



Kawasaki Ninja ZX-6RR

Kawasaki Racing Tool 600 (KRT-600)

INSTRUCTION MANUAL



Version 1.0 Issued on Feb. 10, 2003

Congratulation on your purchase of racing kit parts for the 2003 Ninja ZX-6RR.

IMPORTANT

This manual provides how to install racing kit parts for the 2003 Ninja ZX-6RR and how to tune up basically.

As for the basic knowledge, refer to the base Service Manual for the Ninja ZX-6RR (P/No. 99924-1311-01).

When you participate in a race, it is necessary to modify the machine for the regulation. So we want you to ask for the tuning up shop.

⚠ WARNING

AFTER ANY MODIFICATION TO TUNE THE VEHICLE TO A COMPETITION MACHINE, IT SHOULD NOT BE USED ON PUBLIC STREETS, ROADS OR HIGHWAYS. THE USE OF THIS VEHICLE SHOULD BE LIMITED TO PARTICIPATION IN SANCTIONED COMPETITION EVENTS UPON A CLOSED COURSE.

CAUTION

When operating the engine, be careful not to trouble persons with noise. Do not turn the engine with loud engine and exhaust noise.

DISCLAIMER OF WARRANTY

ON OPTIONAL TUNING PARTS FOR RACING ARE NO WARRANTIES EXPRESSED OR IMPLIED.

BASIC WORKS IN INSTALLING KIT PARTS

We are going to make up the original Ninja ZX-6RR for the racing machine. We recommend that the rider himself should do the basic works, removing parts or installing parts etc., given advices by the tuning shop. In a race, although trouble will be apt to happen, if you participate in basic works, you can discriminate cause of trouble, so you can return the race soon.

But concerning difficult technical works, you should as tuning shop.

This Instruction Manual shows how to install and use the mapping exchange program for the ECU, which has been developed as a part of the tool kit for only the racing machine. The program is designed to set the operating condition (mapping) of the machine suitable for the course and the rider's skill.

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1. KRT-600 Outline

1.1 System Function

Kawasaki Racing Tool for 600 (KRT-600) is developed to modify the mapping of the racing machine to gain operating conditions suitable for the course and the rider's skill. The following are the available setting functions.

- 1) "Compensation for Acceleration": Adjust the injected fuel rate at acceleration
- 2) "Comp. Map for Injection No.1": Adjust the injected fuel rate of No.1 and No.4 cylinder at normal operation
- 3) "Comp. Map for Injection No.2": Adjust the injected fuel rate of No.2 and No.3 cylinder
- 4) "Comp. Map for Spark Advance": Adjust the Ignition timing of all cylinders
- 5) "Comp. Map for Sub Throttle": Adjust the Sub Throttle opening angle
- 6) "All Area Fuel Compensation Value": Adjust the all injected fuel rates of all operating area simultaneously
- 7) "OverRev. shift Value": Adjust the value of over revolution limiter
- 8) Select "Fuel Cut": Set the fuel cut or not at deceleration
- 9) Select "Sub Throttle": Set the sub throttle controlled or not

1.2 Personal Computer (PC) Requirement

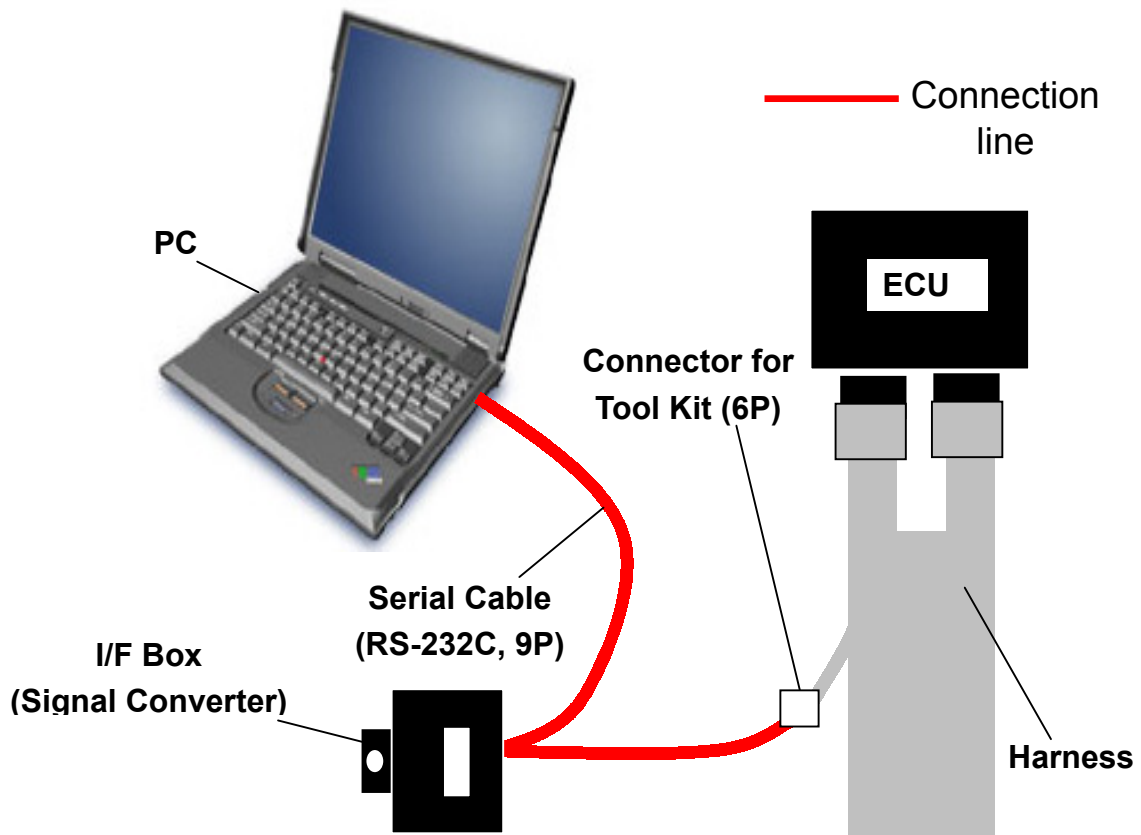
The KRT-600 system operates on a Personal Computer (PC) having serial communication port with the special electronic control unit (ECU) on the motorcycle through an interface box (I/F Box).

Items	Recommendation
Operating System	Windows 95, 98, 98SE,
ECU	Pentium 150MHz or faster
Memory	64 MB or more
HDD	2 MB or more of free space

Items	Recommendation
Display Resolution	800 x 600 Pixels or more, more than 256 colors
Port Connector	RS232C (D-sub 9 pin), I/F Box cable can be connected to COM 1 ports
Others	Equipped with a mouse or a pointer equivalent to mouse

1.3 System Configuration

The KRT-600 tool kit consists of (1) ECU, (2) Main harness or Standard harness plus Sub harness, (3) I/F Box, and (4) Setting Program. The Setting Program must be installed to your PC.



	EU Spec.	US, JP Spec.
ECU	Special ECU P/No. 21175-0009	Special ECU P/No. 21175-0009
I/F Box	Special Tool P/No. 26031-0025	Special Tool P/No. 26031-0025
Harness	Special Harness P/No. 26031-0038	Standard Harness (installed to the vehicle initially) P/No. 26031-1058 and Special Sub-Harness P/No. 26031-0039

The connecting method is shown in section 5.1.

2. Installation Procedure of Setting Program

Program files will be supplied to users through Internet from “kawasakidirect”.

Down-load the Software “KRT600_k.EXE” to your PC and uncompress to suitable folder.

2.1 Installing Procedure

- (1) Execute “Setup.exe” to start the Setup program and the screen shown in Fig. 1.appears.

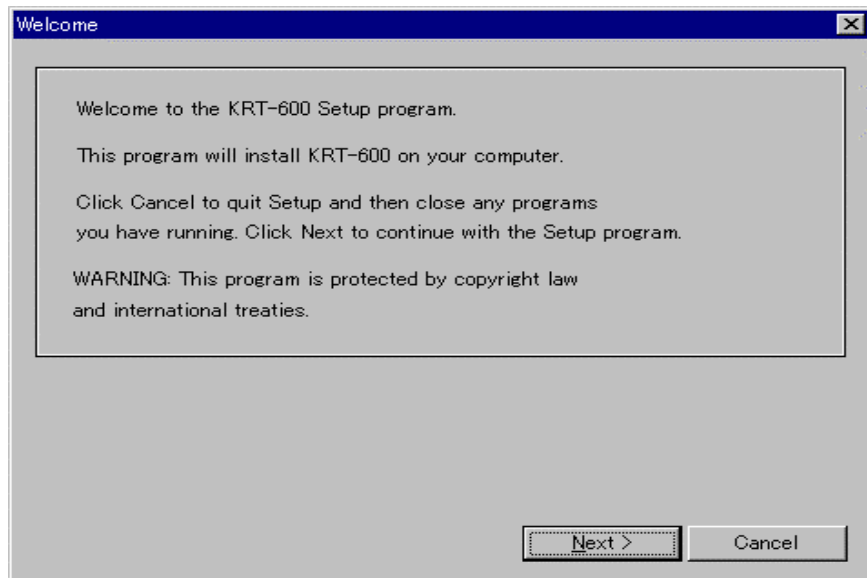


Fig.1 Starting Setup Program

- (2) Click [Next] to display the Product License Agreement screen shown in Fig. 2. Click [Cancel] to close the installer.

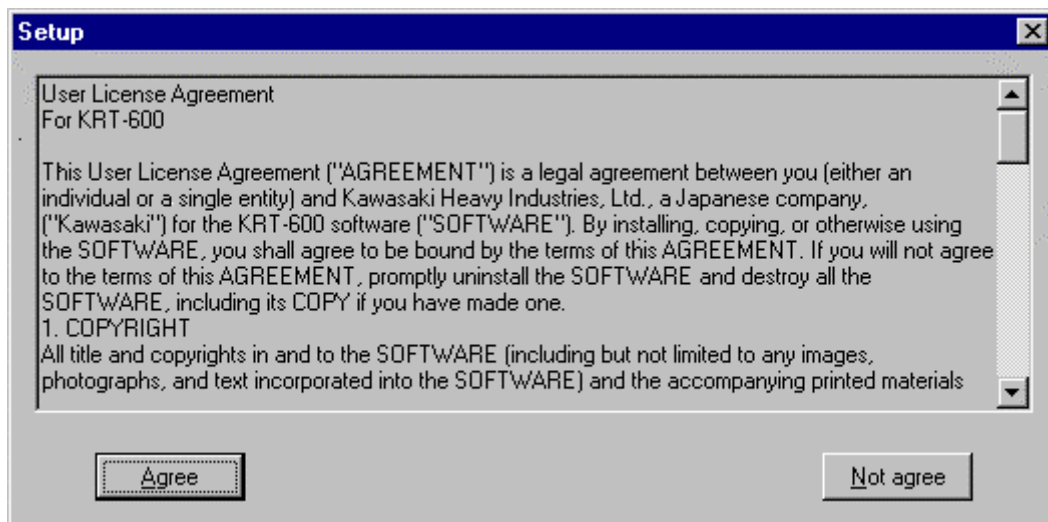


Fig. 2 Product License Agreement

- (3) Click [Agree] to display the user information registration screen shown in Fig. 3.
Click [Not agree] to close the installer.

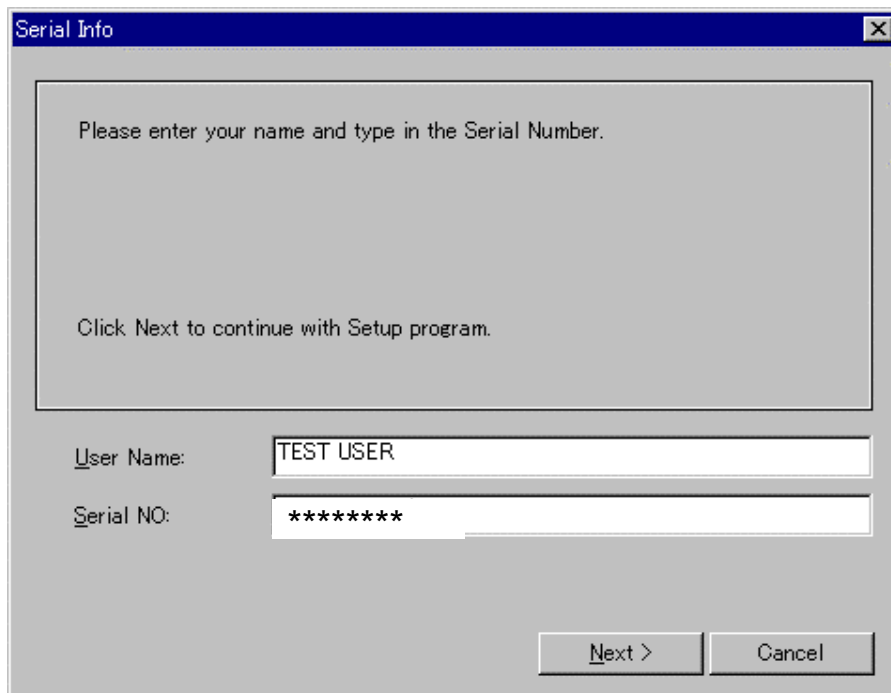


Fig. 3 User Information Registration / Authentication

The default settings of [User Name] and [Serial NO] are vacant. You have to enter information in both columns. If you omit any of them, [Next] button is grayed out. The specified Serial NO is informed to you from the dealer.

When the Serial NO. is wrong, an error message shown in Fig. 4 appears on the screen.



Fig. 4 Error Message

Enter the correct Serial NO.

- (4) Click [Next] to display the destination folder selection screen shown in Fig. 5.
Click [Cancel] to close the installer.

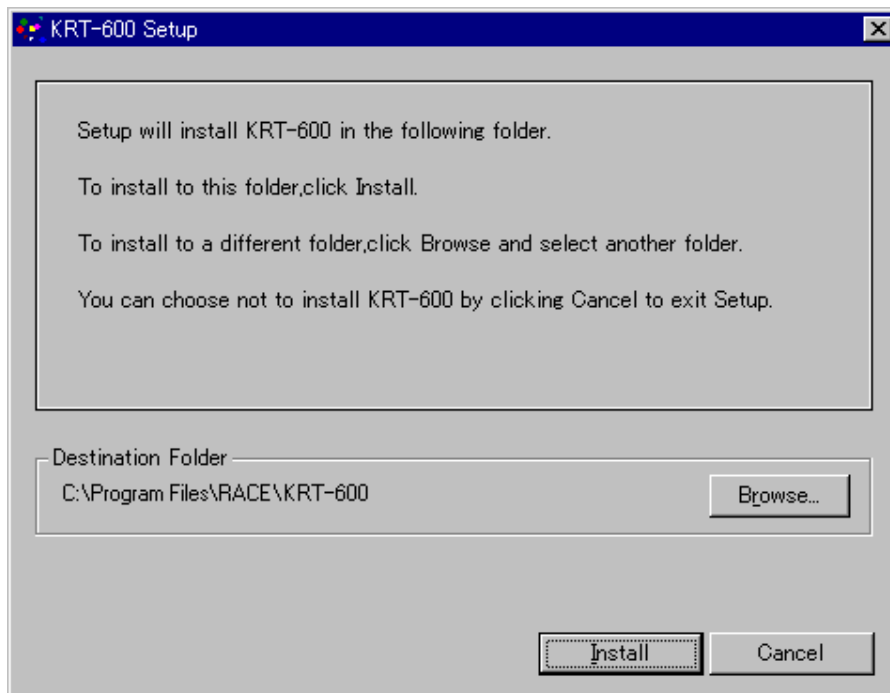


Fig. 5 Choosing Destination Folder

- (5) Choose the destination folder. The default setting is C:\Program Files\RACE\KRT-600.
If you want to install the Program to another folder, click the [Browse] button to display the Choose Folder screen shown in Fig. 6. Then choose the folder.

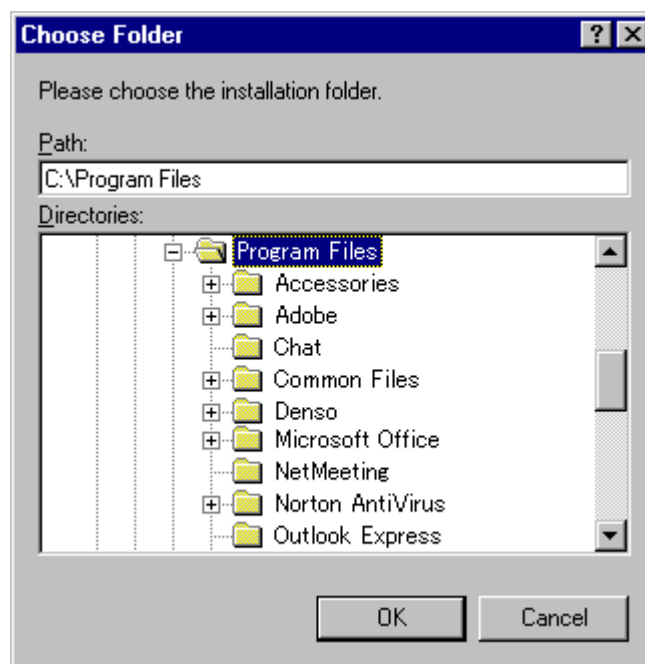


Fig. 6 Choose Folder Screen

(6) Click [Install] to start the installing process. After KRT-600 is installed, the Setup finish screen shown in Fig. 7 appears.

Click [Cancel] to close the installer.

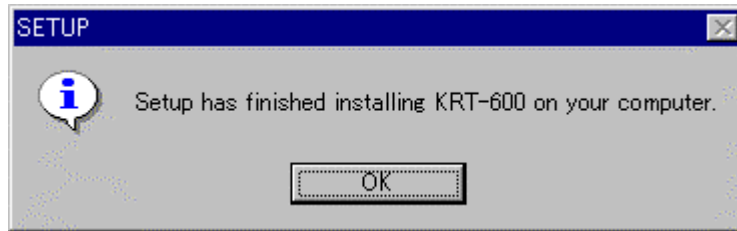


Fig. 7 Setup Finish Screen

If the destination folder has a file that has the same name of the file to be copied and whose time stamp is newer than that for the file to be copied, the message screen shown in Fig. 8 appears and the file cannot be copied. However, the installing process is normally finished because the destination folder has the new data file with newer time stamp.

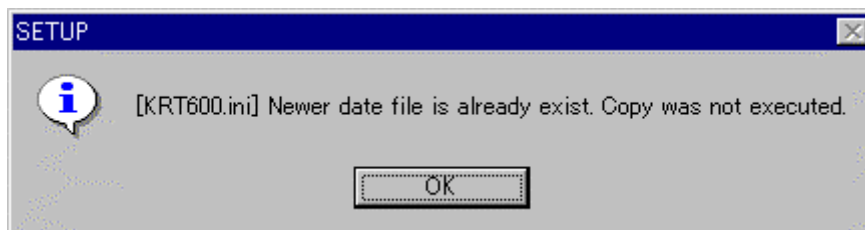


Fig. 8 Message Dialog when overwriting was not performed

(7) Click [OK] button to finish the setup. After the setup is finished, the shortcut icon for KRT-600 program is registered on both the Desktop and the Start Menu.

Click [Cancel] during the setup operation to quit the setup.

2.2 File Structure

- Files to be copied into a destination folder

KRT600.exe	Program file
KRT600A.stz	Configuration File
KRT600B.stz	Configuration File
KRT600C.stz	Configuration File
KRT600D.stz	Configuration File
KRT600.bmp	256-color splash screen file
KRT600FC.bmp	Full-color splash screen file
Setup.exe	Uninstall file for execution

- Files to be copied into the Work Folder

Standard_data.est	Default File
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- Files to be copied into the OS Folder (Windows folder in Windows95/98 and WINNT folder in WindowsNT)

KRT600.ini	File for setting KRT600.exe
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2.3 Uninstalling Procedure

Uninstalling operation can be executed on the Add/Delete service application in the Control Panel.

- (1) First, click "KRT-600" and then click [Add/Delete (R)].

Execute [Add/Delete (R)] to start the Setup program. The screen shown in Fig. 9 appears.

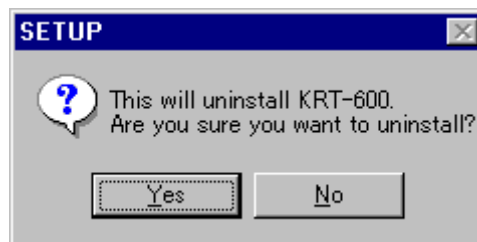


Fig. 9 Uninstall Starting Screen

- (2) Click [Yes] to start the uninstalling process. After the uninstallation is completed, Uninstall Completion screen shown in Fig. 10 appears.

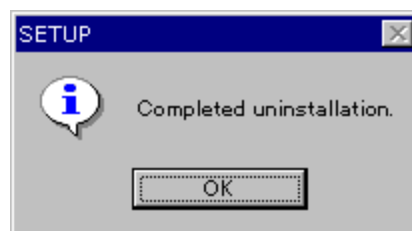


Fig. 10 Uninstall Completion Screen

If you tried to delete the program but you couldn't do it due to some reason (ex. the program is starting), the message shown in Fig. 11 appears. In such case, delete the files remaining in the screen folder by yourself.

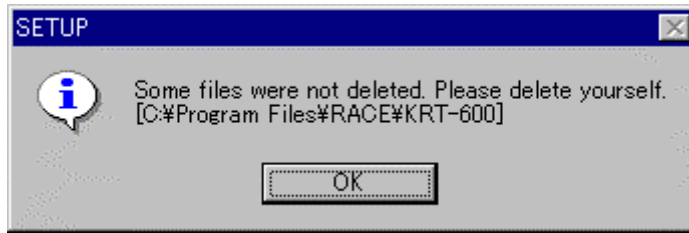


Fig. 11 Message Dialog when some files were not deleted

(3) Click [OK] button to complete the uninstalling process.

In this step, setup.exe is left in the KRT-600 Setup folder, but it will be deleted when you start the PC next time.

NOTE

- *When restarting after uninstallation, the DOS window may remain open. (It occurs on Windows95/98/Me.) At that time close the window by hand.*

3. Operating the Program

3.1 Starting

- (1) Double-click the shortcut icon on the Desktop screen or click the “KRT-600” in Program Menu on Start Menu. The initial screen shown in Fig. 12 appears.

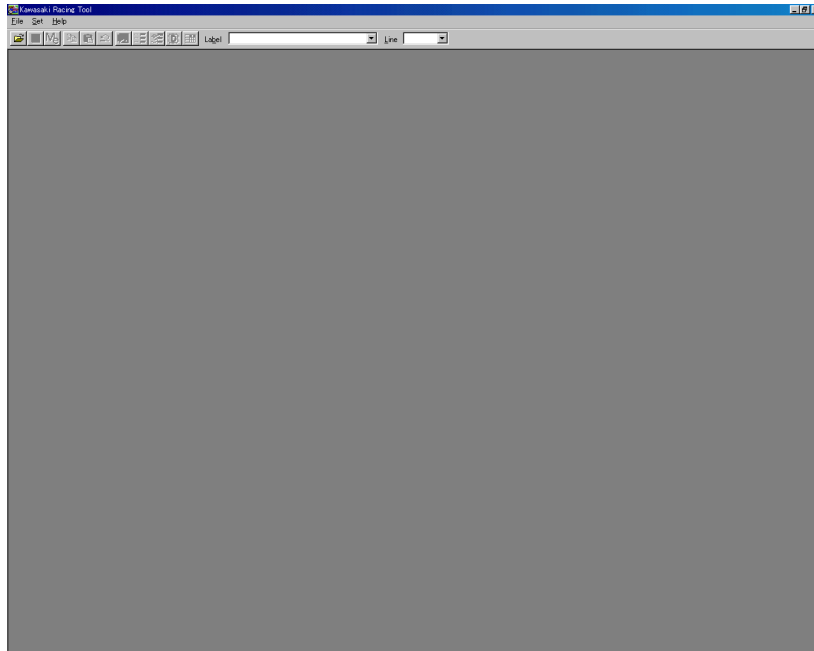


Fig. 12: Initial Screen

It starts to load the data file (EST file) to be edited on the initial screen.

- (2) Go to the pull-down File menu and select Open, or click the File - Open icon (left end) on the toolbar. The Open dialog shown in Fig. 13 appears.

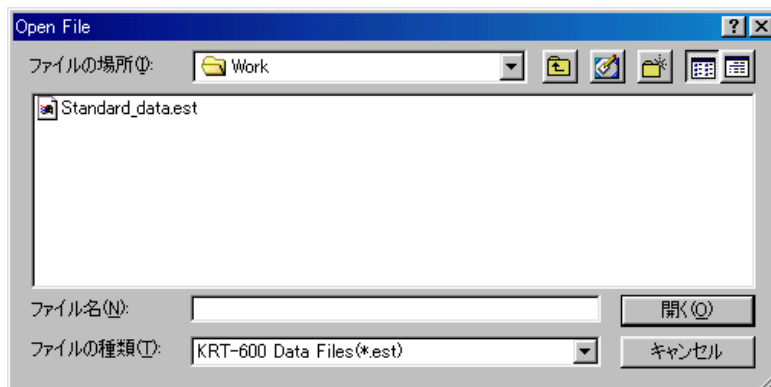


Fig. 13 Open Dialog

(3) Click the data file (EST file) to be edited in the Open dialog to display the Menu dialog shown in Fig. 14.

The file that can be loaded in this Open dialog is only the EST file.

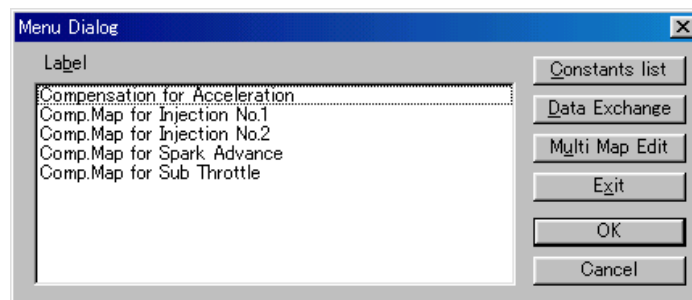


Fig. 14 Menu Dialog

(4) Click the mode to be edited in the Menu dialog.

The modes that can be used are as follows:

<Map Edit>

Click one Label in the Menu dialog and click the OK button or Enter (Return) button, or double click one Label, to display the Map Edit screen.

“Compensation for Acceleration”: Regulates the rate of fuel injection in acceleration

“Comp. Map for Injection No.1”: Regulates the rate of fuel injection in normal operation (For the #1 and #4 cylinders)

“Comp. Map for Injection No.2”: Regulates the rate of fuel injection in normal operation (For the #2 and #3 cylinders)

“Comp. Map for Spark Advance”: Regulates the ignition timing

“Comp. Map for Sub Throttle”: Regulates the sub-throttle opening

<Setting Values Edit>

Click the Constants list button to display the Setting Values Edit screen.

The setting includes the rate of fuel injection for all operating ranges, over-revolution limiter setting value, and more.

<ECU Data Exchange>

Click the Data Exchange button in the Menu dialog to display the Data Exchange screen. Click this button when you want to load the data in the ECU or write the edited data in the ECU.

<Multi Map Edit>

Click the Multi Map Edit button in the Menu dialog to display the Multi Map Edit screen.

The Multi Map Edit can be used for the “Comp. Map for Injection No.1 and No.2” and map edit for all cylinders can be carried out at the same time.

3.2 Each Map Edit Method

3.2.1 Map Edit

Select one Label in the Menu dialog and click the OK button or the Enter (Return), or double click one Label to display the Map Edit Screen shown in Fig. 15.

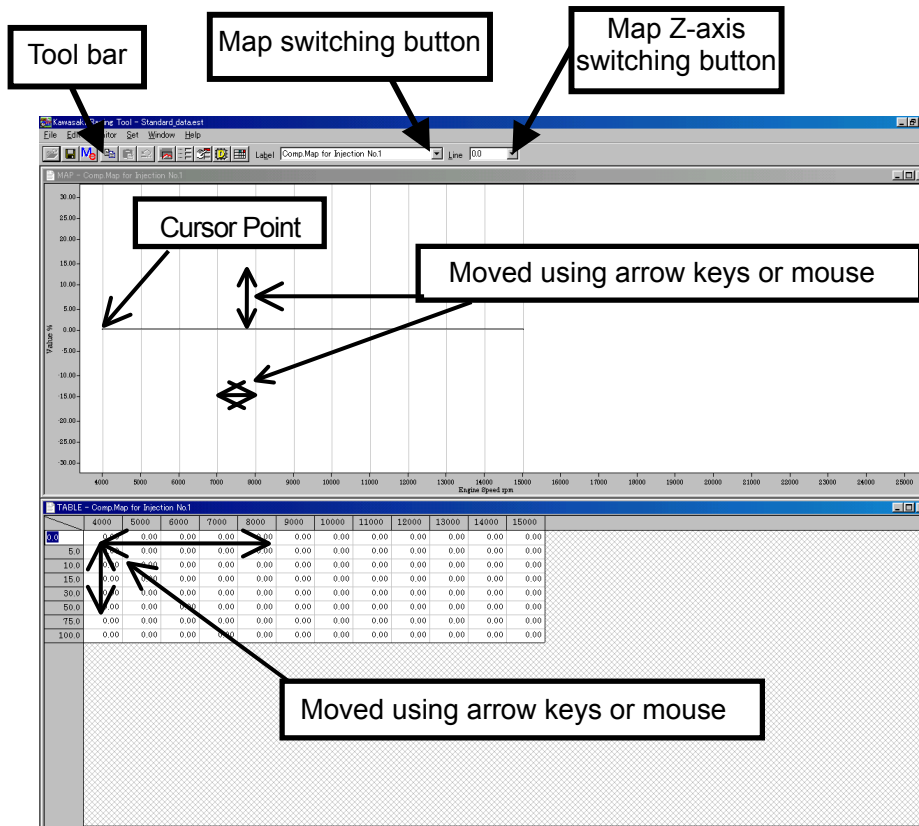


Fig. 15 Map Edit Screen sample (Comp. Map for Ignition No.1)

In the Map Edit Screen, the Map to be edited will be displayed as the two-dimensional graph (MAP) and the table (TABLE).

NOTE

- If you closed the MAP and TABLE screen, open the Menu dialog on the Menu button of the Tool bar and select the subject Map.
- If you switch the subject Map by using Map switching button, only the display switches. When editing the Map, switch the Map by selecting the editing point of the Map or Table screen of the subject Map.

Data Edit can be carried out both in the MAP and TABLE screens and the editing method for each screen is as follows:

[Editing on the MAP screen]

Click a point on the graph to select the graph and the editing point of the engine rpm that is the nearest position to the clicked point.

Drag & drop of the graph data: Press the left button down to select the editing point. After that, move the editing point up and down. Then, the data will be changed to the possible setting nearest to the release point.

(The direction of the engine rpm cannot be changed.)

Key allocation when a point on the graph is selected

→ (or {Shift} + →): Switches the selected point to the right-side rpm

← (or {Shift} + ←): Switches the selected point to the left-side rpm

↑ (or {Page Up}): Increases the graph data by an LSB at the selected point

↓ (or {Page Down}): Decreases the graph data by an LSB at the selected point

{Shift} + ↑ (or {f·2}): Switches the selected graph area (line number) to another (Active row is moved down in the TABLE)

{Shift} + ↓ (or {f·3}): Switches the selected graph area (line number) to another (Active row is moved up in the TABLE)

[Editing on the TABLE screen]

Each value on the table can be directly edited by selecting the cell with the mouse and entering value with keystrokes. The values in the data are always changed to the values within the setting range.

Key allocation when a cell in the table is selected

{Shift} + →: Switches the selected cell to the right-side rpm

{Shift} + ←: Switches the selected cell to the left-side rpm

{Shift} + ↑: Switches the selected cell to the upper-side cell

{Shift} + ↓: Switches the selected cell to the lower-side cell

{PageUp}: Increases the selected point by an LSB

{PageDown}: Decreases the selected point by an LSB

{Enter}: Defines data

The available setting value is restricted as follows.

Compensation for Acceleration: from -30 % to +30 %

Comp. Map for Injection No.1/No.2: from -30 % to +30 %

Comp. Map for Spark Advance: from -15 ° CA to +5 ° CA

Comp. Map for Sub Throttle: from -50% to +50%

If one value without the range is set on the graph or table, the Warning Message shown in Fig. 16 will appear and the available value will be set.

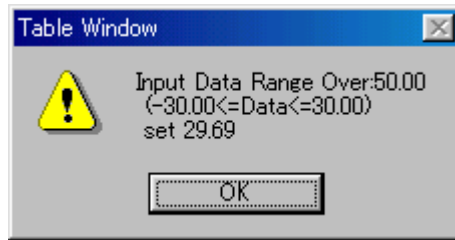


Fig. 16 Warning Message

Fig. 17 is a sample of editing the Comp. Map for Injection No.1 (#1/#4 cylinder).

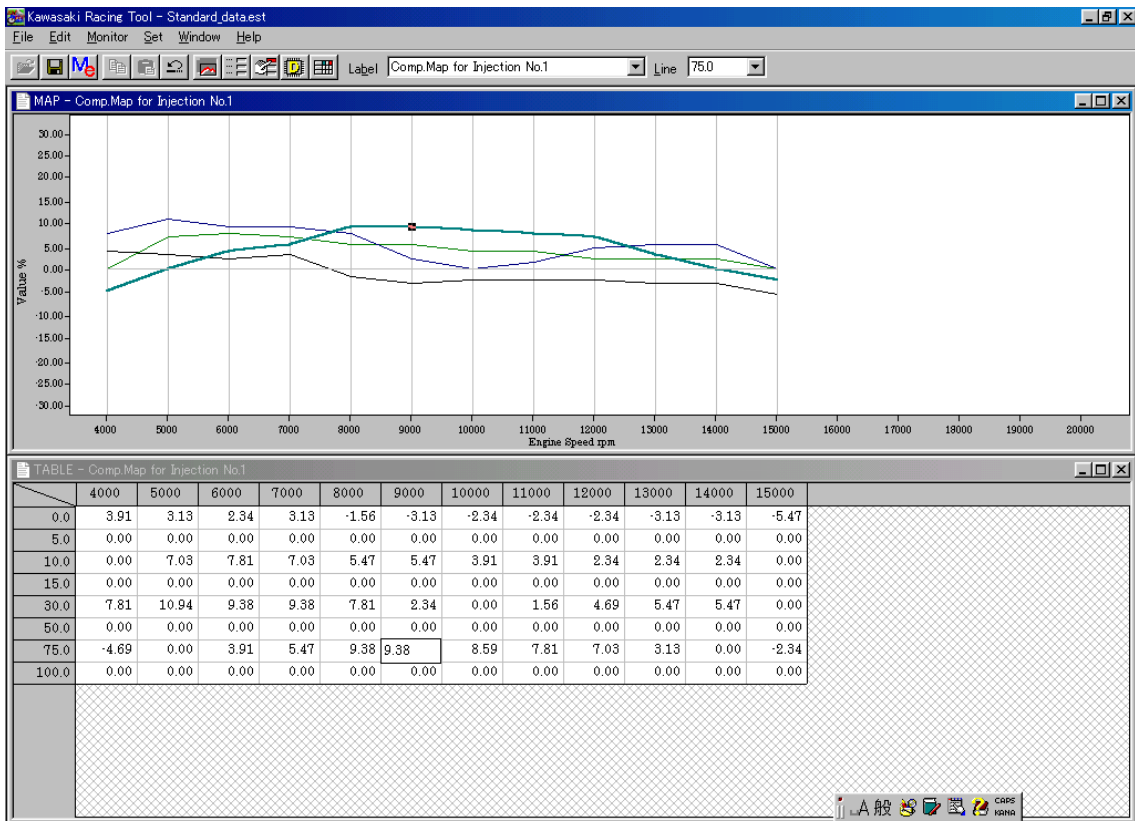


Fig. 17 Sample of editing

3.2.2 Map Axis Edit

In the TABLE screen the axis data can be edited by keying-in the data directly after selecting the cell by mouse or key operation. The data is always exchanged to available setting value.

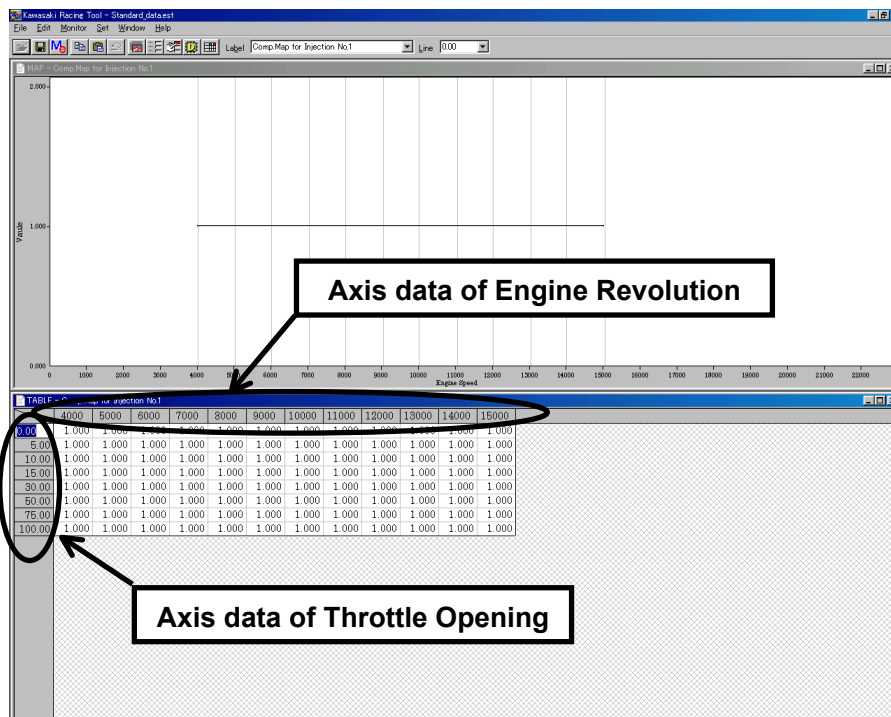


Fig. 18 Map Axis Editing

NOTE

- The revolution data must be set in a value always larger than the left neighbor value and smaller than the right neighbor. If a value out of the available range is input, the data will be rounded within the available range.
- The throttle opening data must be set in a value always larger than the upper neighbor value and smaller than the lower neighbor. If a value out of the available range is input, the data will be rounded within the available range.
- If a value out of the available range is input to both ends of the axis data, the Warning Message will appear and the available setting value will be set.

CAUTION

- The axis data is applied to the all map simultaneously. Be caution that the changed axis data is applied to other maps.
- You cannot change the axis data at the “Compensation for Acceleration” screen.

- When you move from an Axis Data cell of Throttle Opening to a cell of adjusting data by key operation, the cell of the adjusting data line before editing the Axis Data will be selected.

3.2.3 Multi Map Edit

Click the Multi Map Edit button in the Menu dialog to display the Multi Map Edit dialog shown in Fig. 19.

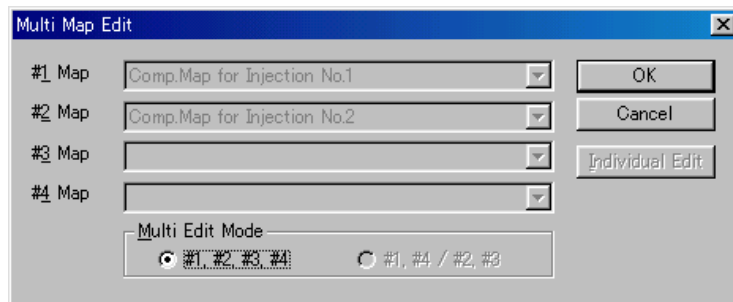


Fig. 19 Multi Map Edit Dialog

Click the OK button to display the Multi Map Edit screen. The method of Multi Map Edit is the same as written above.

Releasing Multi Map editing mode

Click the Individual Edit button in the Multi Map Edit dialog to release the Multi Map editing mode and display the Map Edit screen set for the #1 Map.

Or, click a Map menu other than the Multi Map in the Menu dialog to display the Map Edit screen for the selected Map.

WARNING

Never edit the Multi Map setting by selecting the axis data in the Table editing screen, or the axis data could be broken and the program could close.

CAUTION

- When selecting Multi Map editing mode, #2 Map data is overwritten on the #1 Map data.
- When both the Map screen and Data screen are closed in the Multi Map edit, the Multi Map edit mode is automatically released.

Object of Multi Map edit:

In this software the following is set.

#1 Map: Comp. Map for Injection No.1

#2 Map: Comp. Map for Injection No.2

In Multi Map edit mode, the #1 to #4 labels are fixed and the maps set to #1 to #4 are edited at the same time.

In this software, no label name was set for #3 and #4, so that the label names for #1 and #2 should be set at the same time.

3.2.4 Individual Value Edit

Click the Constants list button in the Menu dialog to display the Edit Constants list screen shown in Fig. 20.

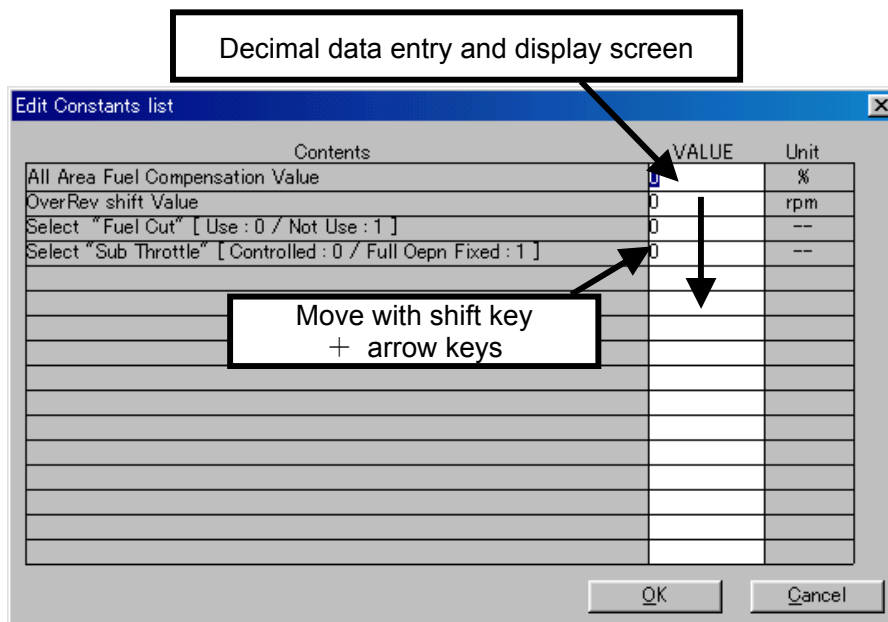


Fig. 20 Edit Constants List Screen

<Setting Items>

The editable items in the Constants List are as follows:

All Area Fuel Compensation Value: can be set in the range from -30 % to + 30 % (applied to all cylinders)

OverRev shift Value: set the off-set value from the standard OverRev Limiter, can be set in the range from -1000 rpm to +300 rpm

Select "Fuel Cut": set the Yes or No of Fuel Cut at decreasing the speed

Select "Sub Throttle": set the Yes or No of Sub Throttle control

The setting values are displayed as a list and each value in the table should be directly edited by selecting the cell with the mouse and entering values with keystrokes. The values in the data are always changed to the values within the setting range.

Key allocation when a cell in the table is selected

- {Shift} + ↑: Switches the selected cell to the upper-side cell
- {Shift} + ↓: Switches the selected cell to the lower-side cell
- {Page Up}: Increases the selected point by an LSB
- {Page Down}: Decreases the selected point by an LSB
- {Enter}: Defines data

If a value out of the range is set on the table, the Warning Message shown in Fig. 21 will appear and the nearest available value will be set.

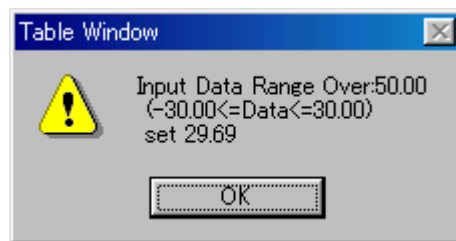


Fig. 21 Warning Message

NOTE

- *The total Fuel Compensation Value is limited within -30% to +30% range of the original setting for fuel injection quantity. If the total of [All Area Fuel Compensation Value] plus [Compensation for Acceleration] or [Comp. Map for Injection No.1(No.2)] exceeds the limit, the total Fuel Compensation Value is set -30% or +30%.*
- *When the Fuel Compensation Value is 0%, the fuel injection quantity is controlled by the Basic Base Map. And the Basic Base Map is calculated by water temperature, air temperature, intake air pressure, throttle position, altitude pressure, and etc.*
- *When changing the Map, change the values gradually by checking the engine condition or measuring the Air/Fuel ratio.*
- *The intermediate values of the Map are calculated linearly.*
- *Always Select "Fuel Cut"=1 when your motorcycle is equipped with catalyzer.*

3.3 Changing ECU data

There are two data exchange methods.

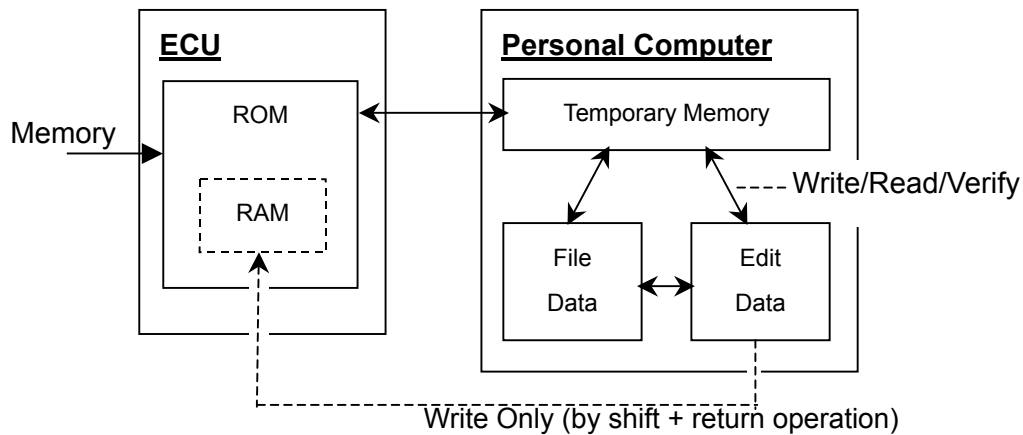
(1) ROM data exchange:

All data can be exchanged collectively and it takes about one and a half minutes. Even if the Ignition switch turns off the data are is cancelled. But the data cannot be exchanged when the engine is running.

(2) RAM data exchange:

The data can be exchanged instantly but the operation is necessary one by one. The data can be exchanged when the engine is running, but the data is cancelled when the Ignition switch turns off.

The Data Flow between ECU and PC



Click the Data Exchange button in the Menu dialog to display the Data Exchange screen shown in Fig. 22.

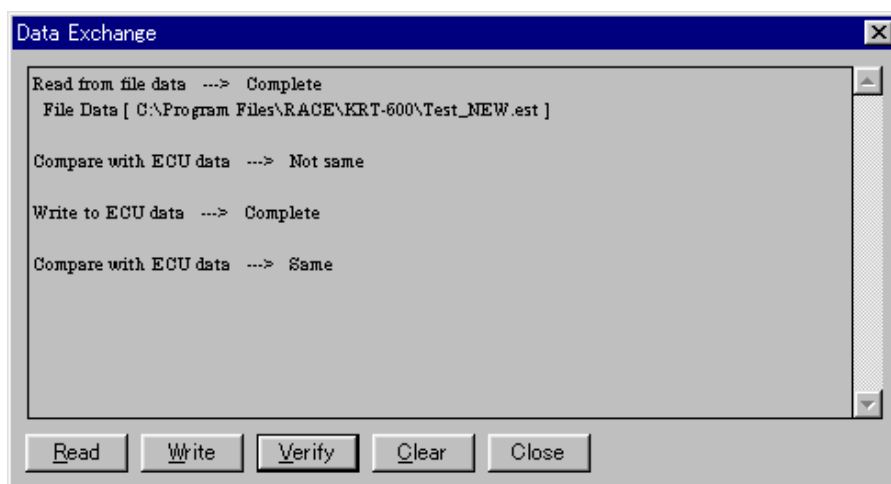


Fig. 22 Data Exchange Screen

In the Data Exchange Screen, you can read, write and verify the data among the ECU data edit data and file data.

The use and operation for each button is as follows:

[Read]

Click this button to read the data into the PC operating memory. (Essential operation)

You can read data from the following three data sources:

Read from

- ECU Data: read the ECU data (when Monitor is in the Start condition, the display is grayed out.)
- Edit Data: read the editing data
- File Data: read the (*.EST) data

[Write]

Click this button to write the read data of the PC operating memory into the ECU or Edit memory in PC.

Write Data

- ECU: write the data into ECU (when Monitor is in the Start condition, the display is grayed out.)
- Edit: write the data into the editing area as editing data

NOTE

- *After writing the data into the ECU, confirm the data to be written in is the same to the data in the ECU by using the "Verify" function. The data may be written into the ECU incorrectly according to the communication conditions.*
- *The usable number of writing into the ECU is 65,500 times. If it exceeds the limited number, error message of NOT Writing will appear. At that time replace with new one.*
- *Be caution, if you select "Edit", the present editing data can be lost.*
- *Write the data into ECU after confirming that the Ignition is turned on and the fuel pump and sub throttle valve are stopping.*
- *After writing the data into the ECU, wait until the fuel pump and the sub throttle valve stops. Then execute next operation or turn off the ignition switch.*

[Verify]

Click this button to select the data to be compared with the read data.

Compare with

- ECU Data: (when Monitor is in the Start condition, the display is grayed out.)
- Edit Data
- File Data (*.EST)

When the read data is same as the selected data, "Same" appears on the status indication area, and when they are different, "Not same" appears.

NOTE

- *Verify the data with the ECU data after confirming that the Ignition is turned on and the fuel pump and sub throttle valve are stopping.*
- *After verifying the data, wait until the fuel pump and the sub throttle valve stops. Then execute next operation or turn off the ignition switch.*

[Clear]

Click this button to clear the data exchange area on the PC.

[Close]

Click this button to finish the data change (clear the operating memory) and close the Data Exchange screen.

3.4 Other Functions

3.4.1 Monitoring Function

In this mode, the data inside the ECU can be displayed during engine operation. Go to the pull down Monitor menu and select Monitor or click Monitor icon on the toolbar. The Monitor dialog shown in Fig. 19 appears. (This window can be resident)

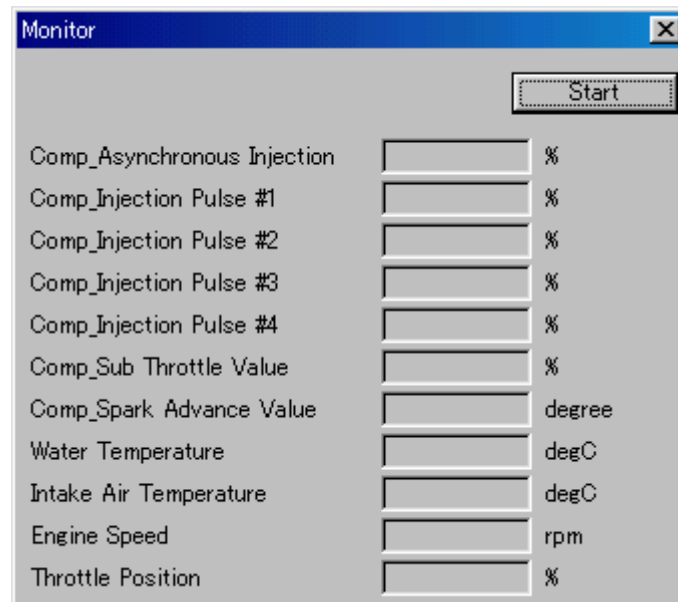


Fig. 23: Monitor Dialog

Click "Start" key to start exchange. When exchange starts, the key name will change to "Stop".

When the "Stop" key is pressed during exchange process, the key name will change to "Start".

Pressing "Enter" key can change the screen from Monitor dialog screen to Main Window.

To set the data inside the ECU, which can be monitored from the Monitor dialog, go to the pull down Monitor menu and select Item set, or click Set Item icon on the toolbar. After the dialog shown in Fig. 24 appears, select the item that you want to set.

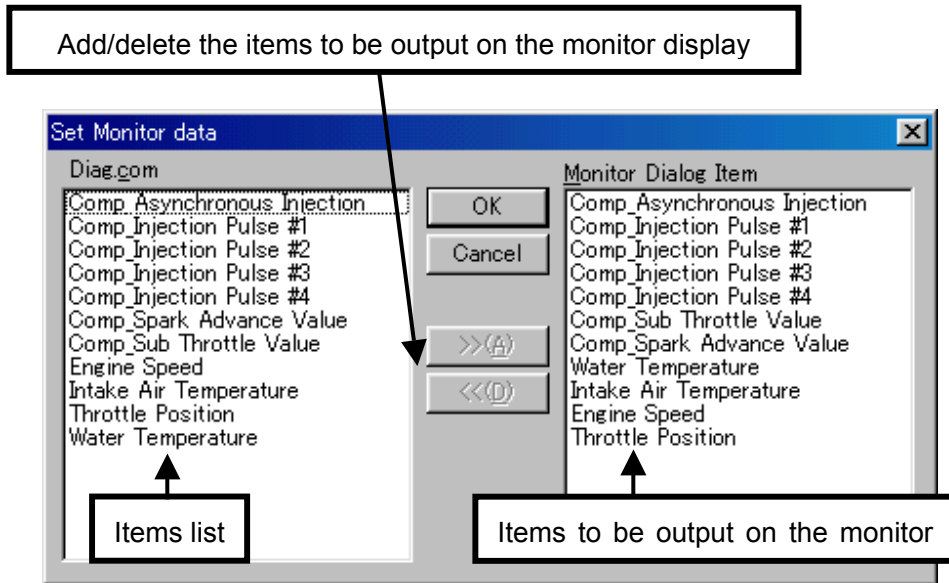


Fig. 24: Item Setting Dialog

Setting Monitor dialog items

>>[A]: Add items selected from the list to the Monitor Dialog Item area

<<[D]: Delete items from the Monitor Dialog Item area

Details of monitoring items are as follows:

Comp_Asynchronous Injection:

ECU calculating result in the running condition at monitoring based on the setting value of Compensation for Acceleration

Comp_Injection Pulse #1 and Comp_Injection Pulse #4:

ECU calculating result in the running condition at monitoring based on the setting value of Comp. Map for Injection No.1 (#1/#4: No.1/No.4 Cylinder)

Comp_Injection Pulse #2 and Comp_Injection Pulse #3:

ECU calculating result in the running condition at monitoring based on the setting value of Comp. Map for Injection No.2 (#2/#3: No.2/No.3 Cylinder)

Comp_Spark Advance Value:

ECU calculating result in the running condition at monitoring based on the setting value of Comp. Map for Spark Advance

Comp_Sub Throttle Value:

ECU calculating result in the running condition at monitoring based on the setting value of Comp. Map for Sub Throttle

Engine Speed: Engine Speed at monitoring

Intake Air Temperature: Intake Air Temperature at monitoring

Throttle Position: Throttle Opening at monitoring

Water Temperature: Water Temperature at monitoring

3.4.2 Data Edit during Engine Operation

You can reflect the Map and edit contents for each setting in the ECU during engine operation.

Data editing method is shown above

[Exchanging edit data during engine operation]

After data editing, press the {Shift} + {Return} keys to reflect the edit data in ECU.

NOTE

- *Data can be communicated to the ECU per point (cell).*
- *The reflected data is effective only during engine operation. (It cannot be saved in the ECU.) Be sure to save the edit data.*
- *Map Axis data cannot be edited. When editing Map Axis data, use the Data Exchange function.*

3.4.3 Title Editor (Memo)

You can record the title (memo) for each edit data.

Go to the pull-down Select Set menu to select Title. The Title Editor dialog appears.

You can set the mode with the mouse and directly edit the data with keystroke.

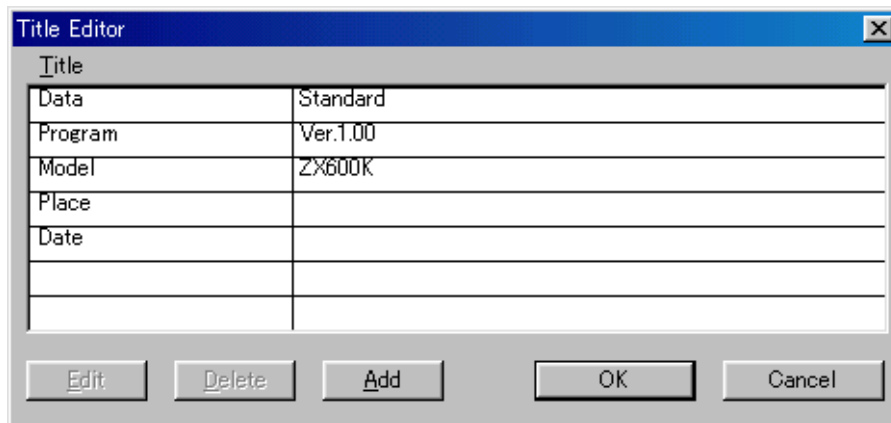


Fig. 25 Title Editor Dialog

3.4.4 Default Directory Setting Function

In this mode, you can set the default folder when File Open is carried out.

Go to the pull down Select Set menu to select Directory. The Directory dialog shown in Fig. 26 appears.

Directly enter the folder name by keystroke or use the Browsing function in the folder search dialog to select the folder from the existing folders.

Use the full path name to write in the File Path.

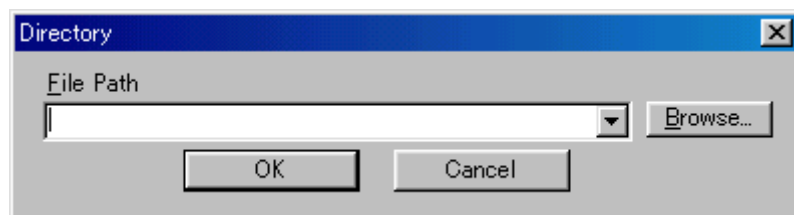


Fig. 26 Directory Dialog

4. Menu List

4.1 Pull down Menu

4.1.1 File

Open	Ctrl+O	Loads data file
Close		Closes the loaded file
Save...		Names the file and saves it
Menu...	F1	Displays the Menu dialog
Exit	Alt+F4	Finishes Est_R.

4.1.2 Edit(E)

Undo	Ctrl+Z	Cancels the data edit.
Copy	Ctrl+C	Temporarily saves the data in a cell into the clipboard. (You can save the only one cell.)
Paste	Ctrl+V	Paste the data in the clipboard.
Multi Map Edit...		Displays the Multi Map Edit setting dialog.
Individual Edit		Finishes the Multi Map Edit.

4.1.3 Monitor

Monitor...		Displays the Monitor dialog.
Start		Starts the Monitor Exchange.
Stop		Finishes the Monitor Exchange.
Item set...		Displays the Monitor Item Setting Dialog

4.1.4 Set

RS232C...		Displays the RS232C setting dialog
Title...		Displays the Title setting dialog
Constants list...		Displays the Constants list setting dialog
Data Exchange...		Displays the Data Exchange setting dialog
Directory...		Displays the Directory setting dialog

4.1.5 Window

Open	Opens Map or Table window
Cascade	Cascades two or more windows.
Tile	Tiles two or more windows
All	Switches the graph mode on the Map screen between All and Single.
Monitor Dialog	Moves the cursor to the Monitor dialog.
MAP_*****	Displays the active windows list
TABLE_*****	

4.1.6 Help

Tool box...	Displays the tool box dialog
About KRT-600...	Displays the Version dialog

4.2 Toolbar (Icon)

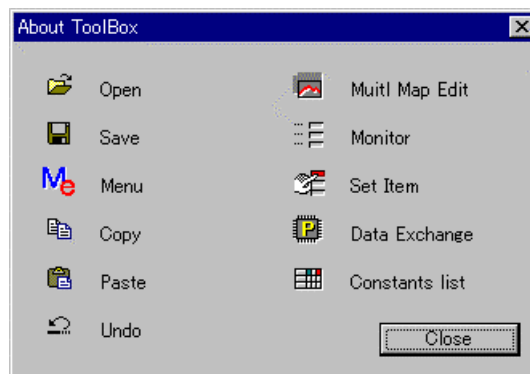


Fig. 27 Tool Box Dialog

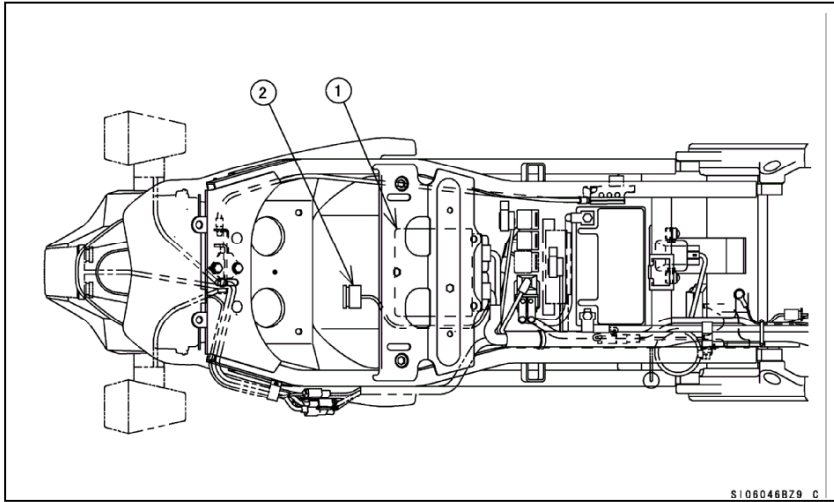
Explanation from the left side

- Open the file (File - Open)
 - Save the file (File - Save)
 - Open the Menu dialog (File - Menu)
 - Copy (Edit - Copy)
 - Paste (Edit - Paste)
 - Undo (Edit - Undo)
 - Open the multi edit dialog (Edit - Multi Map Edit)
 - Open the Monitor dialog (Monitor - Monitor)
 - Open the Set Monitor Data dialog (Monitor - Item set)
 - Open the Data Exchange dialog (Set - Data Exchange)
 - Open the Constants list dialog (Set - Constants list)
- * Pull down menu operation is described in the parentheses. Click the items in the order of the above.

5. Appendix

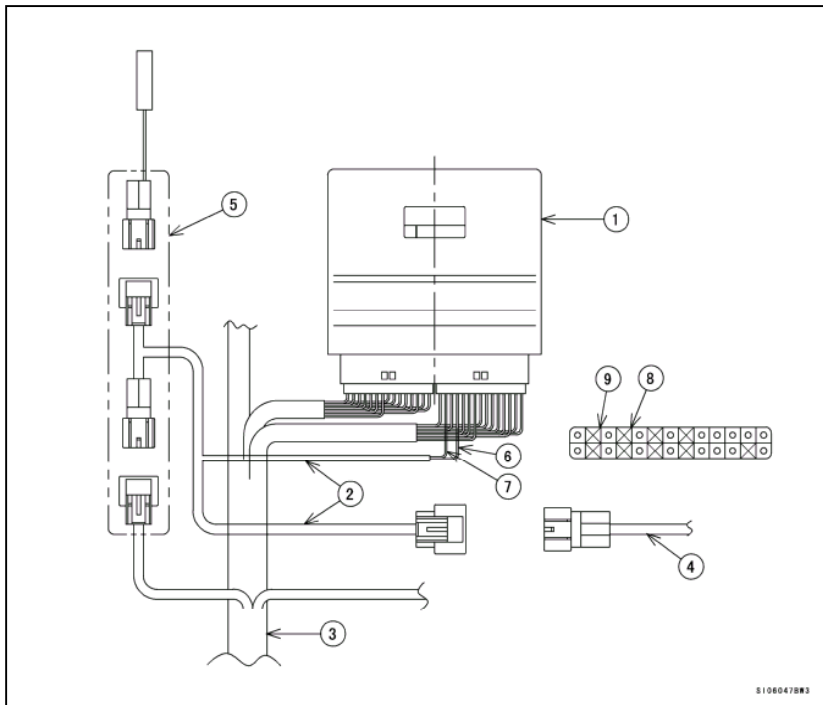
5.1 Connecting Method

5.1.1 EU Spec. (When Special Harness is installed)



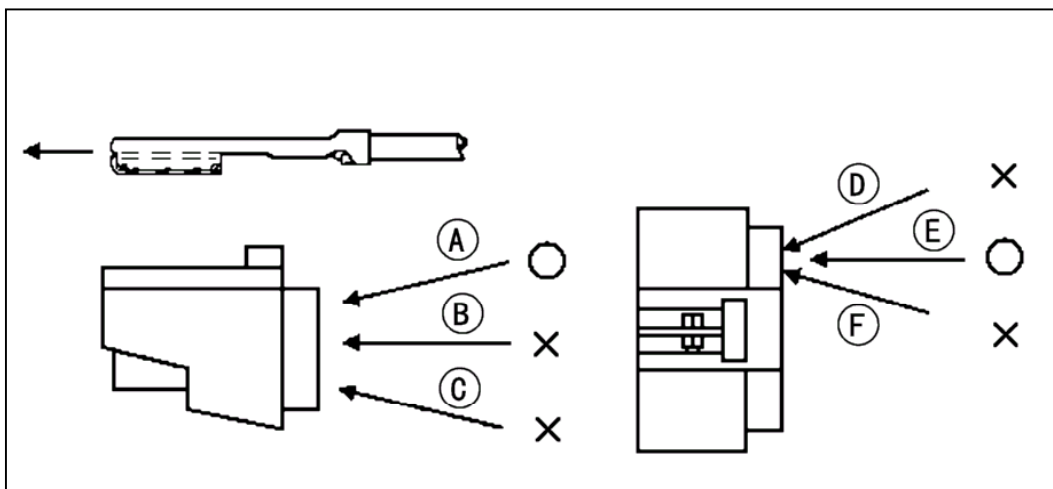
1. ECU
2. Connecting Port of ECU, Connect the connector of I/F Box

5.1.2 US/JP Spec. (When standard harness and sub harness are used)



- | | |
|---|------------------------------------|
| 1. ECU | 6. White/Green Lead of Sub Harness |
| 2. Sub Harness (Special) | 7. Red Lead of Sub Harness |
| 3. Main Harness (Standard) | 8. Insert the White/Green Lead |
| 4. Harness of I/F Box | 9. Insert the Red Lead |
| 5. Insert the Sub Harness to the Diag. Line of Main Harness | |

When inserting the terminals, follow the method [A] and [E] shown below or the edge of the terminal could injure the rubber seal.



5.2 Caution Items

5.2.1 Caution when using the I/F Box

1. When connecting/detaching the I/F Box to/from the connector of the motorcycle, keep the ignition switch turned off.
2. Do not use the I/F Box except setting usage of the motorcycle ECU..
3. Never connect the I/F Box with connectors other than the specified connectors.
4. Never run the motorcycle with I/F Box and the PC connected to the ECU.
5. Install the connector for the terminal protection in the motorcycle connector, except when you connect the setting tool.
6. Never use the I/F Box near the place where a strong magnetic field, such as near the televisions and the radios, is generated and static electricity is generated.
7. Do not touch the terminal of the I/F Box connector directly, and do not keep the I/F Box in the place where static electricity is generated.

5.2.2 System Requirements of I/F Box

1. Rated Voltage: 12 V
2. Operation Voltage: 8 ~ 16 V
3. Ambient Temperature: 5 ~ 35 °C

5.2.3 Caution when communicating between Setting Tool and ECU

1. Confirmation of serial communications port
Confirm the serial communication port of PC before using the setting tool.
It is necessary to match the communication port of the setting tool with the PC side.
2. Confirmation method of the communication port
Open the Property of the System and check the serial port in the device manager.
Correct serial port is COM1.
When “?” mark or “x” mark is displayed on the COM1, the communication between ECU and PC cannot be done.
Cancel the “?” mark or “x” mark by referring the PC Instruction Manual or Help function of the Windows.
3. Setting Method of the Setting Tool
Select the “RS232C” in the toolbar “Set” of the Setting Tool.
When the Dialog is opened select the Port on the PC side and click the OK button.
(If the communication port is COM1, select the Port1.)

5.3 Trouble Shooting

Refer the below table when you have trouble.

NO.	Trouble	Cause	Countermeasure
1	Program cannot be installed.	Operating method not understood	Read manual carefully and understand it.
2	Program does not work.	PC does not match with required specifications.	Select suitable PC. Available OS is Windows95/98SE(JP/US)
3	PC cannot communicate with ECU.	Incorrect connection of communication cable.	Confirm connection. (Refer to connecting method.)
		Incorrect setting of serial port.	Confirm setting of serial port. COM1 is correct. (Refer to 5.2.3)
		ECU is not powered ON.	Confirm ignition switch is turned ON.
4	Cannot write data to ECU or read data from ECU. (DataExchange function does not work.)	The Engine is running.	Perform DataExchange when engine is not running but ignition switch is ON.



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