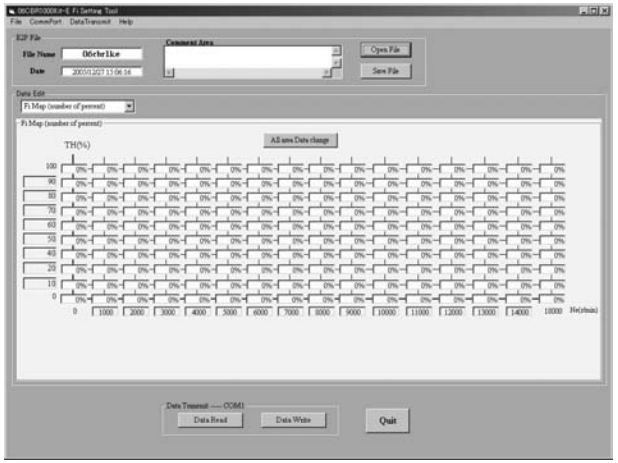
Use up/down arrow keys to make change.
You may change values in the range ± 15%.



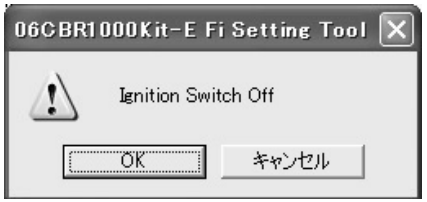
When you click “All area Data change”, a screen like above will appear enabling you to offset all values. The change takes effect when you click “Enter Key.”
Only, be aware that this operation makes all data be the same value.

Transferring Setting Data

Transmitting data (PC to ECU)



When you click “Data Write”, the following window will appear.



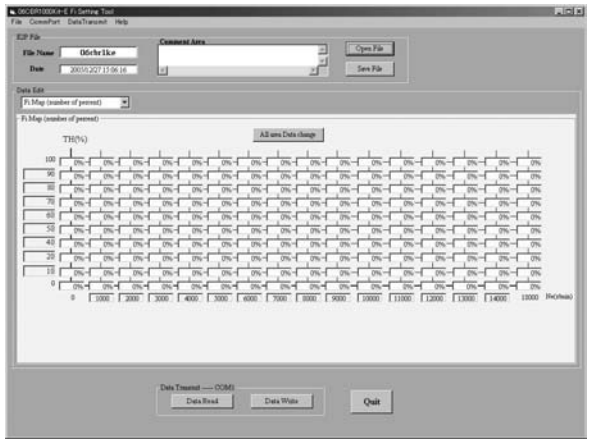
Turn off the engine stop switch.
When you click “OK”, the following window will appear.

Turn ON the engine stop switch again and click “OK” or press “Enter key” within two seconds.
If communication is correctly completed, the following window will appear.

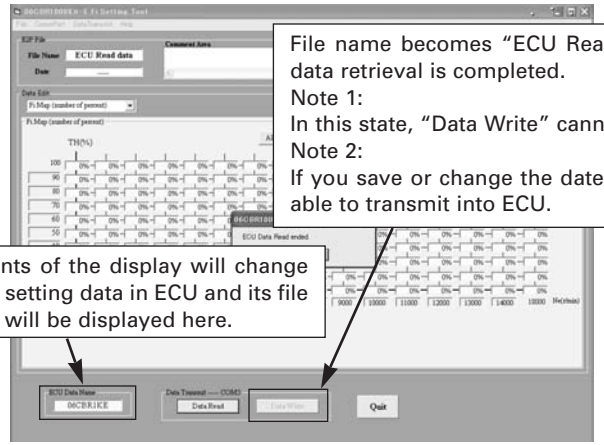
If communication could not be performed correctly, the following window will appear.

Check connection and communication settings and retry communication clicking “Data Write” again.

Receiving data (ECU to PC)



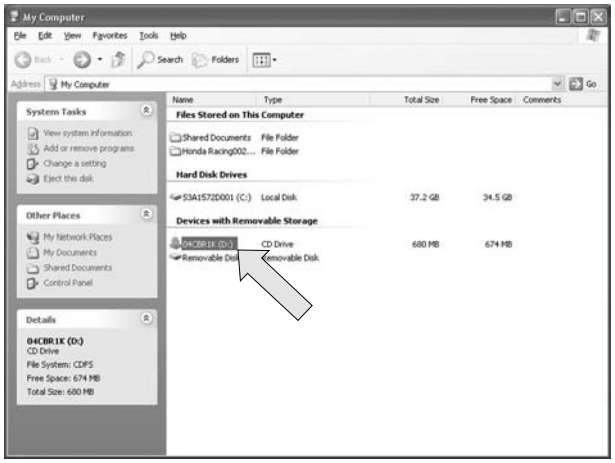
By clicking “Data Read”, you can retrieve setting data from ECU.
Take the same procedure as Data Write and the screen will be like below.



Troubleshooting

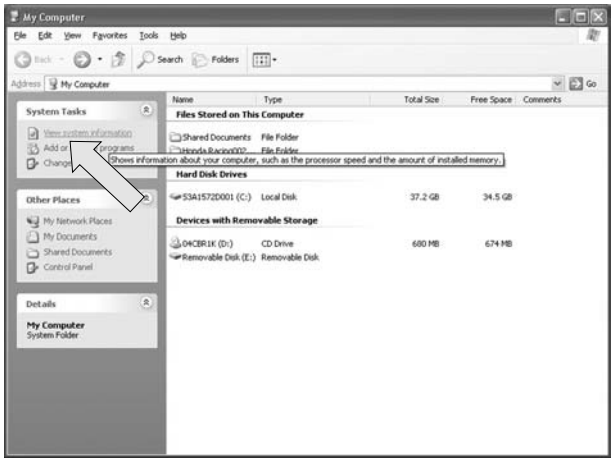
No.	State	Cause	Action to take
1	Unable to install	Don't know how to operate	*refer to 1
		CD-ROM drive is not recognize	Make the drive recognized and try installation again
		Defect of CD-ROM (deep scratch, etc.)	Please contact HRC service.
2.	Unable run the tool	Unsupported OS	This tool runs on windows 98/Me/2000/XP.
3.	Unable to communicate with ECU	The serial port setting incorrect	*refer to 2
		Power supply of ECU is turned off.	Check power supply
		Communication cable connection is defective Timing of transmission is not proper	Communication cable connection is defective. Check connection (Refer to the page on connection with the vehicle) Press return key within two seconds after turning OFF and ON the main switch to transmit data (Refer to the page on data transmission)
		Data read out from ECU cannot be transmitted.	The retrieved data cannot be retransmitted as it is. In order to transmit retrieved data, you should save it once. (Refer to the page on data reception)
4.	Default file is not displayed when starting up first	A same problem is occurs with the English version.	*see 3

*1: CD-ROM drive



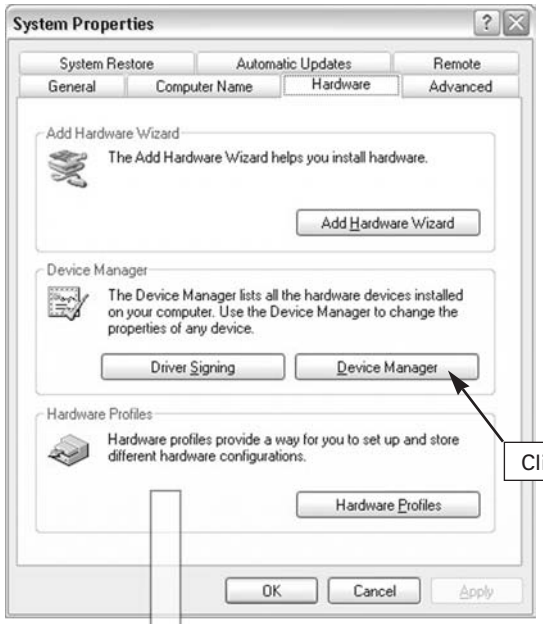
If you click on the My Computer icon, a window like left will appear.
Click CD-ROM drive in the window and installation will start.
If there is not CD-ROM icon displayed in the window, your PC might not be equipped with CD-ROM drive or is not recognizing one.
Consult instruction manual of your PC to confirm this.

*2: How to check serial port

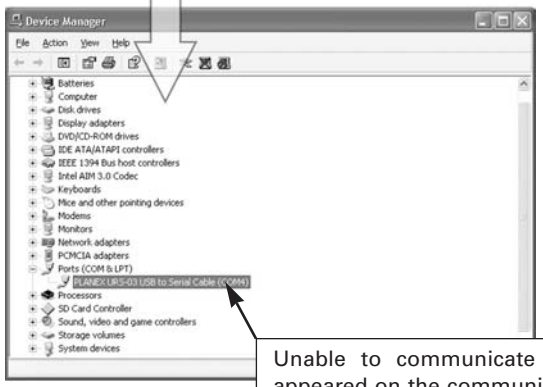


Click "View system information" in the System Tasks.

System Properties window will open.

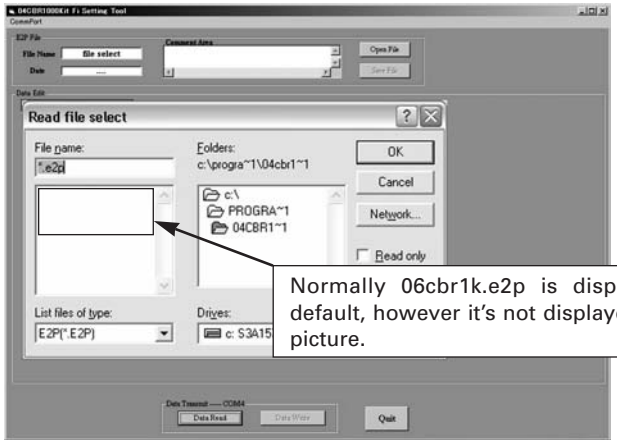


Click “Device Manager”.



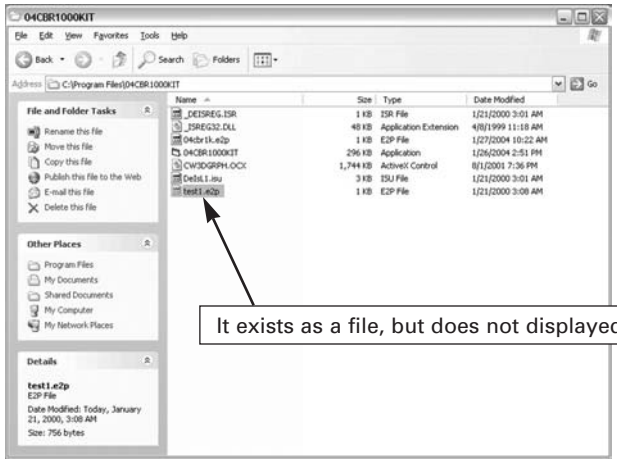
Unable to communicate when the “x” mark is appeared on the communication port (COM1). Also unable to communicate if the COM port is differ from tool setting.

*3: In case you open "Open File" when starting up for the first time.



Normally 06cbr1k.e2p is displayed as default, however it’s not displayed in this picture.

Countermeasure : Open the directory including the tool, and change the file name.

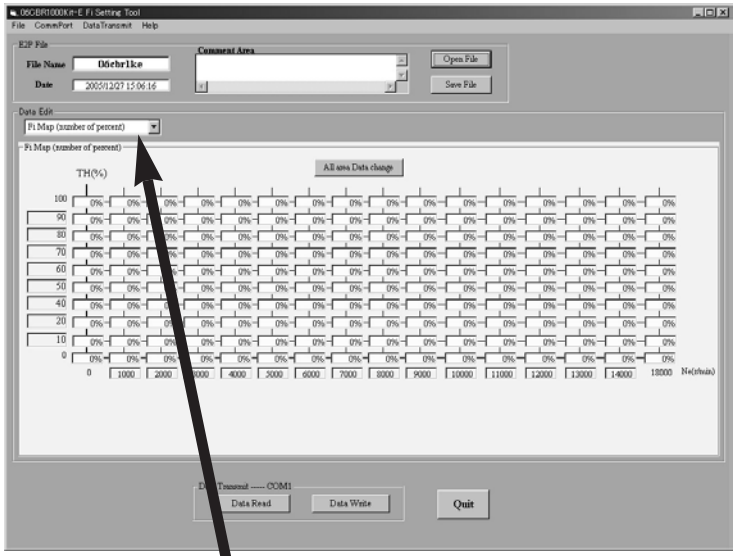


It exists as a file, but does not displayed on the tool.

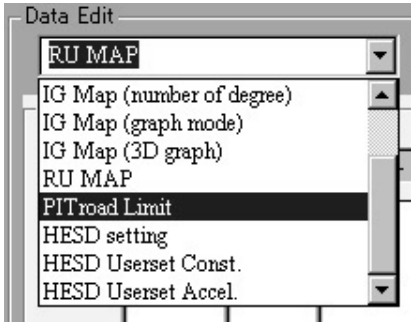
Select "06Cbr1000_a.e2p" and change the file name.
e.g.) Change the file name as "06Cbr1k.e2p" to "Cbr1k_01.e2p"
The file name is not specified if the name includes 8 letters or less.
Now you can open the file.

Pit Road Speed Limiter

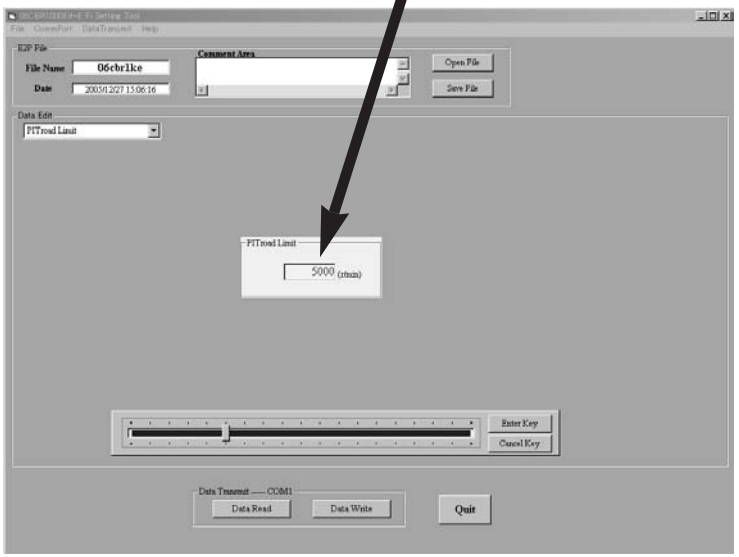
Connect the PC and data link connector with serial interface.
When you start up the setting tool, a window like below will appear.



When you click the data edit selector, a pull down menu like below will appear.
Select “PITroad Limit” from pull down menu.



When you click the window like below, a scale as shown below will appear.



Set the ignition cut engine speed as follow:

Choose a point to change with mouse or left/right arrow keys and press "Enter key" after you put in a new value.
The change cancel is done by clicking "Cancel key".

Engine Speed Calculation

Engine Speed= Vehicle speed (km/h) x 1,000/60/Tire circumference x Primary ratio x Transmission ratio x Final ratio

Example: (cross ratio transmission, final ratio 16/43)
4.926 rpm = 60 km/h x 1,000 ÷ 60 ÷ 2,000 x 1.604 x 2.286 x 2.687

An actual engine speed changes depending on the circumference of the tire and other factors.
So we recommend an actual speed of the vehicle to be measured.
When the pit road is down slope, the actual speed might higher than the calculated speed.
So we recommend that the engine speed to be set 200 min^{-1} (rpm) lower than the calculation value.
The pit road speed list is included in the CD-ROM (Microsoft Excel file).
The each tire circumference value in this list is the reference value.
So measure each tire actual circumference and reculculate the vehicle speed.

Primary ratio:

Gear teeth	Ratio
48/77	1.604

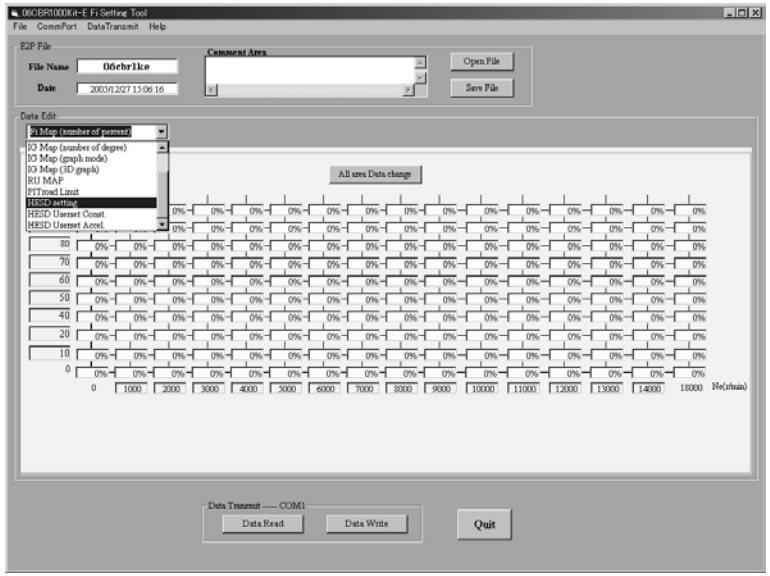
Transmission ratio:

	Cross ratio transmission		Standard transmission	
	Gear teeth	Ratio	Gear teeth	Ratio
1st	14/32	2.286	13/33	2.538
2nd	17/33	1.941	17.33	1.941

HESD (Honda Electric Steering Damper) Setting

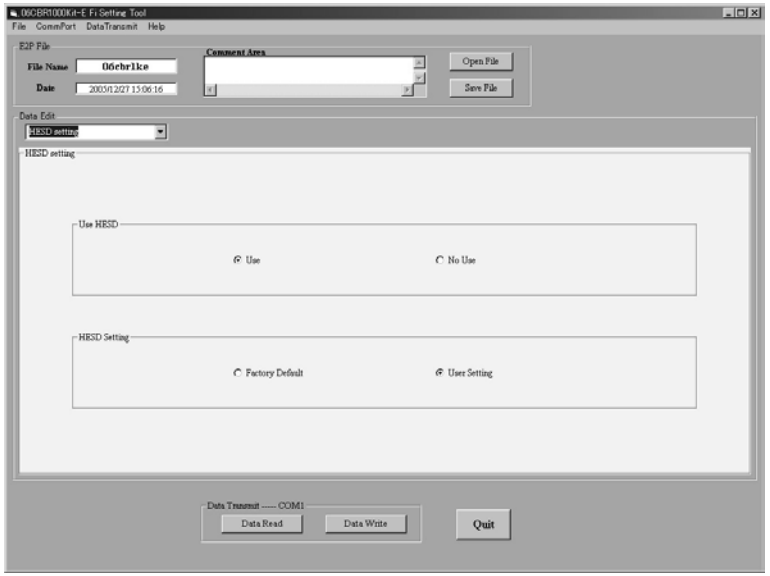
The CBR1000RR's HESD can be adjusted by using the ECU setting tool.
By using the ECU setting tool, you can select the HESD to use or not use.
Also you can select the damper mode to "Factory setting" (default) or "User setting".

Start up the ECU Setting Tool.
When you click the data edit selector window, the pulldown menu is appeared as shown below.
Select "HESD setting" in the pulldown menu.

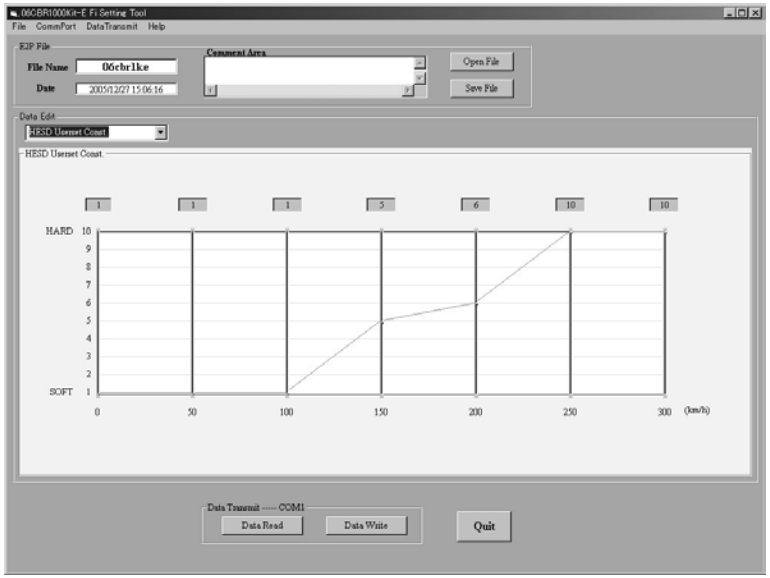


When you select the "HESD setting", the following window is appeared.
If you using the HESD, click "Use" radio button.
If you do not use the HESD, click "Not use" radio button.
When you select the "Use", next select HESD setting.
If you use factory setting, click "Factory default".
If you use user setting, click "User setting" radio button.

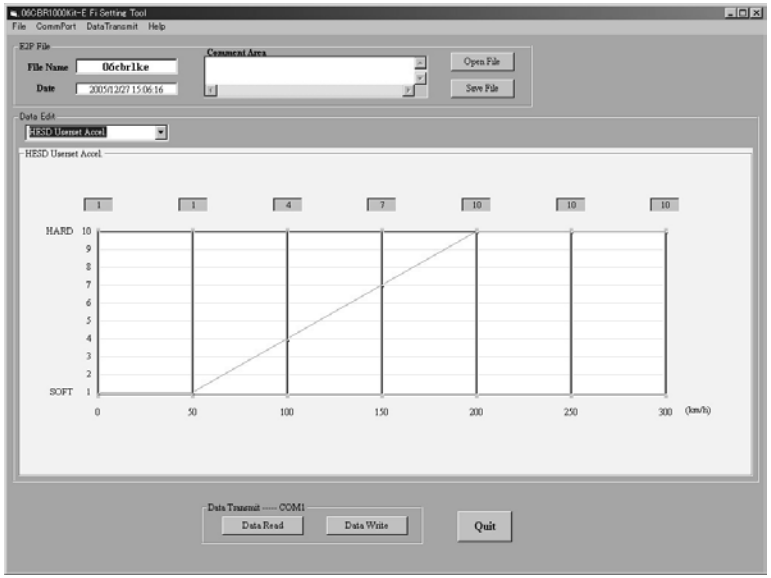
When using the mechanical type steering damper (racing kit), click "Not use" radio button to prevent warning indicator blinking.



When you select the “Use” and “User setting” in HESD setting menu, next select “HESD Userset Const.” in the data edit selector pulldown menu.
You can change the steering damper damping at constant speed (not at acceleration and deceleration) in this window.
When you decrease the setting value, the damping is decrease.



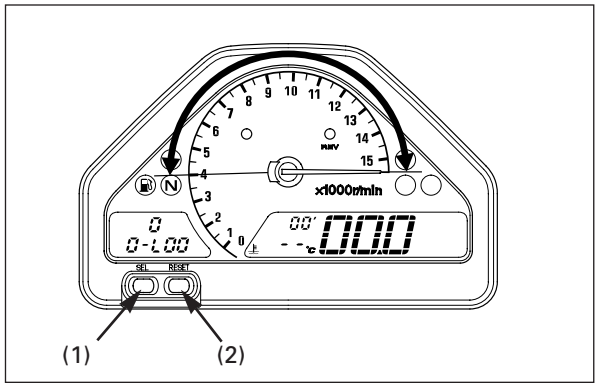
When you select the “Use” and “User setting” in HESD setting menu, next select “HESD Userset Accel.” in the data edit selector pulldown menu.
You can change the steering damper damping at acceleration in this window.
In the same manner of “constant speed”, when you decrease the setting value, the damping is decrease.



Actual vehicle speed is changed by the radius of tyre and the final drive ratio. The calculate vehicle speed is differ from actual vehicle speed because the vehicle speed is picked up from the countershaft with the vehicle speed sensor. Please note that the setting speed is not exact.

Please set the setting values as follow:
A: Setting value at “not at acceleration and deceleration”
B: Setting value at “acceleration ”

$A \leqq B$

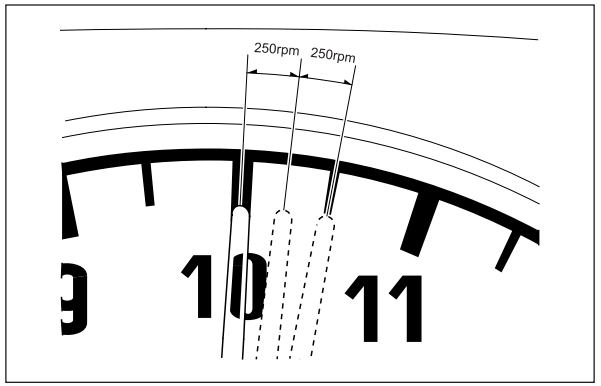


(1) “SEL” BUTTON
(2) “RESET” BUTTON

Combination Meter Function

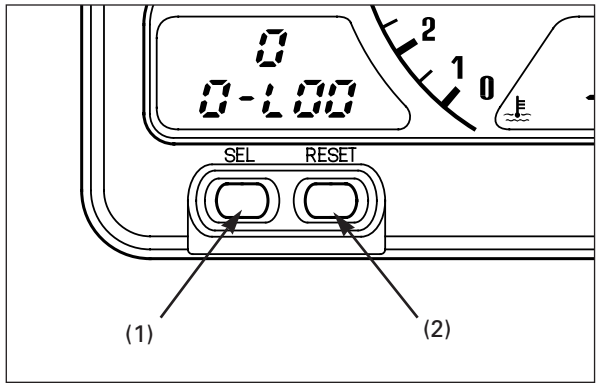
The racing kit combination meter has following functions:
- Shift-up indication
- Lap time indication
- Coolant temperature indication

Shift-up Indicator
When the engine rev. exceeds the setting value, the shift-up indicator illuminates or flashes.
The shift-up indicator can be set in range between 4,000 – 15,500 min^{-1} (rpm).



How to set the shift-up indicator
1. Turn the engine stop switch to RUN while pressing the “SEL” button until the combination meter initial action have finished. The needle indicates the current setting revolution.

2. Align the needle with required revolution by pressing the “RESET” button. Whenever the button is pressed 1 time, the needle increases by the scale of 250 min^{-1} (rpm), and when the button is pressed for more than one second, the needle increases by the scale of 1,000 min^{-1} (rpm).
   When the maximum setting value (15,500 min^{-1} (rpm)) is exceeded, the needle returns to 4,000 min^{-1} (rpm).
   After determine the illuminating rev., press the “SEL” button.



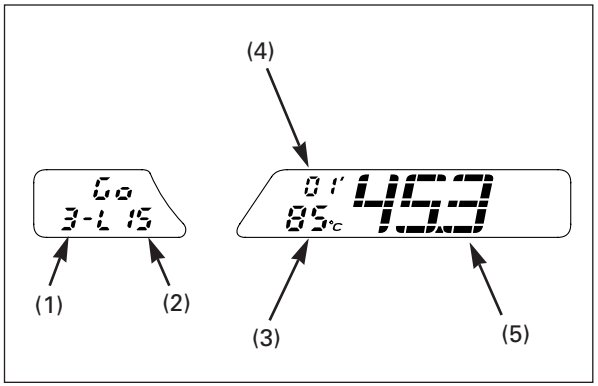
(1) “SEL” BUTTON
(2) “RESET” BUTTON

3. Press “RESET” button and select a illuminating or flashing pattern.

   - Illuminating pattern and brightness (3 patterns)
   - Flashing pattern and brightness (6 pattern)

4. After the shift-up indicator setting is finished, press “SEL” button. The combination meter is returned to normal indication mode (the tachometer needle returns to 0).

When the tachometer or speedometer input signal is detected, or not access for more than 30 seconds during setting, the setting value is cancelled and return to normal indication mode.



(1) SESSION NUMBER (2) LAP NUMBER
(3) COOLANT TEMPERATURE
(4) LAP TIME (MIN.) (5) LAP TIME (SEC.)

Lap Time Indicator

GO mode:

When the engine stop switch to RUN, the combination meter is in "STOP" mode.

The combination meter is received the LAP marker signal (passing switch is pressed) or engine rev. is over 5,000 min^{-1} (rpm), the lap time indicator system enters the "GO" mode.

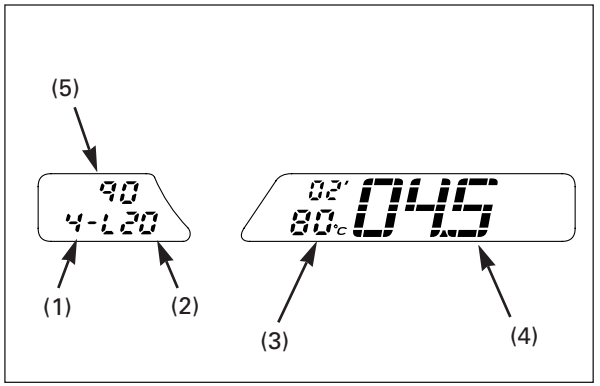
Under the "GO" mode, the combination meter records the session number, lap number, each lap time and maximum coolant temperature in each lap.

During vehicle running, the combination meter displays the current session number, lap number, lap time and coolant temperature in each lap.

The lap data can be stored up to 99 laps.

When the stored data is exceed the 99 laps, the oldest data is overwrite to current lap data.

If you wish to read out each lap data, make sure the combination meter is in "STOP" mode.



(1) SESSION NUMBER (2) LAP NUMBER
(3) MAX. COOLANT TEMPERATURE (4) LAP TIME
(5) CURRENT COOLANT TEMPERATURE

STOP mode:

When the engine stop switch to RUN or the "SEL" button is pressed under the "GO" mode, the combination meter enters in "STOP" mode.

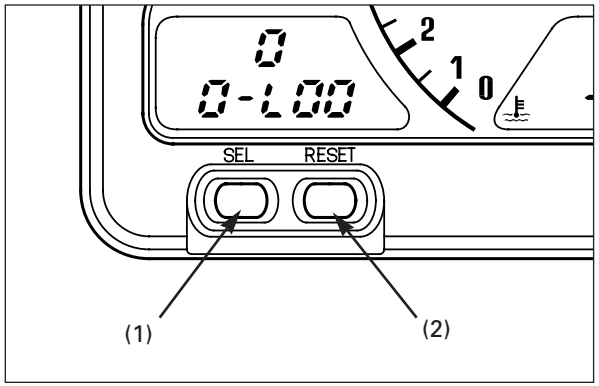
The stored lap data can be read out in this mode.

Stored lap data is displayed one by one from lap 1 to latest lap by pushing the 'RESET" button.

When the "RESET" button is pressed, the next stored data is displayed.

When the "SEL" button is pressed, the previous stored data is displayed.

The maximum coolant temperature during each lap is displayed on upward of the section/lap number.



(1) "SEL" BUTTON
(2) "RESET" BUTTON

If the "RESET" or "SEL" button is pressed and hold, the lap time data will be advanced or returned.

When you wish to reset the lap data, press both the "SEL" and "RESET" button simultaneously more than 2 seconds.

(1) PASSING SWITCH (STOP WATCH)
(2) HORN SWITCH (POWER SHIFTER)
(3) TURN SIGNAL SWITCH (PIT ROAD SPEED LIMIT)

Left Handlebar Switch Function

On this machine, the each switch of the left handlebar switch is function as follows:

Passing switch:	Stop watch function (lap time)
Horn switch:	Power shifter function
Turn signal switch:	Pit road speed limiter

Stop Watch:
When the switch is pushed, the stop watch is started.
See page 44 for lap time indicator function.

Power Shifter:
While pushing the switch, both the ignition and fuel injection cut-off system is activated.
See page 21 for power shift setting.

Pit Load Speed Limiter:
While pushing the turn signal switch to the right or left, the pit road speed limiter is activated.
The pit road speed limiter is deactivated, when you turn the turn signal switch off.
See page 17 for pit road speed limiter function.

Memo