



WORKSHOP MANUAL

TR280_i

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MOTOR

Cubic capacity	272,2 cc
Type	Single cylinder, two-stroke, inverted engine with reed block air intake.
Cooling system	Liquid
Bore x stroke	76x60 mm
Fuel injection	EFI Kokusan Battery-less System
Ignition	Volante magnético digital CDI Kokusan
Clutch	Hydraulic

TRANSMISSION

Gearbox	6 speeds
Transmission	transmission by gears, final transmission by chain
Lubrication mixture	100% synthetic oil lubrication 0.9%
Transmission and clutch oil	350 cc. of Gear Extreme type 75 W oil.

CHASIS

Type	Cr-Mo / Forged aluminium with patented Fuel Tank by OSSA
Front suspension	Marzocchi Hydraulic Fork with 40 mm al. stanctions. Adjustable rebound and compression.
Shock absorber	Progressive hydraulic monoshock TTX OHLins with adjustable rebound and compression
Front brake	ø 185 mm disc and 4 piston caliper
Rear brake	ø 150 mm disc with 2 piston caliper
Front Wheel	28 spoke rims and 2,75x21 tires
Rear wheel	28 spoke rims and 4,00x18 tubeless tire
Engine protector	Made of AA7075 T6
Kickstart pedal	Forged aluminium
Gearshift and brake pedals	Forged aluminium with retractable tips.

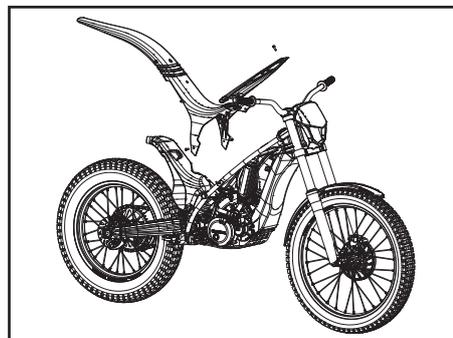
WEIGHT AND DIMENSIONS

Wheelbase	1.328 mm
Seat heigth	655 mm
Ground clearance (unloaded)	340 mm
Fuel tank capacity	2,6 litros
Weight (no fuel)	64 Kg

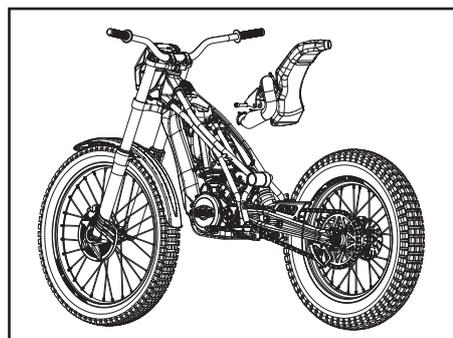
OSSA Factory S.L. reserves the right to modify this manual without notice. Kokusan, Marzocchi, OHLins are registered brands and the use of their name is under license.

All operations on the engine of TR280i can be done without taking it apart from the chassis, except when it is needed to work on the fuel pumps situated at the bottom of the fuel tank. For this case or to work more comfortably on other operations, this is the procedure to disassemble the engine from the chassis.

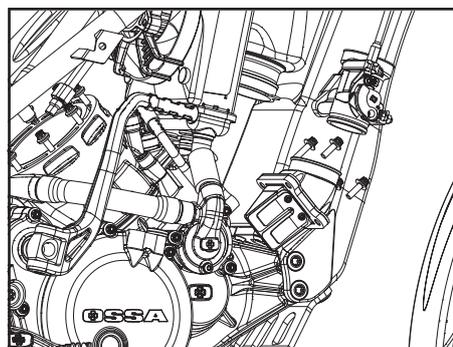
1. Take off the plastic filter cover and seat base.



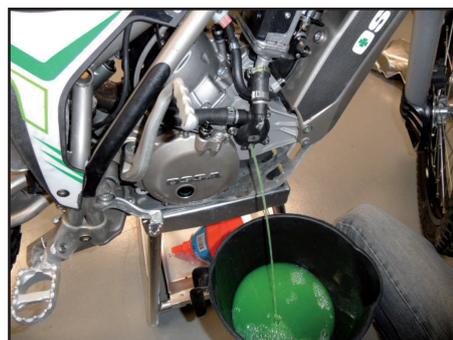
2. Take off the exhaust.



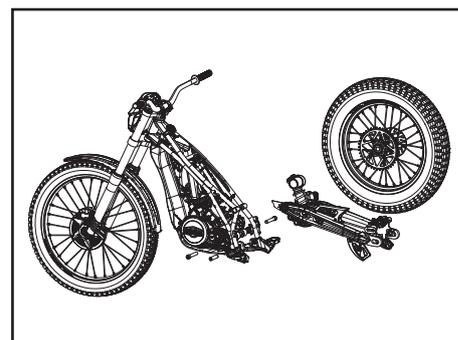
3. Take off the reed block and the throttle body assembly.



4. Empty the cooling circuit and take off the radiator.



5. Take off the rear wheel, the swing arm, the shock absorber and the brake pump from the chassis.



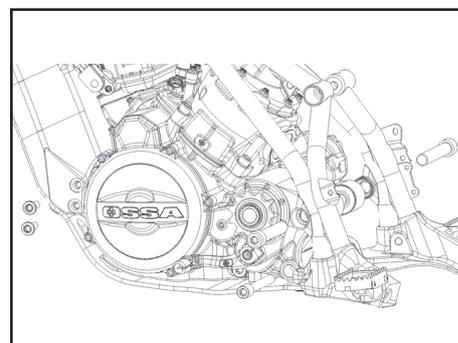
7. Empty the clutch oil and remove the hose from the engine.



8. Disconnect the cables from the injector.



9. Remove the bolts that hold the engine to the chassis, to proceed with its disassembly.

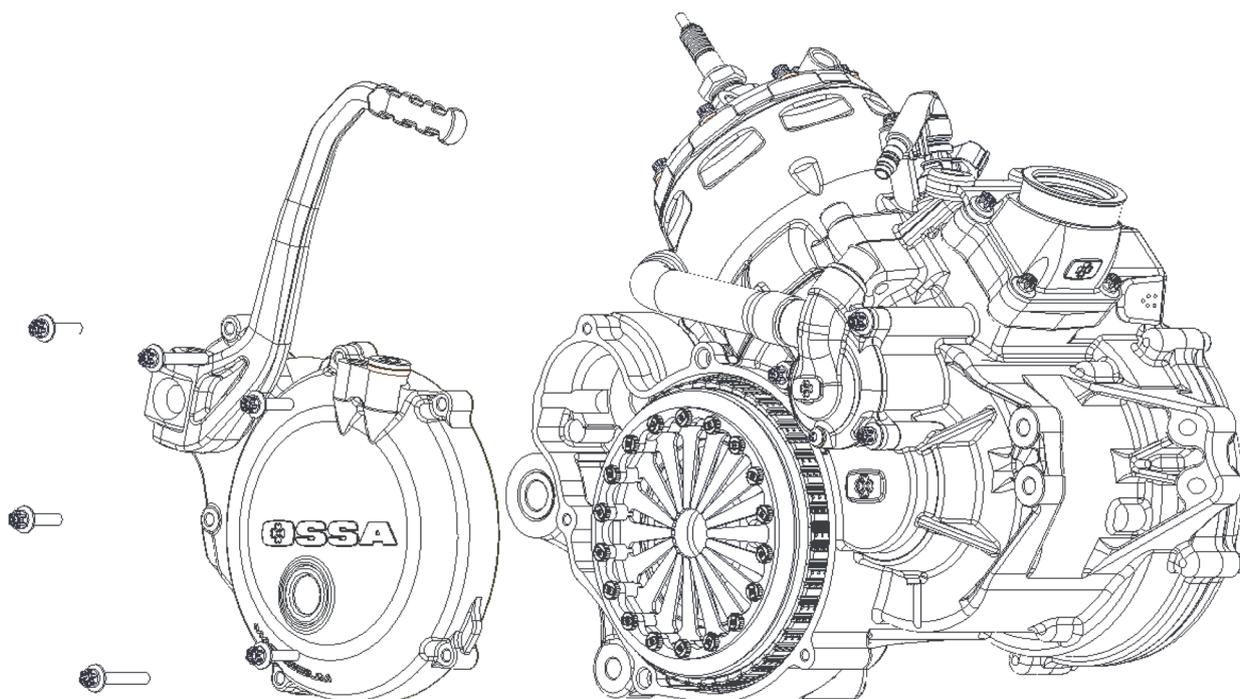


1- STARTING SYSTEM

Before taking apart the starting system, you must make sure the engine has no oil in the crankcase leaning the bike to both sides. Also the clutch oil, removing the hose from the clutch cover.

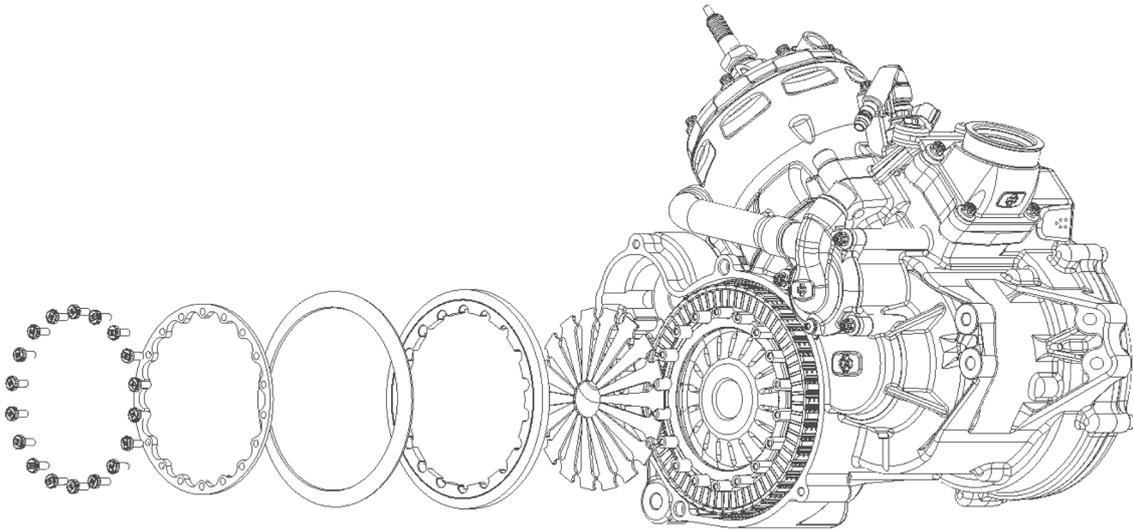
Unscrew the 6 bolts that hold the clutch cover on the crankcase and take of the cover together with the ignition system, kickstart pedal, shaft and gear.

Be careful to avoid damaging the gasket when removing the cover.



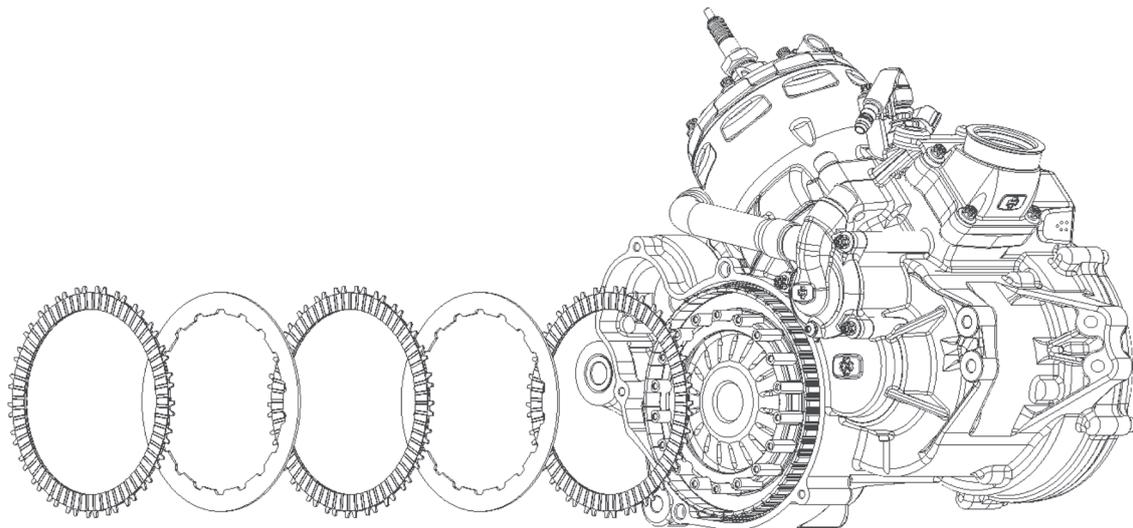
2- CLUTCH

Once the clutch cover is out, you can see the clutch system. Follow these steps to take it apart.



Take out the 18 bolts which hold the clutch spring support plate.

Take off the spring, the pressure plate and the 18 clutch release arms to access the clutch discs.

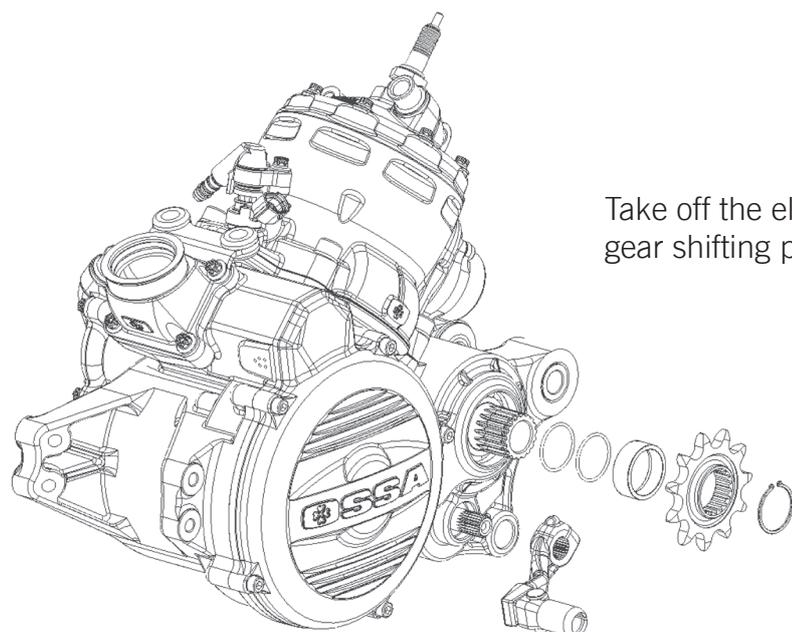


Remove the clutch discs.

3- GEAR SHIFTING ASSEMBLY

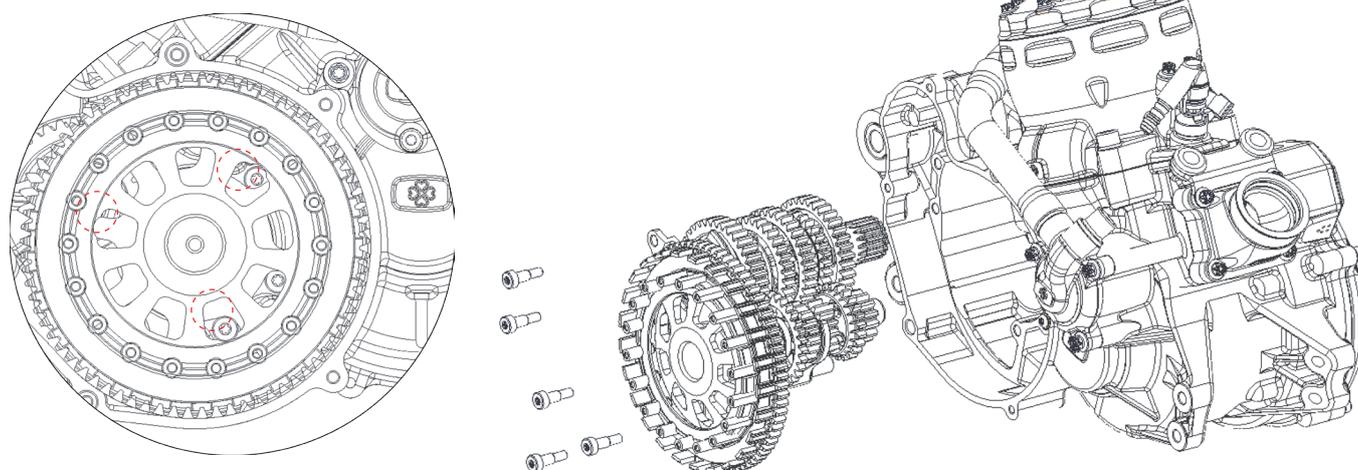
Once you have taken out the clutch discs, the clip that holds the countershaft sprocket, the sprocket, the bushing with its two O-rings and the gear shifting pedal, we can separate the gear assembly from the engine.

The gear system comes out together with the shift shaft, and the gear selector assembly. To take it out of the crankcase, it is necessary to remove the 5 centering screws; and with some gear engaged, proceed to take it out, as shown.



Take off the elastic ring 'circlip', the sprocket and the gear shifting pedal.

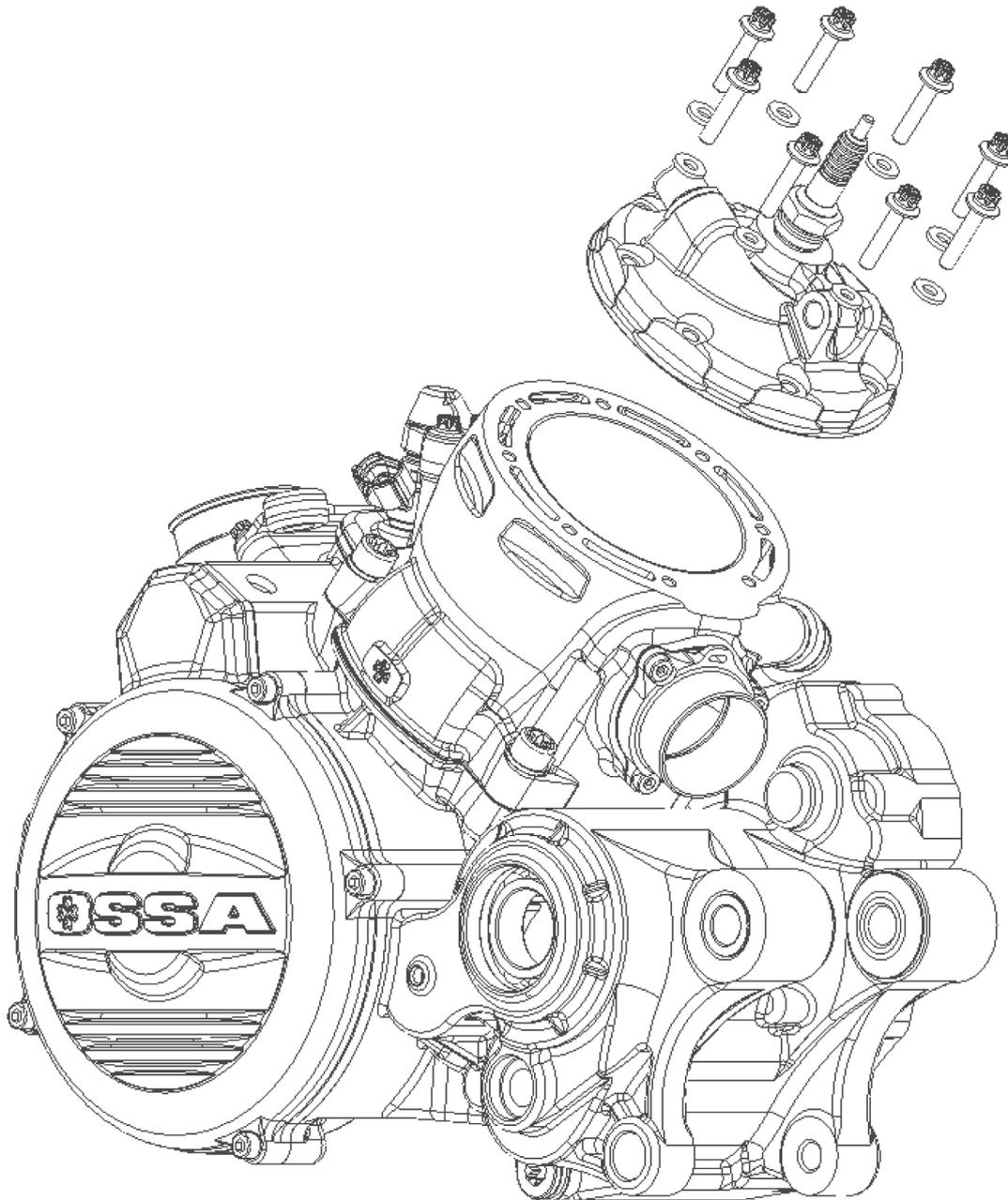
Remove the 5 bolts that fix the gear assembly to the crankcase. To be able to take out the 3 bolts situated behind the clutch crown, the crown must be turned until the rounded spaces for the key coincide with the bolt heads.



After removing them, the gear assembly can be taken out of the crankcase.

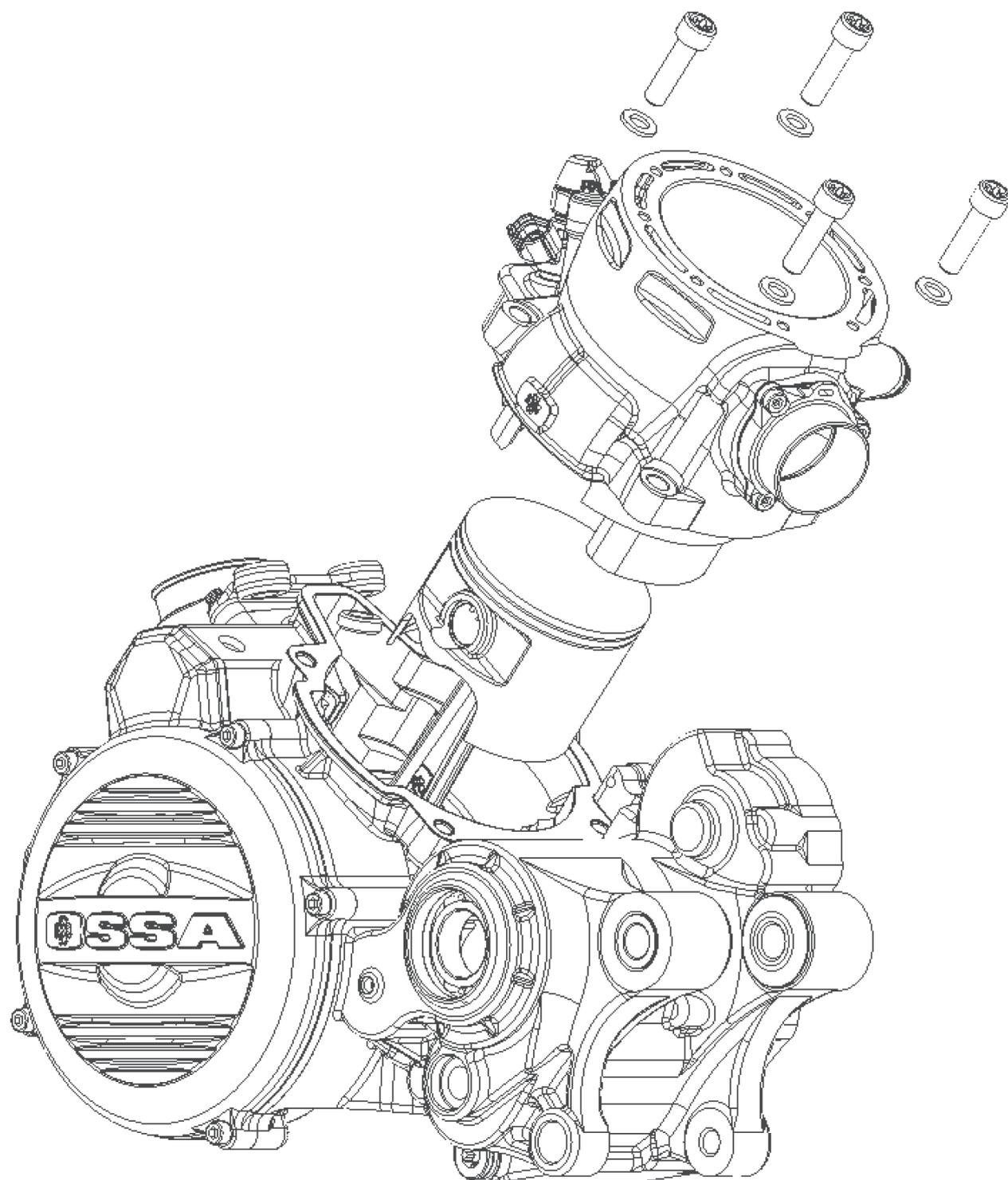
4- CYLINDER HEAD

It is recommendable to take out the cooling system hoses which are connected to the cylinder head with zip-ties, and the temperature sensor. After this, the cylinder head can be disassembled by unscrewing the 8 bolts which hold it together with the cylinder.



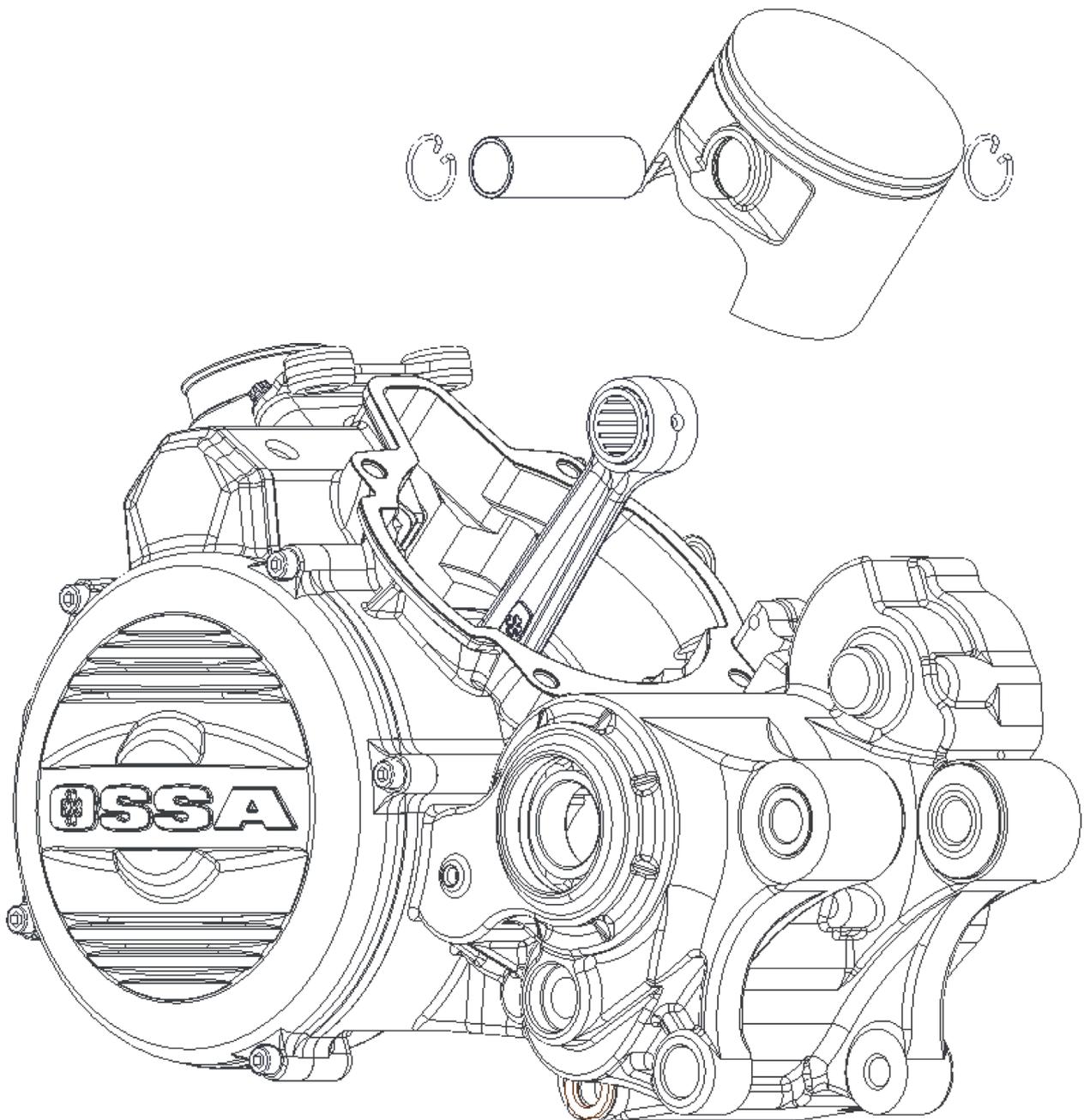
5- CYLINDER

Before taking the cylinder apart from the engine, it is recommendable to remove the hoses from the cooling system. To proceed, the 4 bolts that fix the cylinder to the crankcase must be taken out.



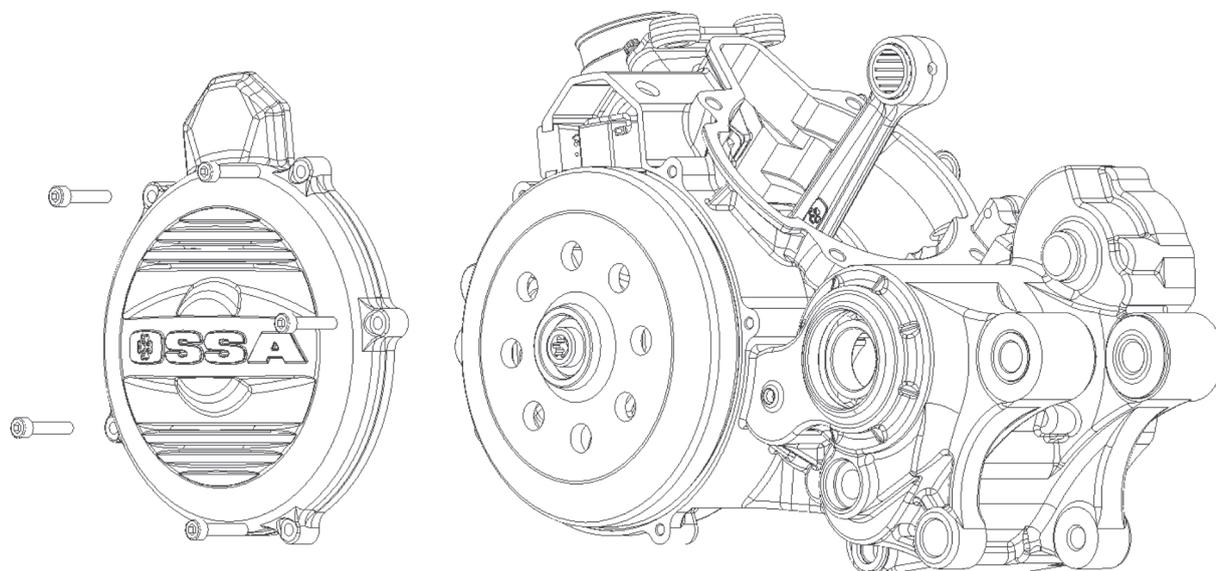
6- PISTON AND RINGS

Once the cylinder is out, the next step is to take out the cylinder and the rings, removing the locking snap rings and the piston pin, we can take the piston apart from the rod, and then remove the rings if desired.

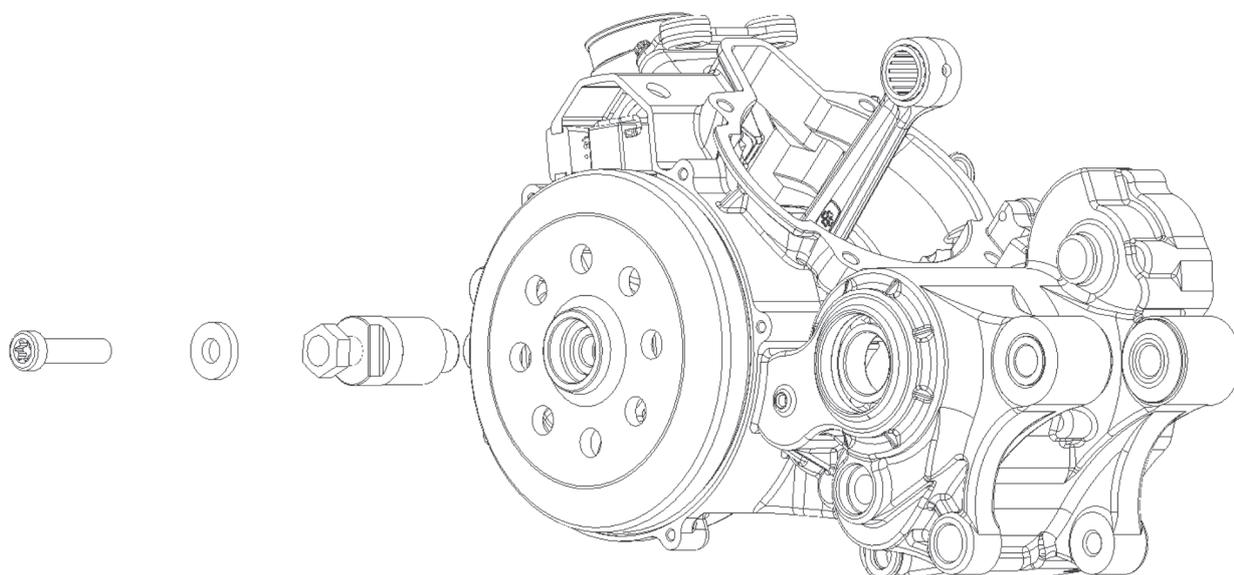


7- IGNITION SIDE

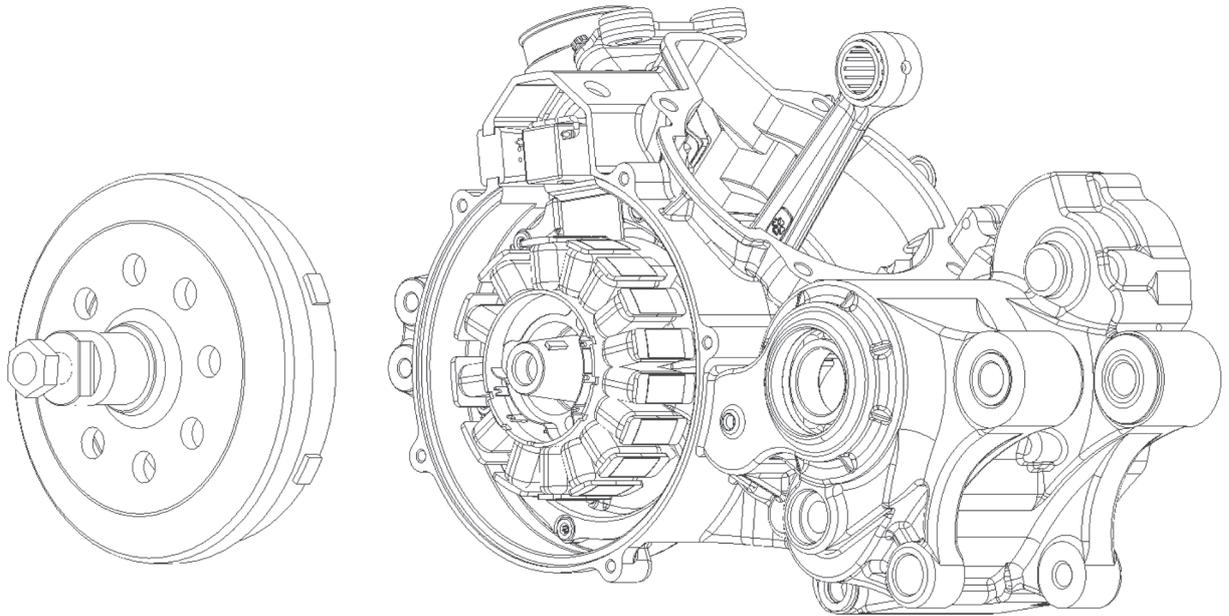
If we remove the ignition cover we can access the rotor. Once the rotor is out we can get to the stator.



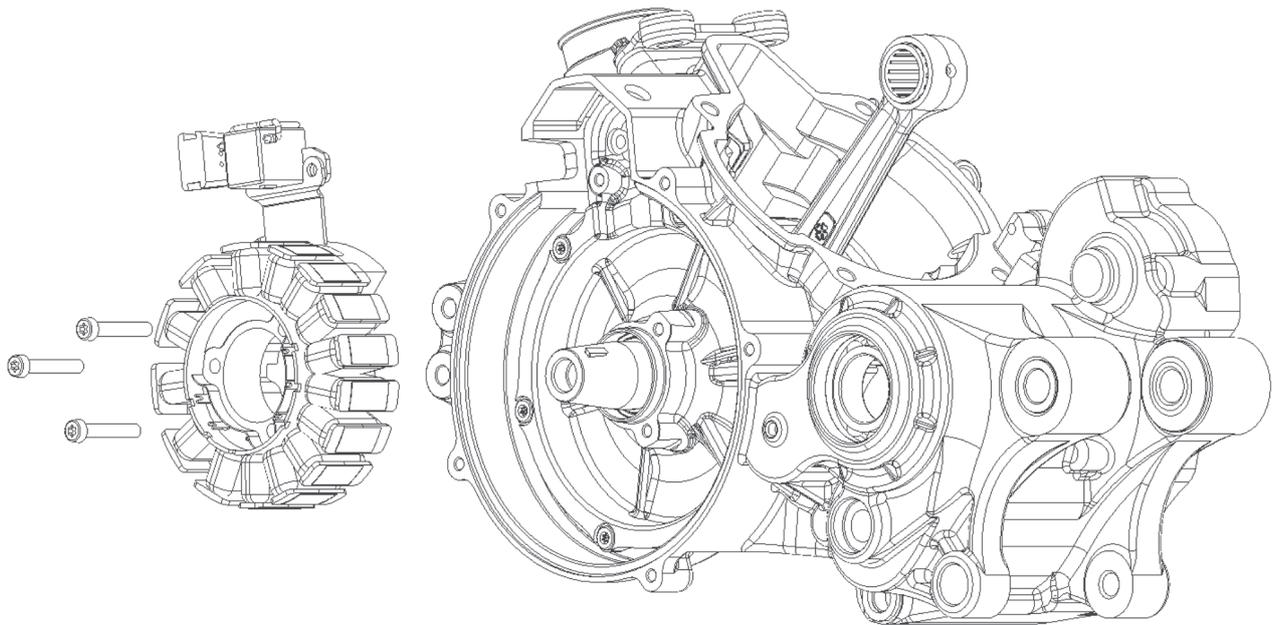
Remove the 5 bolts from the ignition cover.



Using the special tool (included in the tool kit Ossa ref. 1499960211) we can take out the rotor.

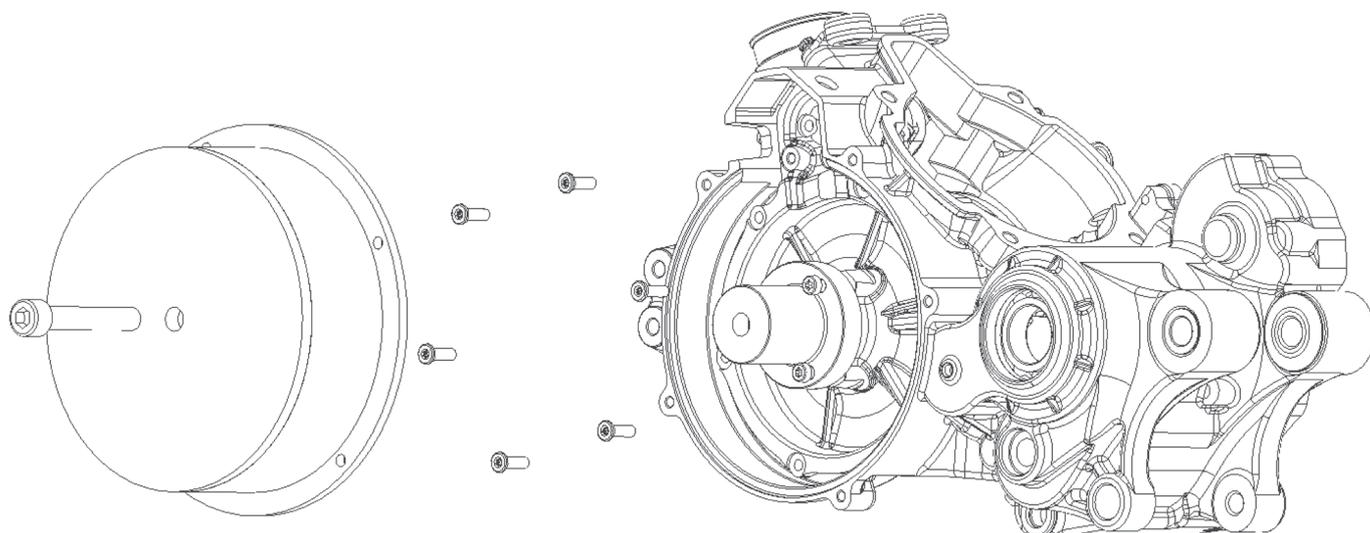


We can proceed to remove the stator, taking out the bolts that hold it together with the inner crankshaft cover, together with the pick-up.

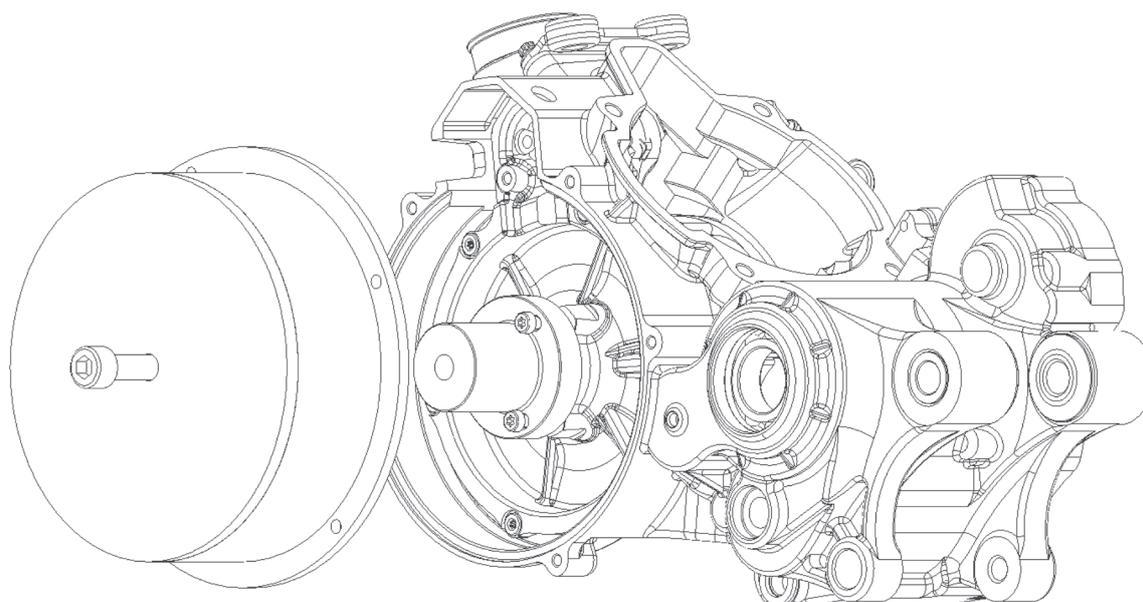


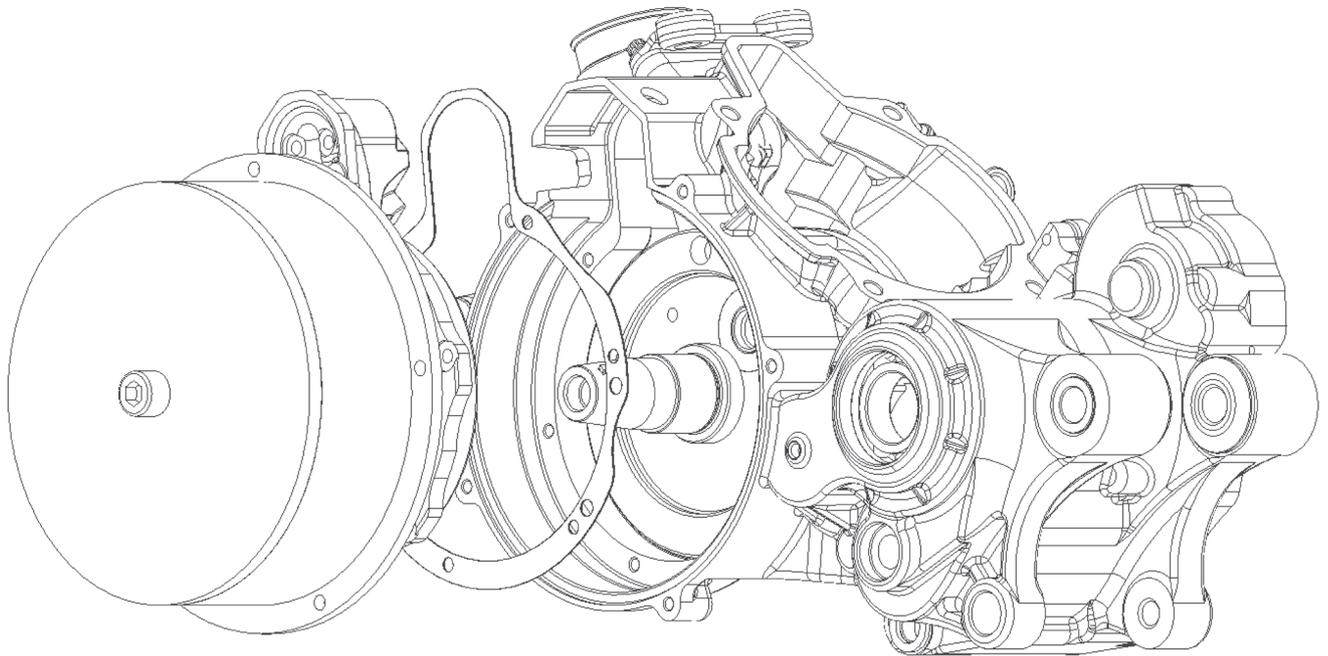
8- INNER CRANKSHAFT COVER

Once the stator and rotor are out, the inner crankshaft cover can be removed. It is held together with the crankshaft by 6 bolts. It is necessary to use the extractor kit which is part of the Ossa workshop toolkit (ref. 1499960211). After this step, the crankshaft can be accessed.

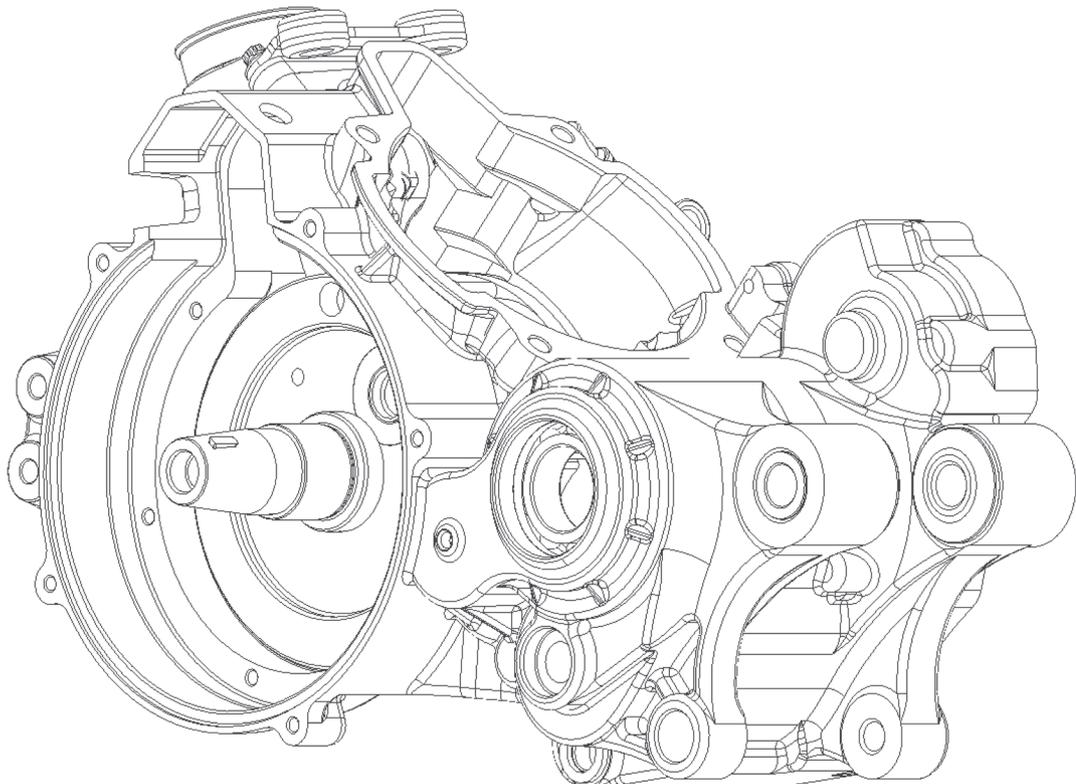


After unscrewing the 6 bolts we attach the extractor tool at the centre of the inner crankshaft cover and we pull it out using the extractor that fits in the crankcase, while we screw the bolt in the middle.



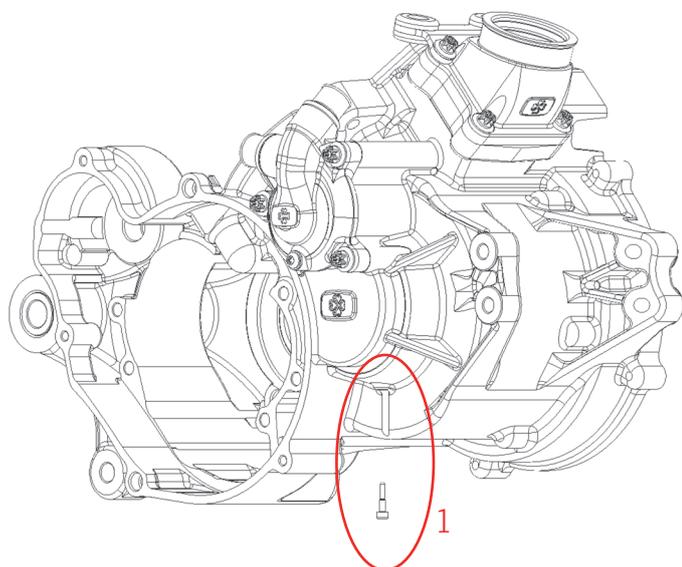


Using the tool we take out the inner crankshaft cover. Be careful to avoid damaging the gasket.

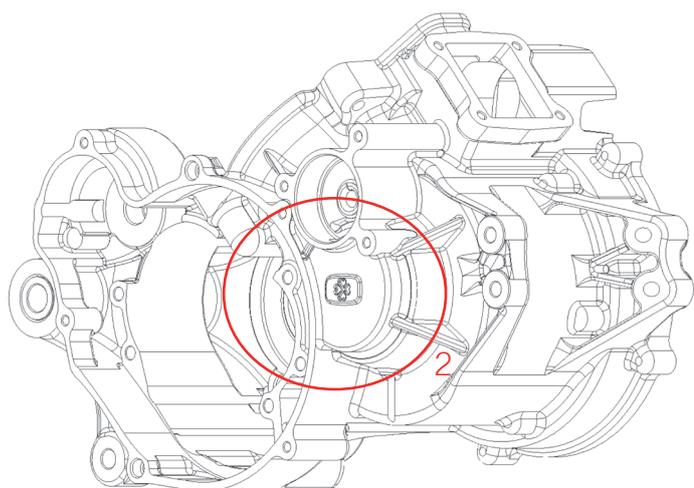


9- CRANKSHAFT

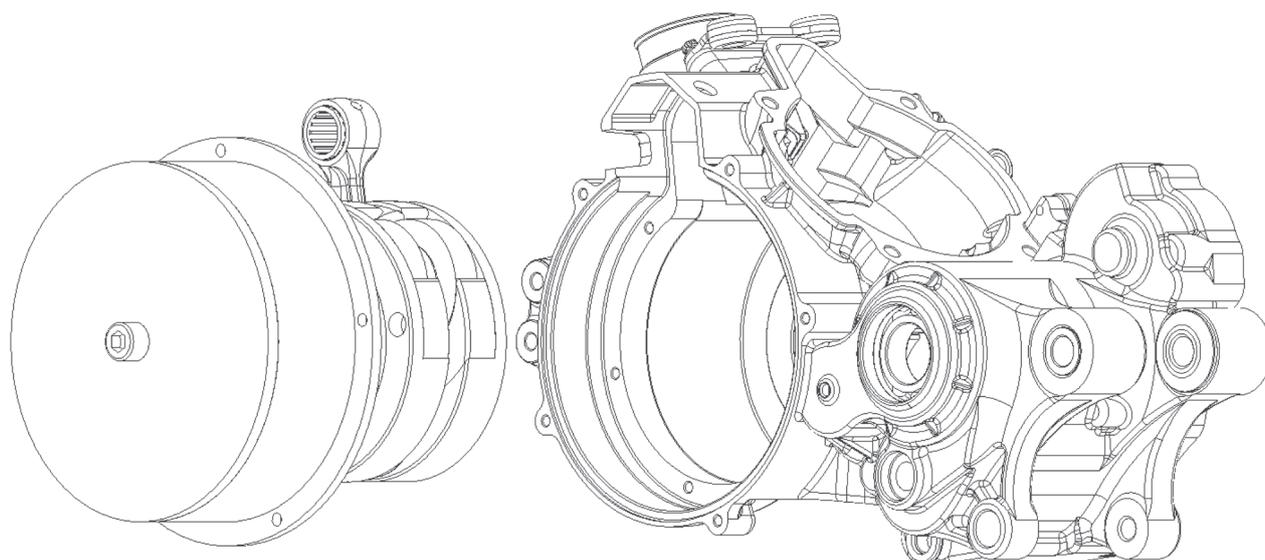
To remove the crankshaft it is necessary to use the special tools. (ref. 1499960211)
 Follow these steps:



Unscrew the long pin that locks the bearing of the crankshaft (1).



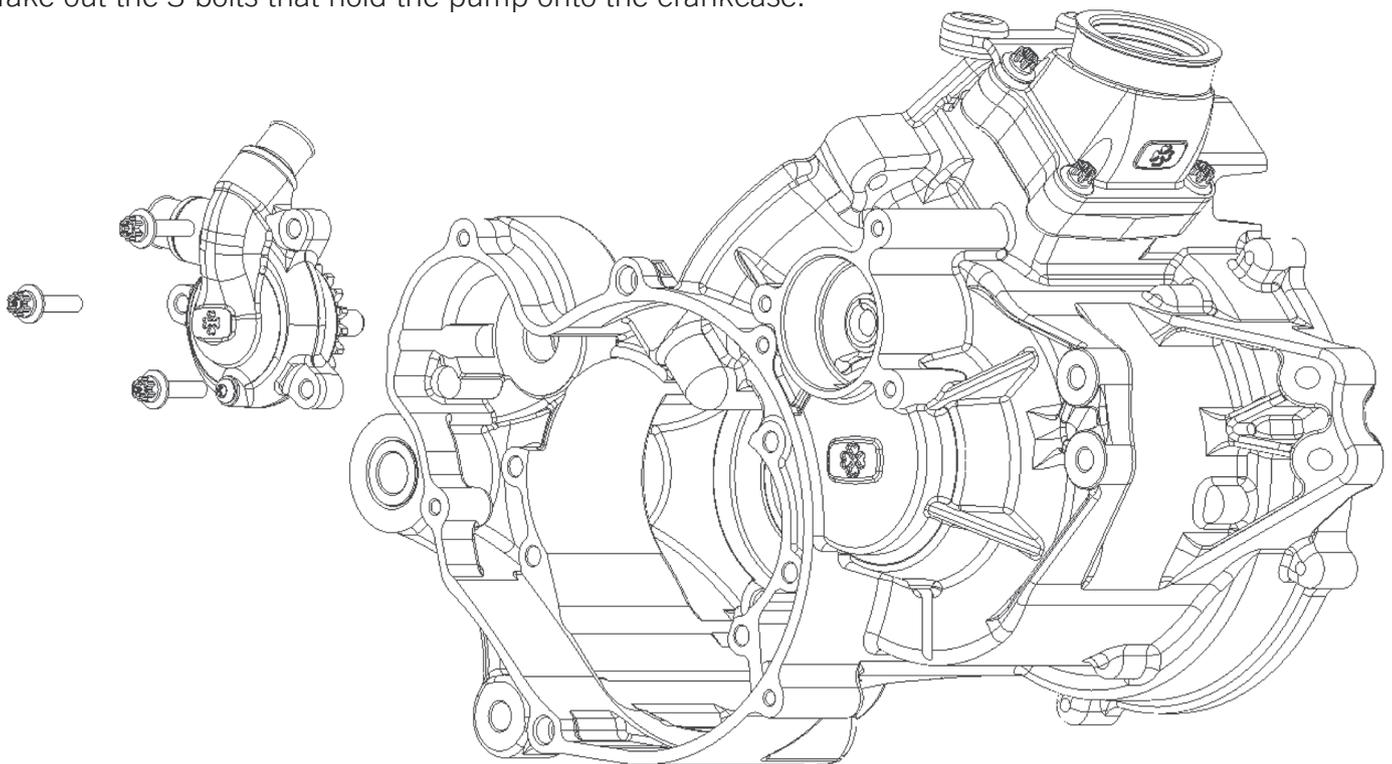
Heat up the area in the circle (2) with a heat blower so that the crankshaft expands and makes the extraction of the crankshaft easier.



10- WATER PUMP

To remove the water pump, it is recommended to remove first the rubber water hoses which are attached to it with metal zipties.

Take out the 3 bolts that hold the pump onto the crankcase.

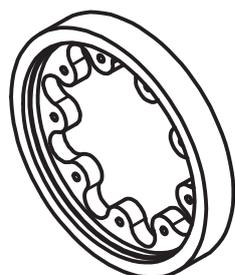


The water pump can be removed.

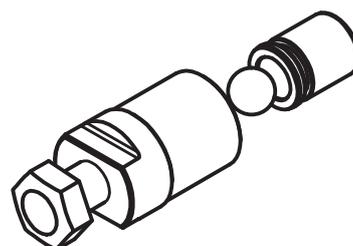
RECOMMENDED TORQUE VALUES FOR THE ENGINE BOLTS

PART	TORQUE (N·m)
Spark plug	11
Ignition fixing points	7-8
Clutch fixing points	7-8
Cylinder bolts	25
Reed block	7-8
The 18 bolts for the clutch spring support plate	3-4
Water pump	7-8
Clutch cover	7-8
Rotor	40
Water tubing fittings	10
Ignition cover	7-8
Oil draining cap	12
Bolts for the kickstart pedal	12-13
Bolts for the gear shifting pedal	7-8
Cylinder head	8-9
Cylinder nut	25

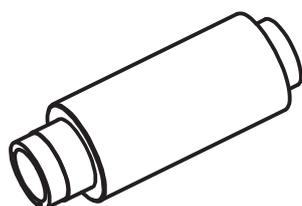
RECOMMENDED TOOLS FOR SERVICING THE OSSA TR280i ENGINE



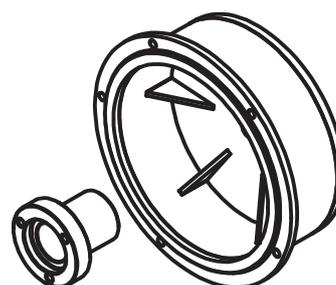
CLUTCH POSITION TOOL



IGNITION & STATOR TOOL

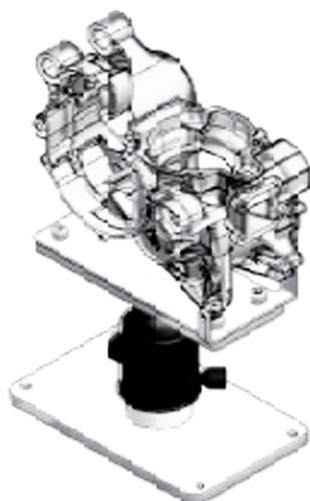


PRIMARY BEARING TOOL



CRANKSHAFT TOOL

1499960211 OSSA WORKSHOP KIT



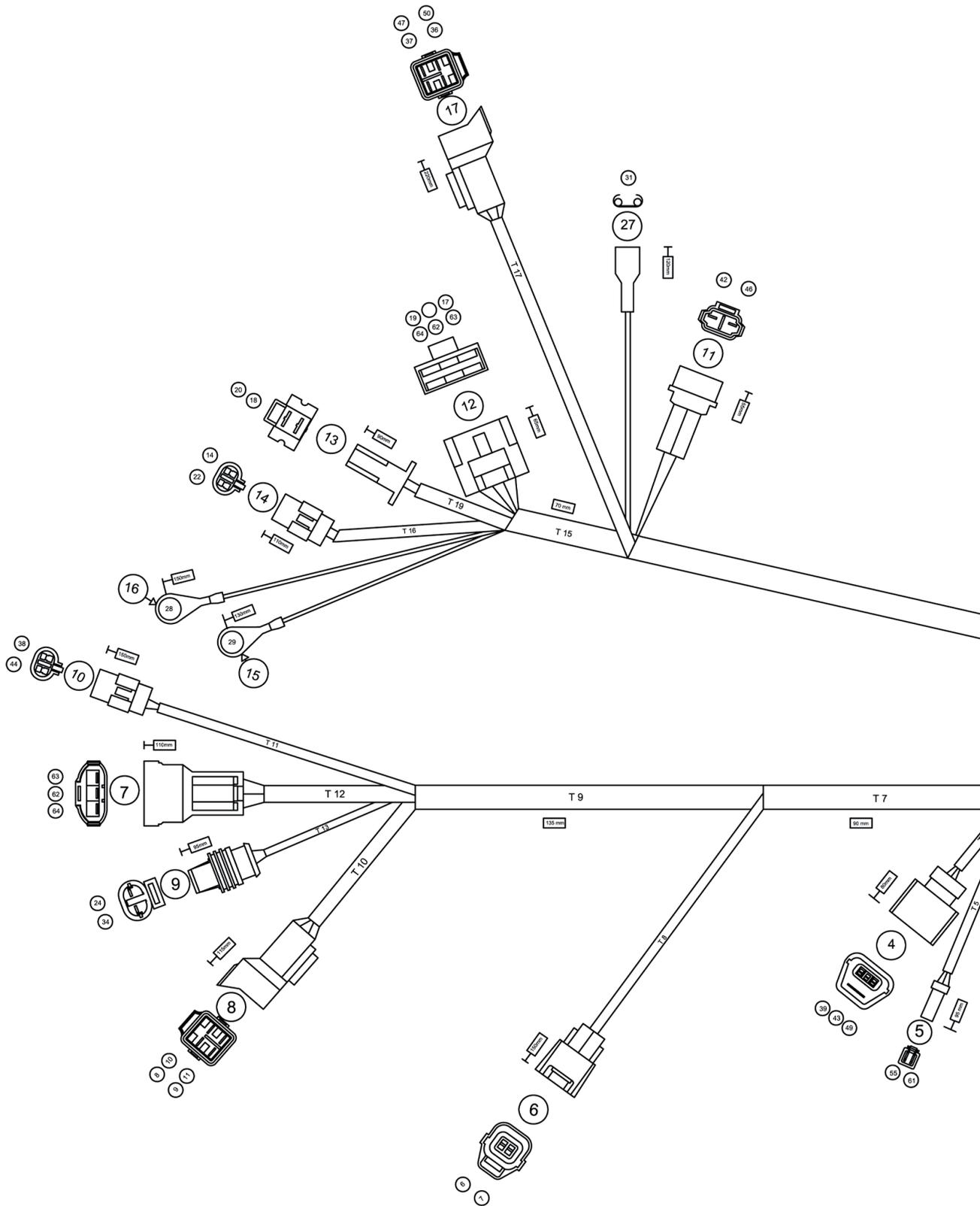
1000960211
MOTOR SUPPORT TOOL

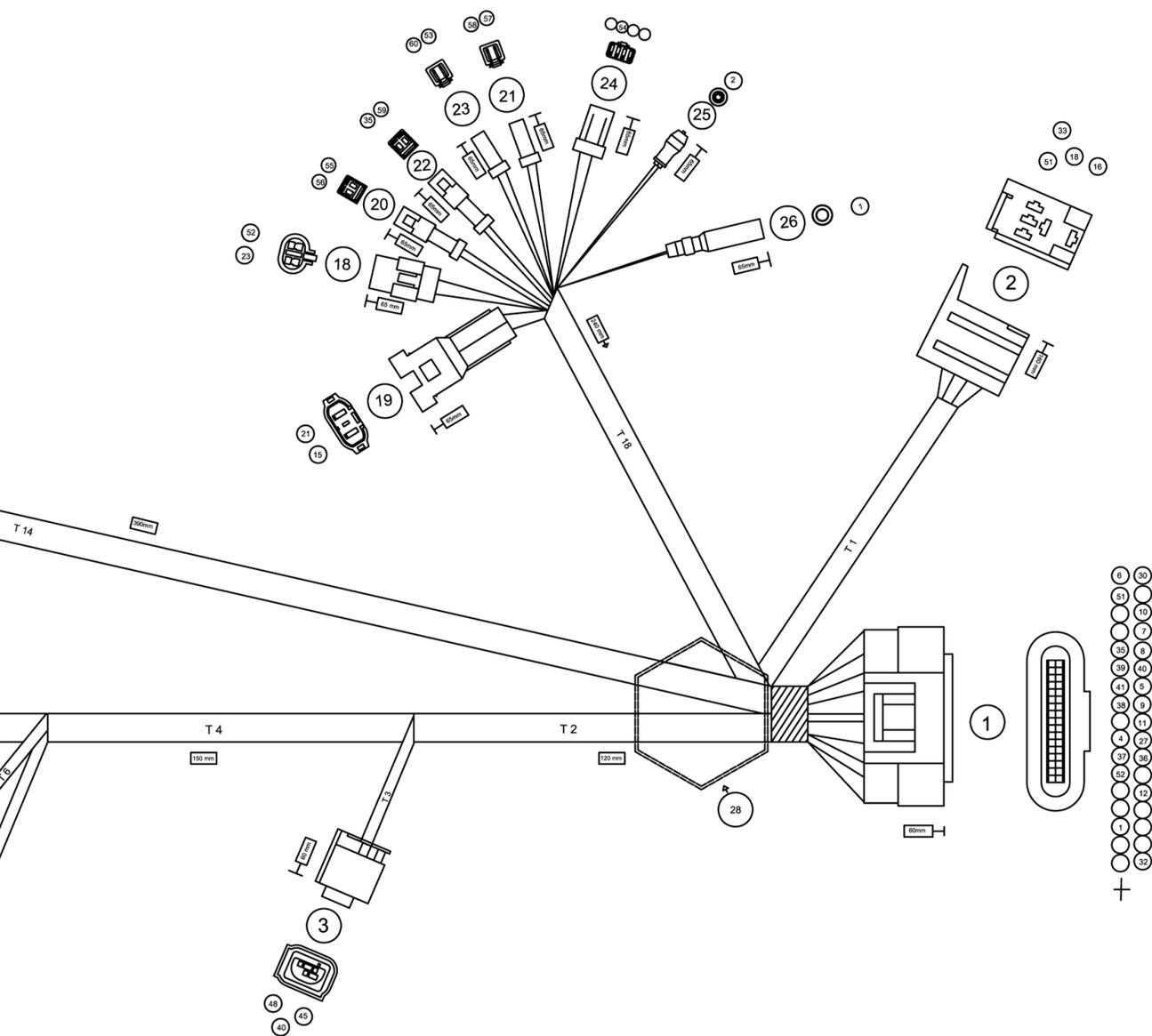
RECOMMENDED PERIODIC MAINTENANCE

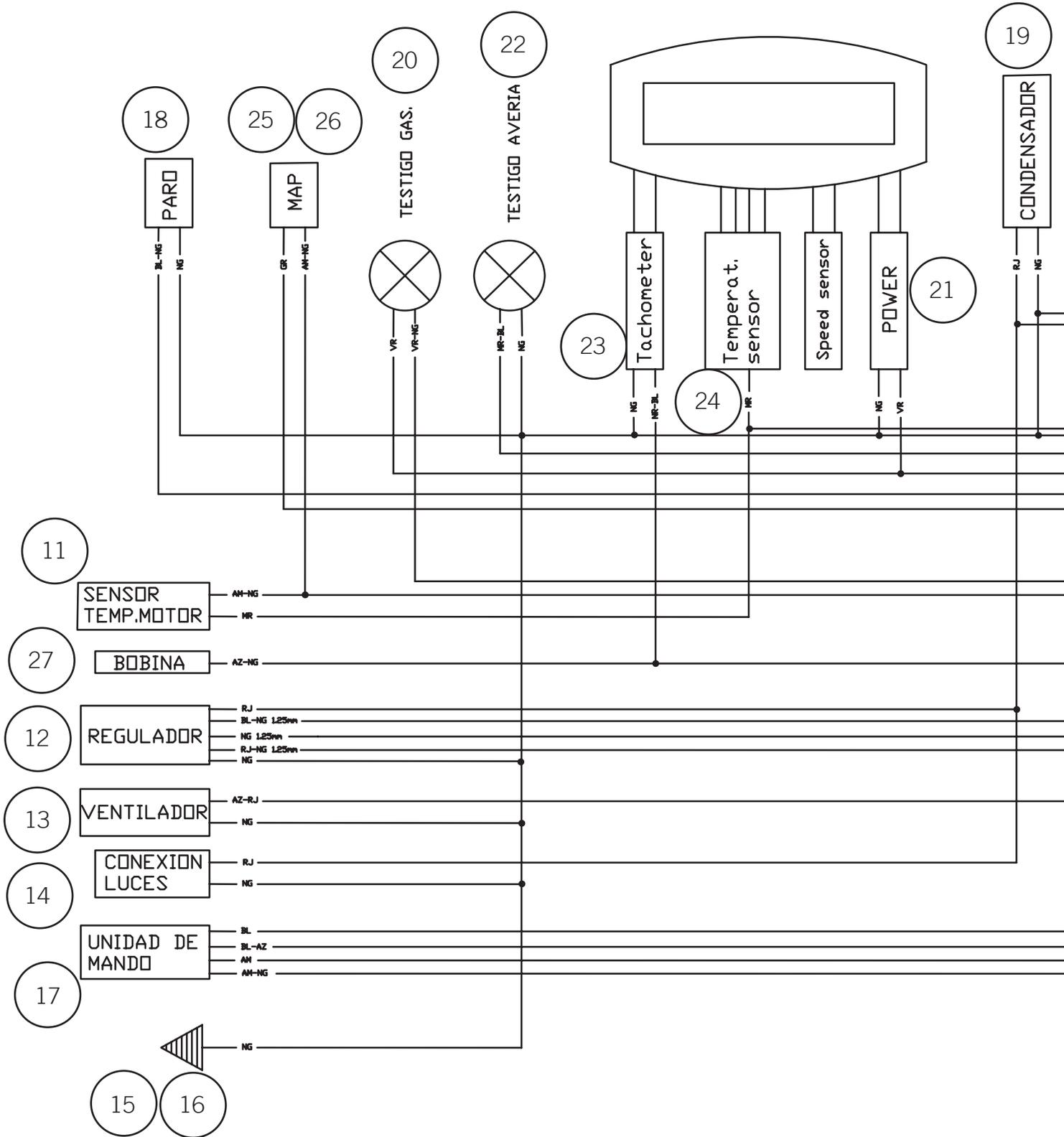
PART	CHECK	ADJUST	REPLACE	WASH	GREASE/ LUBE
Rear shock	Every ride	--	Every 2 years	--	--
Front fork	Every ride	When re- quired	Every 2 years	--	--
Front fork oil	--	--	60 hours	--	--
Brakes	Every ride	When re- quired	If damaged	--	--
Swingarm and linkage	Every ride	--	If damaged	Every ride	After washing
Secondary transmis- sion	Every ride	When re- quired	If damaged	Every ride	After washing
Steering bearings	Every ride	--	If damaged	--	After washing
Wheel bearings	30 hours	--	If damaged	--	After washing
Disc brake rotors	Every ride	When re- quired	If damaged	--	--
Tyres	Every ride	--	If damaged	--	--
Rims	Every ride	--	If damaged	Every ride	--
Spokes	Every ride	5 hours	If damaged	Every ride	--
Chassis	Every ride	--	If damaged	Every ride	--
Fuel tank	Every ride	--	If damaged	Every ride	--
Bolts, nuts	Every ride	When re- quired	If damaged	Every ride	--
Crankcase protector	--	First ride	If damaged	Every ride	--
Protective stickers	Every ride	--	If damaged	--	--

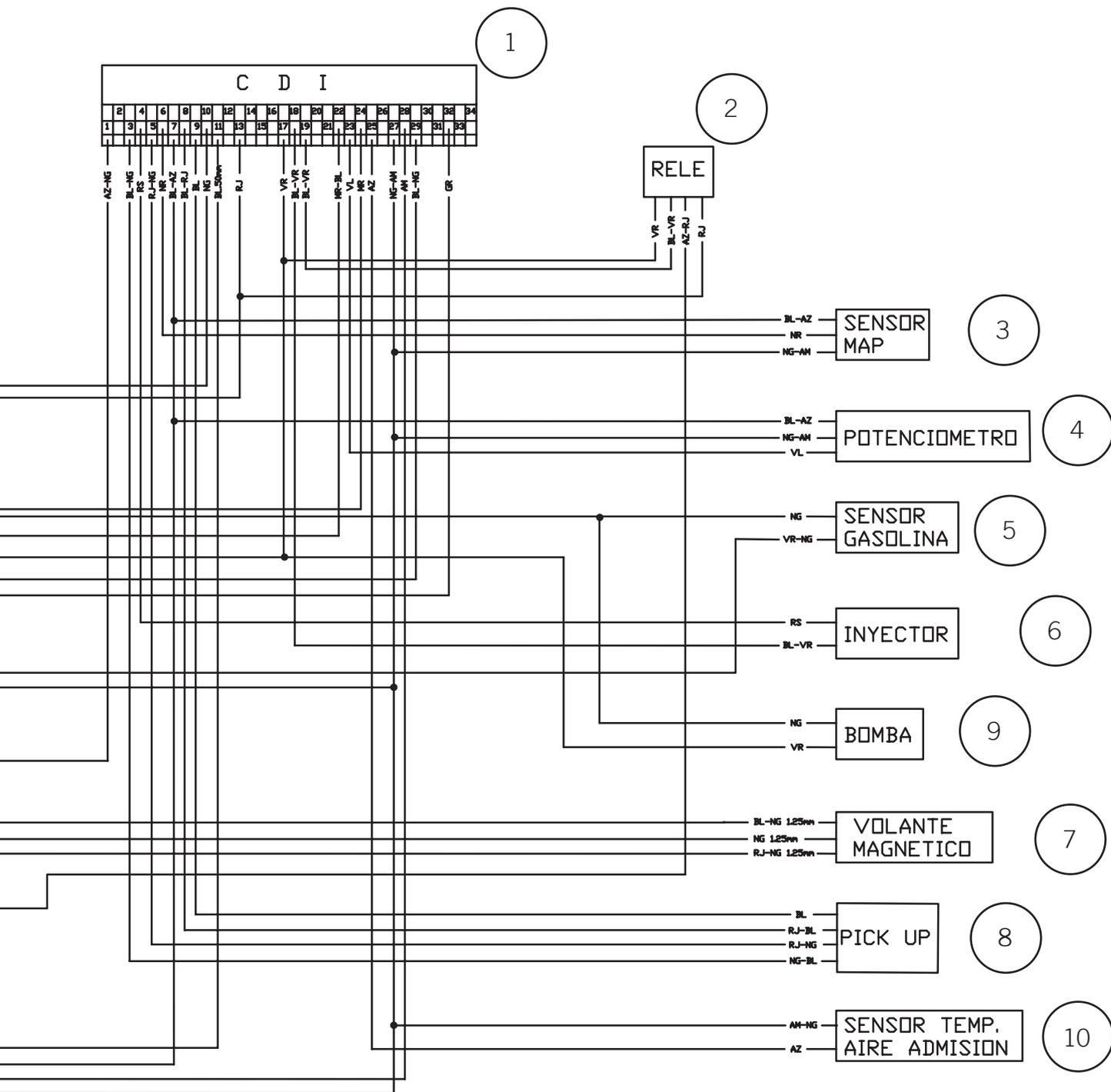
RECOMMENDED TORQUE VALUES FOR CYCLE PARTS

PART	TORQUE (N·m)
Front Wheel axle	40-50
Swingarm to chassis fixing points	70-80
Upper and lower joints from the shock absorber	40-50
Suspension linkage	40-50
Handlebars	18-25
Front brake and clutch levers	7-10
Radiator	7-10
Front mudguard support	7-10
Brake pedal	27-32
Exhaust	18-25
Rear wheel axle	80-90
Brake calipers	27-32
Exhaust pipe	27-32
Engine to chassis	18-25
Rear brake pump	7-10









CODIGO COLORES	
AM	AMARILLO
RJ	ROJO
NG	NEGRO
AZ	AZUL
MR	MARRON
VR	VERDE
VL	VIOLETA
BL	BLANCO
GR	GRIS
RS	ROSA
NR	NARANJA

INTRODUCTION

This document describes the K-Scan System for PC.

Figure 1 shows the system composition. The K-Scan gives instructions of Active Test, gathers and displays sensor values of the ECU.

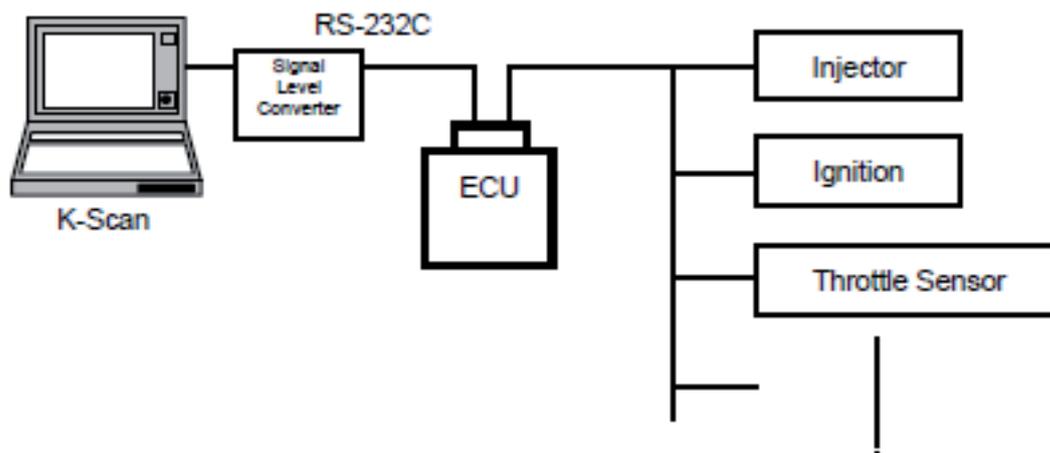
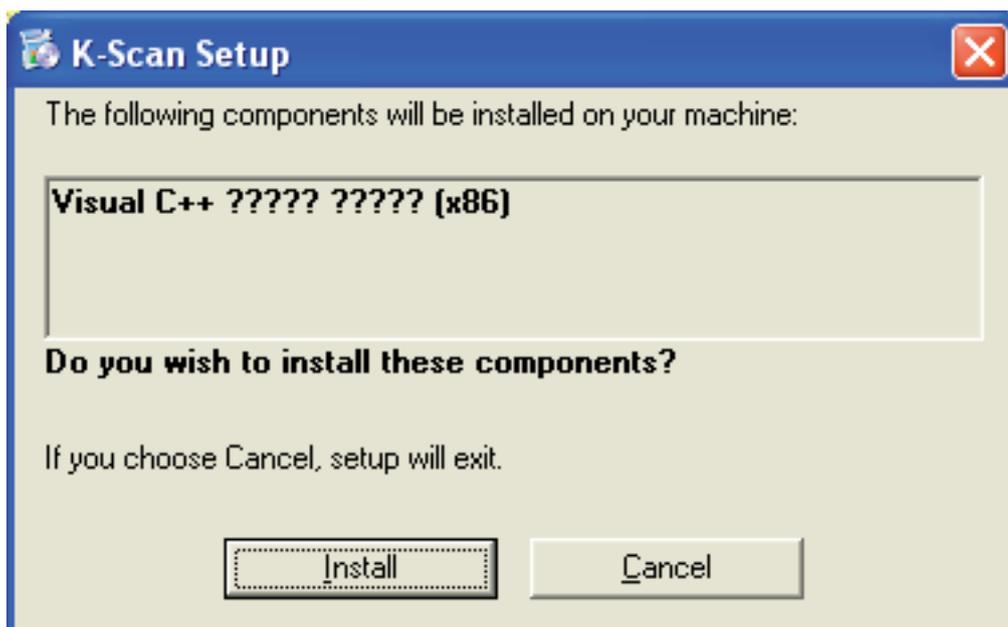


Figure 1 System Composition Chart

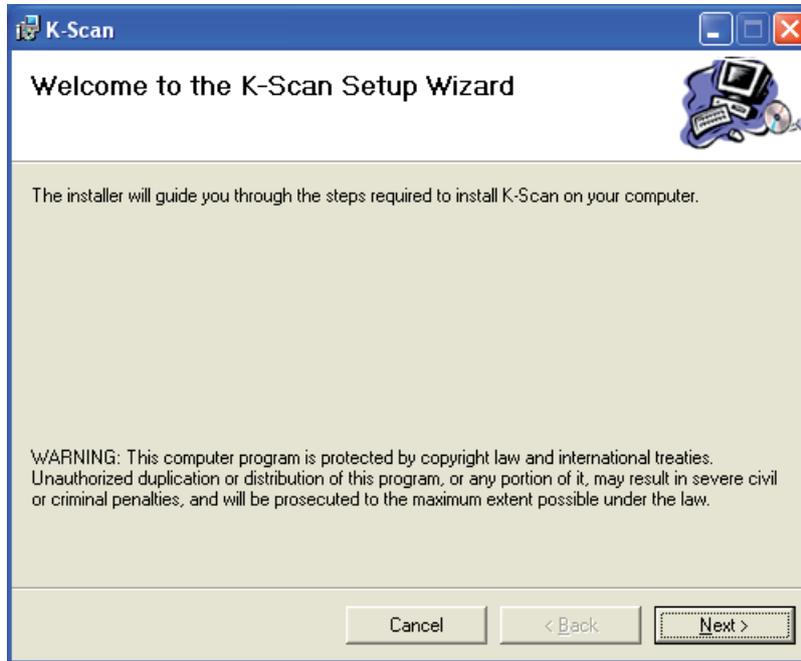
INSTALLATION

1. Execute 'setup.exe' to show component setup wizard.
2. Click [Install] button in 'component install' screen to install 'Visual C++ Runtime Libraries(x86)'.



3. After installed the component, K-Scan setup wizard will be shown.

A) Click [Next] button in a 'Welcome to the K-Scan Setup Wizard' screen.



B) Select installation folder and user button in a 'Select Installation Folder' screen, then click [Next].



FOLDER COMPOSITION

[C:¥Program Files¥K-Scan(OSSA)]

K-Scan.exe Execute File
K-Scan.ini Main Setting File
GraphSetting.txt Graph Setting File
MakerCodeSetting.txt Maker Code Setting File A
ctiveTestSetting.txt Active Test Setting File
PCodeSetting.csv PCode Setting File
K-Scan.pdf User Manual(this document)

[¥Image]

English.bmp American National Flag for the Language Screen.
Italy.bmp Italian National Flag for the Language Screen
French.bmp French National Flag for the Language Screen
German.bmp German National Flag for the Language Screen
Spanish.bmp Spanish National Flag for the Language Screen
Portuguese.bmp Portuguese National Flag for the Language Screen
Logo.bmp Logo Image for the Title Screen
ActiveTest_ID**.bmp Active Test Images.

[¥Log] Folder for Log

[¥DLL]

English.dll DLL File for English
Italy.dll DLL File for Italy
French.dll DLL File for French
German.dll DLL File for German
Spanish.dll DLL File for Spanish
Portuguese.dll DLL File for Portuguese

SPECIFICATION FUNCTION

Title View

This is the start screen of the application.



Figure 2 Title View Screen

Data View Large

This screen is to display sensor values of 8 Data Items and 3 fixed Data Items. 3 fixed Data Items, Engine Temperature, Engine Speed and Intake Air Temperature, are displayed by meters and values. You can select 8 Data Items using Select Data Items Dialog that is shown by clicking View Setting menu, or toolbar button. If a selected Data Item does not exist on ECU, 'No Item' will be shown. The application remembers selected Data Items and saves it to the setting file when you exit application. Engine Speed meter is updated by 0.1 seconds and other Data Items are updated by 0.5 seconds.

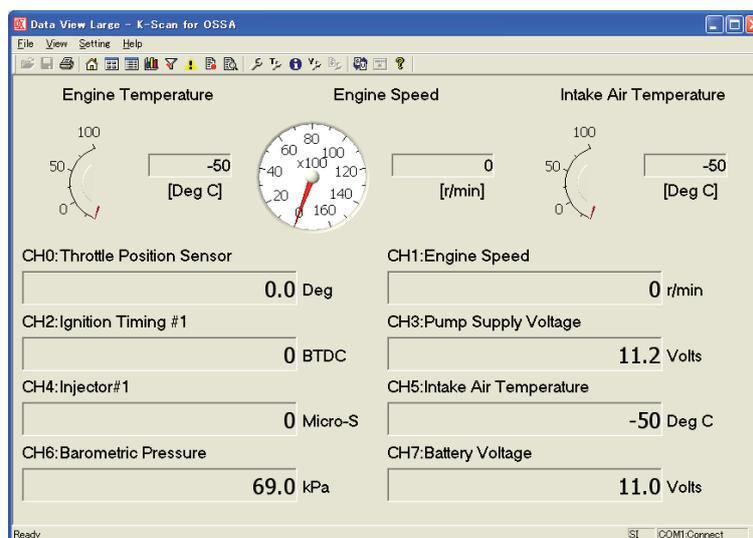


Figure 3 Data View Large Screen

- | | |
|---------------------------------|--|
| 1 Engine Temperature | Display Data Item Engine Temperature by meter and value. |
| 2 Engine Speed | Display Data Item Engine Speed by meter and value. |
| 3 Intake Air Temperature | Display Data Item Intake Air Temperature by meter and value. |
| 4 Selected Data Item | Display selected Data Item by value. |
| 5 [Toolbar] View Setting button | Show Select Data Item dialog to select 8 Data Items. |
| 6 [Toolbar] Print button | Print a screen image. |
| 7 [Toolbar] Unit Switch button | Switch unit mode. |
| 8 When this screen is displayed | When the ECU is not connected, the ECU connection will be started. If failed to connect to the ECU, the message 7 will be shown(See - Message List). |

SELECT DATA ITEMS

This dialog is to select 8 Data Items.

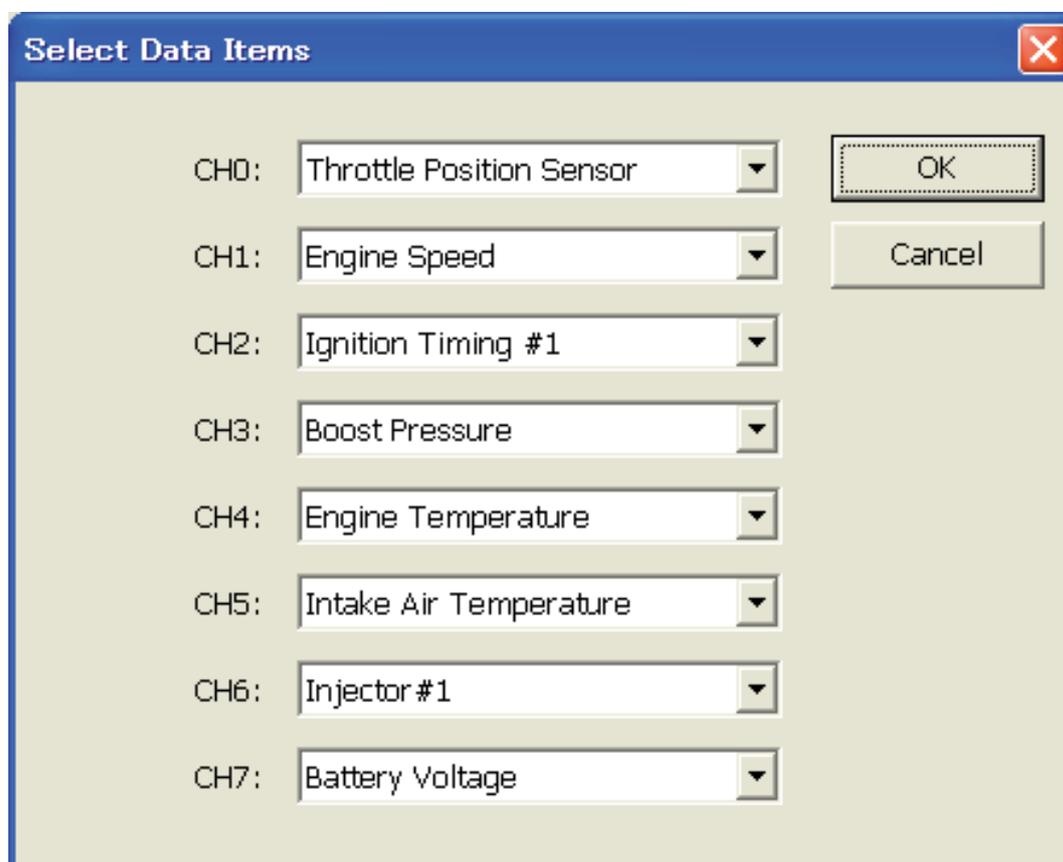
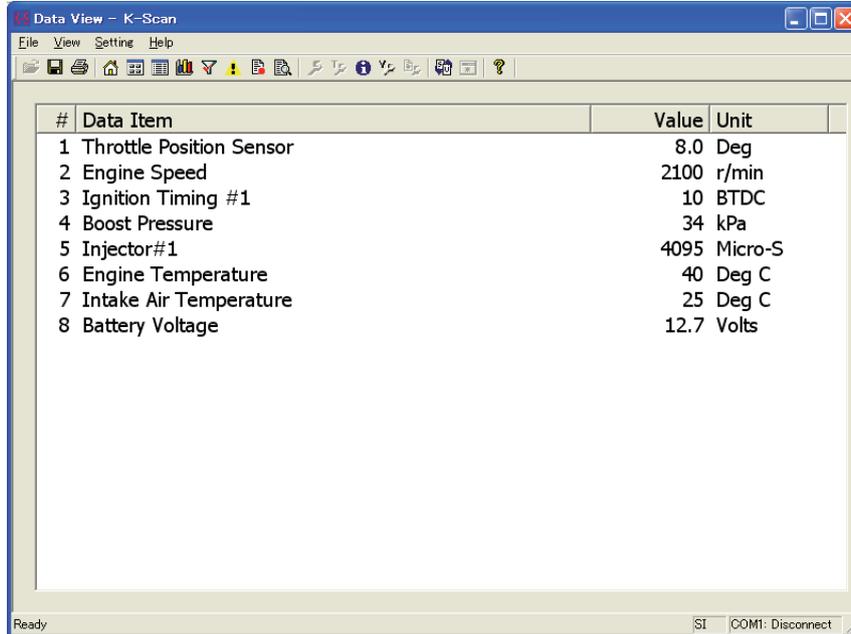


Figure 4 Select Data Items Dialog

- | | | |
|---|---------------------|--|
| 1 | CH0 - CH7 combo box | Select a Data Item from list. The list is created when this dialog is created. |
| 2 | [OK] button | Save selection of Data Items and close this dialog. |
| 3 | [Cancel] button | Cancel selection of Data Items and close this dialog. |

DATA VIEW

This screen is to display sensor values of Data Items. Sensor values are updated by every 0.5 seconds.



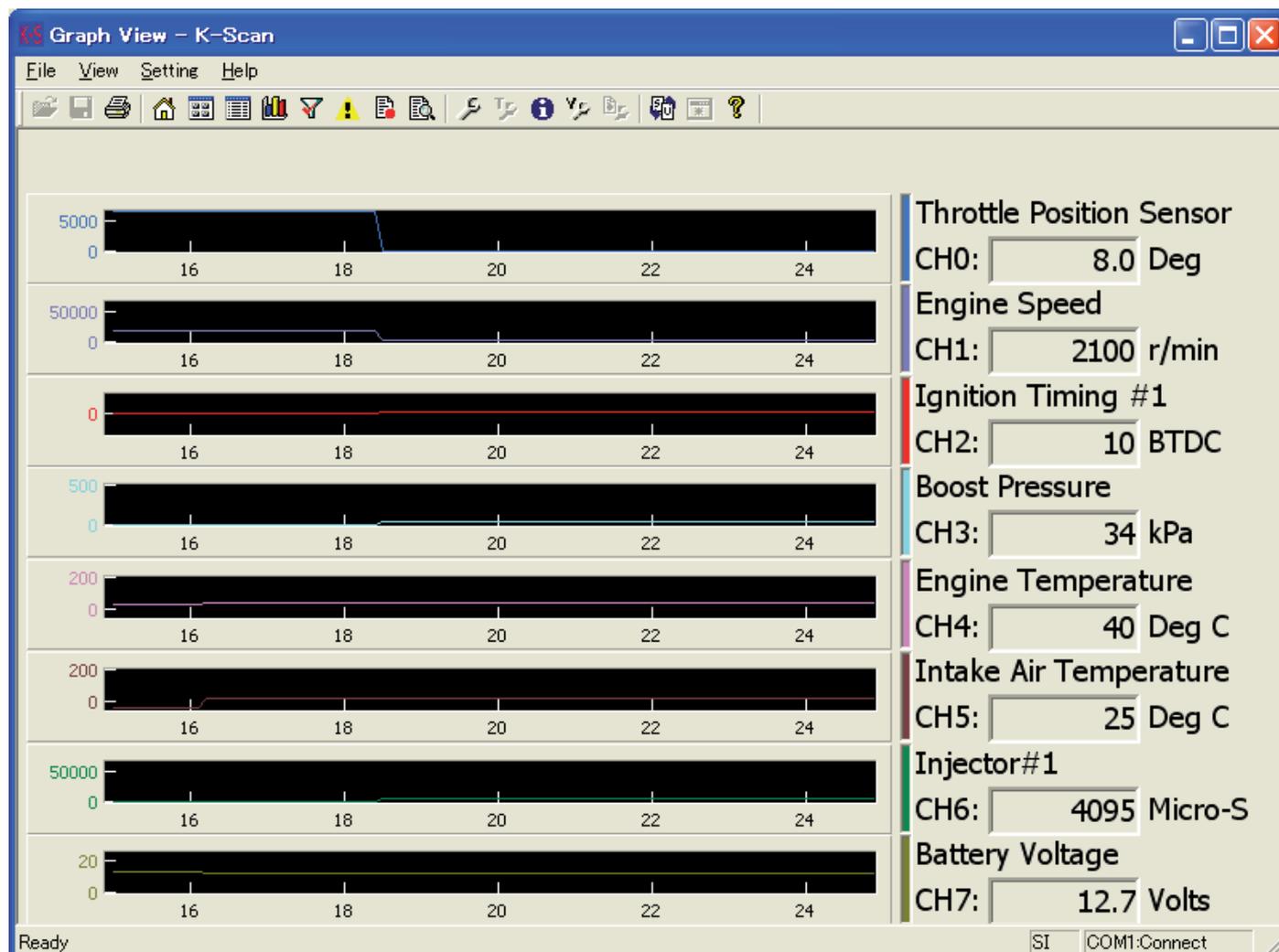
#	Data Item	Value	Unit
1	Throttle Position Sensor	8.0	Deg
2	Engine Speed	2100	r/min
3	Ignition Timing #1	10	BTDC
4	Boost Pressure	34	kPa
5	Injector#1	4095	Micro-S
6	Engine Temperature	40	Deg C
7	Intake Air Temperature	25	Deg C
8	Battery Voltage	12.7	Volts

Figure 5 Data View Screen

- | | | |
|---|-------------------------------|--|
| 1 | List box | <p>Display all Data Items that the ECU corresponds.
 #: Index
 Data Item: name of each Data Item.
 Value: sensor values of each Data Item.
 Unit: units of each Data Item.</p> |
| 2 | [Toolbar] Save button | Save a screen data as csv format file. |
| 3 | [Toolbar] Print button | Print a screen data. |
| 4 | [Toolbar] Unit Switch button | Switch unit mode. |
| 5 | When this screen is displayed | <p>When the ECU is not connected, the ECU connection will be started. If failed to connect to the ECU, the message 7 will be shown.</p> |

GRAPH VIEW

This function is to display sensor values by graphs. Graphs are updated every 0.1 seconds. You can select 8 Data Items using Graph Setting Dialog that is shown by clicking 'View Setting' menu, or toolbar button. You can also select a type of graph, parallel and overlay, using Graph Setting Dialog. If you select less than 8 Data Items and parallel view mode, size of graphs will be automatically adjusted. Figure



6 Graph View(Parallel) Screen

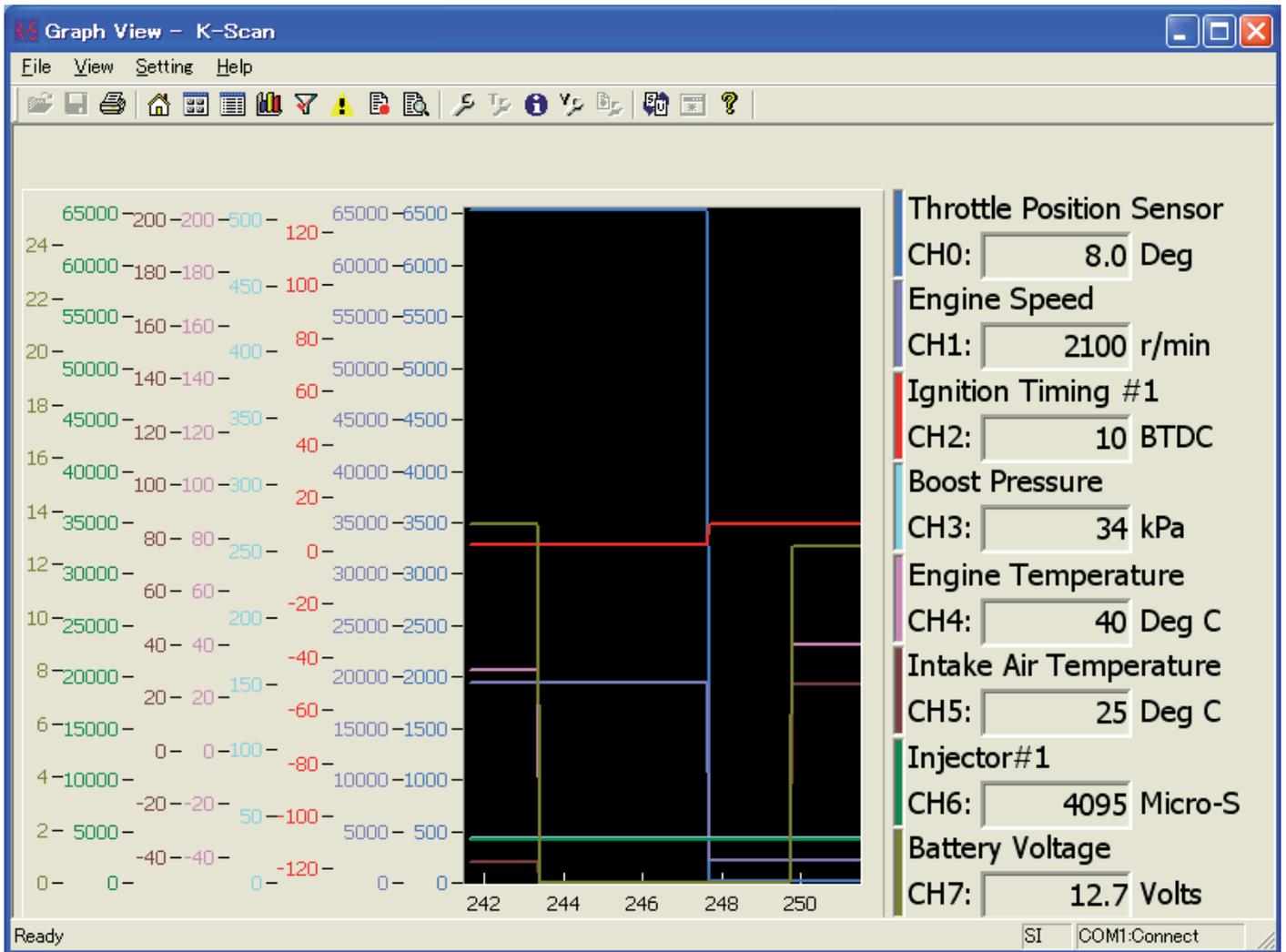


Figure 7 Graph View(Overlay) Screen

- | | |
|--|--|
| <ol style="list-style-type: none"> 1 Graph 2 Selected Data Item 3 [Toolbar] Print 4 [Toolbar] View Setting button 5 [Toolbar] Unit Switch button 6 When this screen is displayed | <p>Display sensor values of Data Items by graphs. These graphs keep sensor values for 10 seconds. Leftpart of the graph will be discarded and the other partswill be shifted to the left after 10 seconds. These graphswill be cleared when you move to other screens.</p> <p>Display a current value of Data Item.</p> <p>Print a screen image.</p> <p>Show Graph Setting dialog.</p> <p>Switch unit mode.</p> <p>When the ECU is not connected, the ECU connectionwill be started. If failed to connect to the ECU, themessage 7 will be shown</p> |
|--|--|

Graph Setting

This dialog is used to set graph parameter.

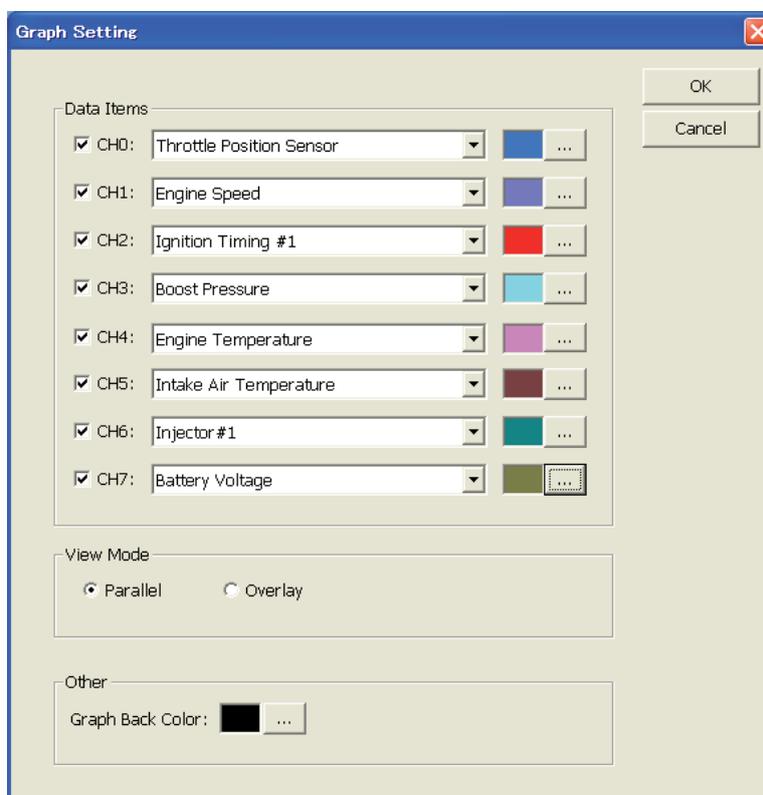


Figure 8 Graph Setting Dialog

- | | | |
|---|-------------------------|---|
| 1 | Data Items Check box | Set a channel to be displayed or not. Checked channels will be displayed on the graph. |
| 2 | Data Items Combo box | Select Data Item of the channel. |
| 3 | Data Items [...] button | Select plot color of the channel. |
| 4 | View Mode | Select a view mode. Parallel: Each channel will be displayed in a separate graph. Overlay: All channels will be displayed in one graph. |
| 5 | Graph Back Color | Select a back color of a plot area. |
| 6 | [OK] button | Save settings and close this dialog. |
| 7 | [Cancel] button | Cancel settings and close this dialog. |

ACTIVE TEST

This function is to execute Active Test items. There are 8 Data Items in one page, and you can scroll page by clicking [<<] and [>>] buttons. You cannot click any button during Active Test, except [Stop] button.

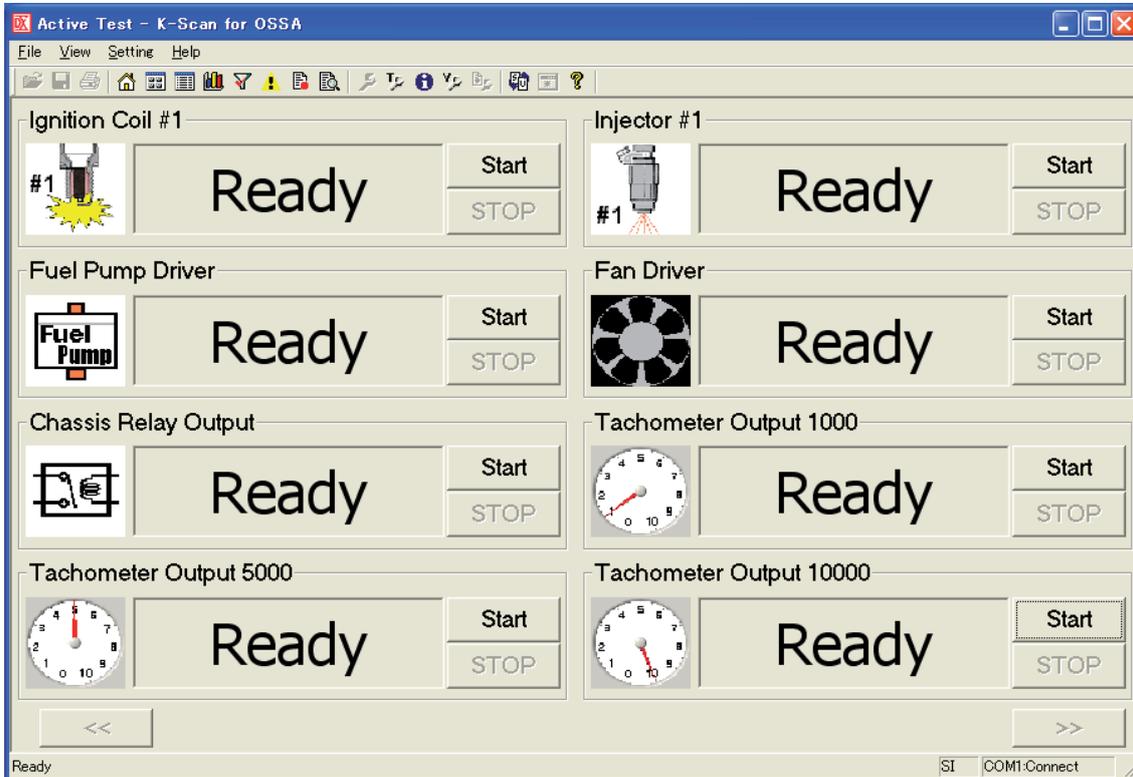
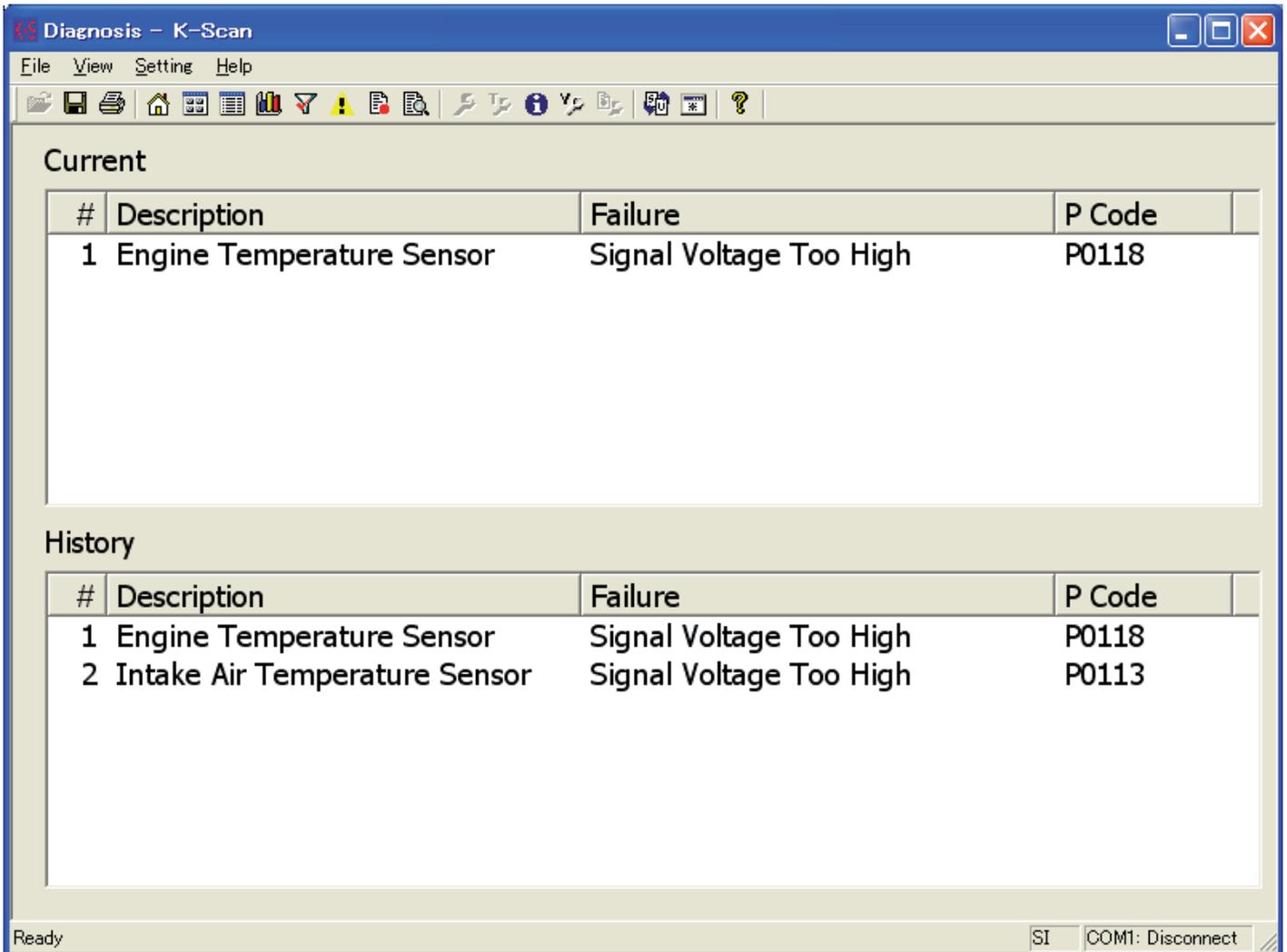


Figure 9 Active Test Screen

- | | | |
|---|------------------------------------|--|
| 1 | Active Test Item | There are 8 Data Items in one page, and you can scroll page to display all test items by clicking '<<' and '>>' buttons. |
| 2 | Icon | Display Active Test image. |
| 3 | State text box | Display operational information.
-'Ready'- Active Test has not been done.
-'Finish'- Active Test has already been done.
-'Running...' or 'XXX Sec' -Active Test is running now. |
| 4 | When Active Test Error is occurred | If failed to connect to the ECU while running ActiveTest, the message 7 will be shown and Active Test state becomes 'Ready'. |
| 5 | [Start] button | Start Active Test. |
| 6 | [Stop] button | Stop Active Test. |
| 7 | [<<] button | Move to previous page. |
| 8 | [>>] button | Move to next page. |
| 9 | When this screen is displayed | When the ECU is not connected, the ECU connection will be started. If failed to connect to the ECU, the message 7 will be shown. |

Diagnosis

This function is to display DTC (Data Trouble Code) of the ECU. This screen displays DTC errors by 2 list-boxes, to show two types of DTC error, current error and historic error.



The screenshot shows the 'Diagnosis - K-Scan' software window. It features a menu bar (File, View, Setting, Help) and a toolbar with various icons. The main content area is divided into two sections: 'Current' and 'History', each containing a table of DTC errors.

Current

#	Description	Failure	P Code
1	Engine Temperature Sensor	Signal Voltage Too High	P0118

History

#	Description	Failure	P Code
1	Engine Temperature Sensor	Signal Voltage Too High	P0118
2	Intake Air Temperature Sensor	Signal Voltage Too High	P0113

At the bottom of the window, the status bar shows 'Ready' on the left and 'SI COM1: Disconnect' on the right.

Figure 10 Diagnosis Screen

- | | | |
|---|-------------------------------|--|
| 1 | Current list box | Display current DTC errors.
#: Index
Description: DTC Description
Failure Type: Failure Type name
P Code: P Code |
| 2 | History list box | Display historic DTC errors.
#: Index
Description: DTC description.
Failure Type: Failure Type name
P Code : P Code |
| 3 | [Toolbar] Save button | Save a screen data as csv format file. |
| 4 | [Toolbar] Print button | Print a screen data. |
| 5 | [Toolbar] History Clear | Clear historic DTC errors.
When you clicked the button, the Message 14 will beshown.
If you select 'Yes'button, historic errors are cleared. But i f the application failed to clear historic errors, the Message 15 will beshown. |
| 6 | When this screen is displayed | When the ECU is not connected, the ECU connection will be started. If failed to connect to the ECU, theMessage 7 will be shown. |

DATA RECORDING

This function is to record sensor values of 8 Data Items. You can select 8 Data Items using Select Data Items Dialog that is shown by clicking 'View Setting' menu or toolbar button. You can also give the file name, recording time and trigger setting using Data Recording Setting Dialog that is shown by clicking Data Recording Setting menu or toolbar button.

If there is no trigger, the recording will be started after the start button clicked. Else if there is a trigger, the recording will be started after the trigger taken. After finishing the recording, the Message17 will be shown.

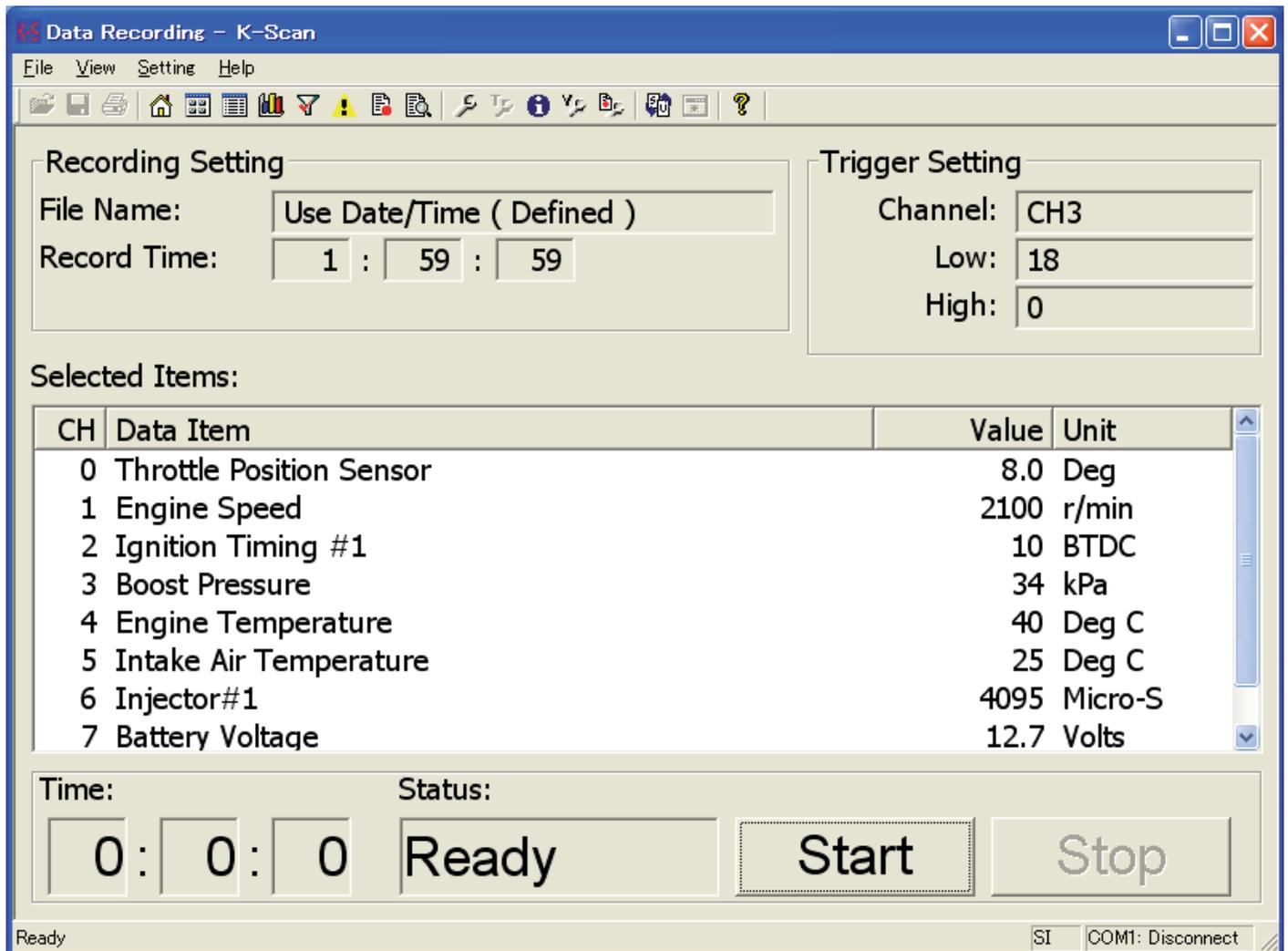


Figure 11 Data Recording Screen

1	List box	<p>Display 8 Data Items. CH: Index of Channel. Data Item: name of each Data Item. Value: sensor values of each Data Item. Unit: units of each Data Item.</p>
2	File Name	<p>Display a filename. When 'Use Date/Time' is displayed, the filename is created by date and time before start recording. (A filename will be given such as 'LOG2007_Jan_01_12_00_00.csv')</p>
3	Record Time	<p>Display a record time. If the record time is '00:00:00', it will works as 'ManualStop Mode'. The recording will be continued till the Stopbutton is clicked.</p>
4	Channel	<p>Display a selected trigger channel. If there is no trigger, blank will be displayed.</p>
5	Low	<p>Display the limit value of low-level trigger. When sensor value of the Data Item becomes less than the limit value, the recording will be started.</p>
6	High	<p>Display the limit value of high-level trigger. When sensor value of the Data Item becomes more equal than the limit value, the recording will be started.</p>
7	Time	<p>Display an elapsed time of the recording.</p>
8	State	<p>Display three recording state.</p> <ol style="list-style-type: none"> 1. Ready Before click a start button. 2. Waiting Waiting a trigger. 3. Recording Recording sensor values.
9	[Toolbar] View Setting button	<p>Show Select Data Items Dialog.</p>
10	[Toolbar] Recording Setting button	<p>Show Data Recording Setting Dialog.</p>
11	[Start] button	<p>Start recording sensor values. If there is a trigger, 'Waiting' is displayed. After the trigger is taken, 'Recording' will be displayed and the recording will be started.</p>
12	[Stop] button	<p>Stop recording or waiting.</p>
13	When this screen is displayed	<p>When the ECU is not connected, the ECU connection will be started. If failed to connect to the ECU, the Message 7 will be shown.</p>

SELECT DATA ITEMS

This dialog is to select 8 Data Items.

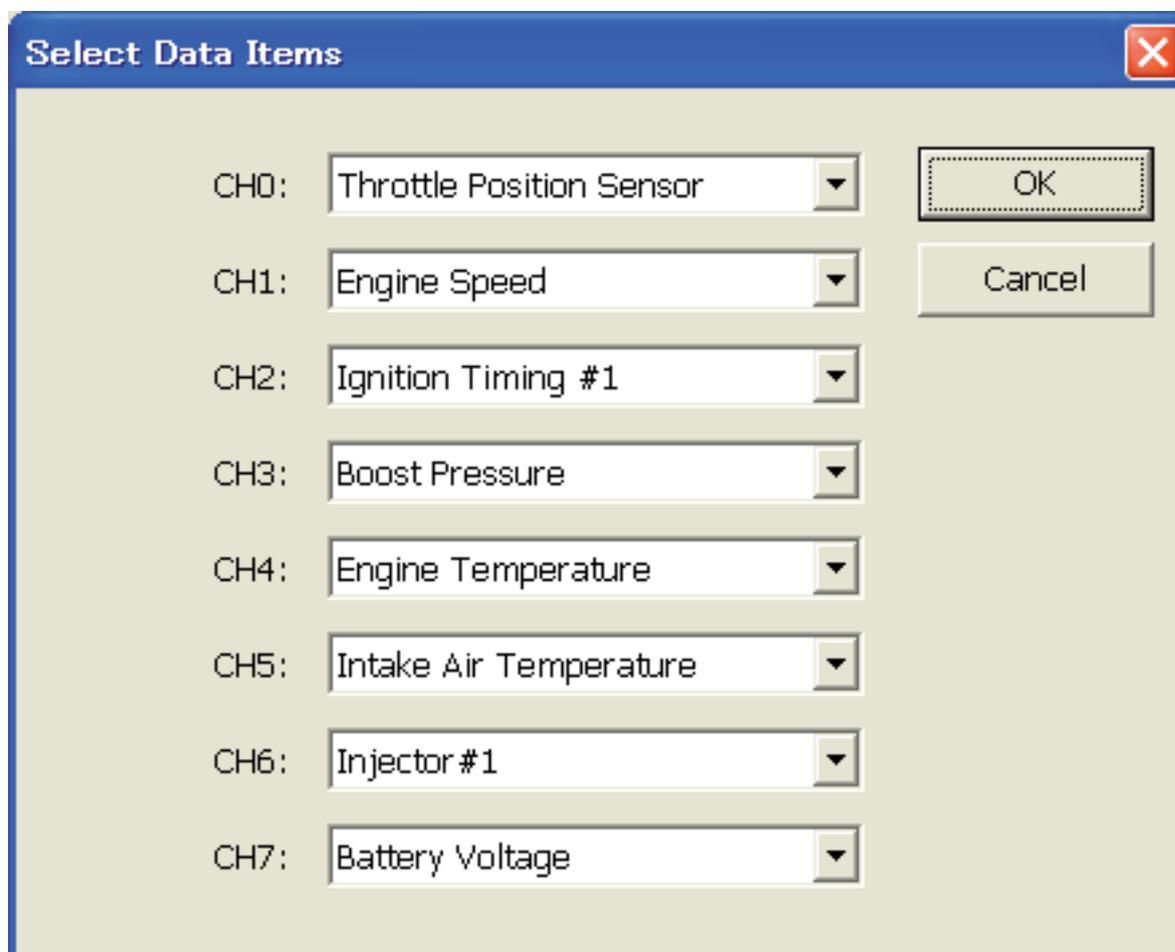


Figure 12 Select Data Items Dialog

- | | | |
|---|---------------------|---|
| 1 | CH0 - CH7 combo box | Select a Data Item from a list.
The list is created when this dialog is created. |
| 2 | [OK] button | Save selection of Data Items and close this dialog. |
| 3 | [Cancel] button | Cancel selection of Data Items and close this dialog. |

DATA RECORDING SETTING

This dialog is used to set Data Recording settings.

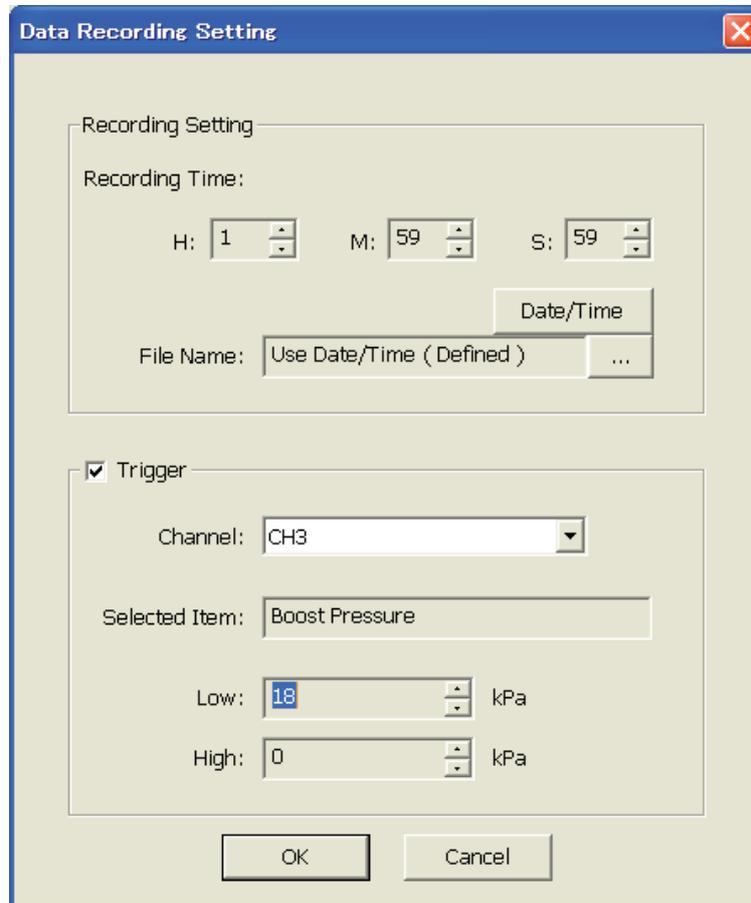


Figure 13 Data Recording Setting Dialog

- | | | |
|----|--------------------|---|
| 1 | Recording Time | Set the record time (H: hour M: minute S: second) by spin controls. |
| 2 | File Name | Display a file name. |
| 3 | [Date/Time] button | Set the filename by date and time. 'Use Date/Time' will be shown. |
| 4 | [...] button | Show a dialog to set the file name. |
| 5 | Trigger check box | Set the trigger mode enable or not. |
| 6 | Channel | Set a channel to a trigger. It is possible to select 'CH0' – 'CH7'. |
| 7 | Selected Item | Display the Data Item names of the selected channel. |
| 8 | Low | Set the low-level trigger value by a spin control. If the value is 0, the trigger will be ignored. |
| 9 | High | Set the high-level trigger value by a spin control. If the value is 0, the trigger will be ignored. |
| 10 | [OK] button | Save settings and close this dialog. |
| 11 | [Cancel] button | Cancel settings and close this dialog. |

LOG FILE VIEW

This function is to display graphs of sensor values in a log file created by Data Recording function of this application or K-Scan(PDA) application. You can open a log file using common dialog that is shown by clicking 'View Setting' menu, or toolbar button. You can also select a type of graph, parallel or overlay, using Graph Setting Dialog. If you select less than 8 Data Items and parallel view mode, size of graphs will be automatically adjusted.

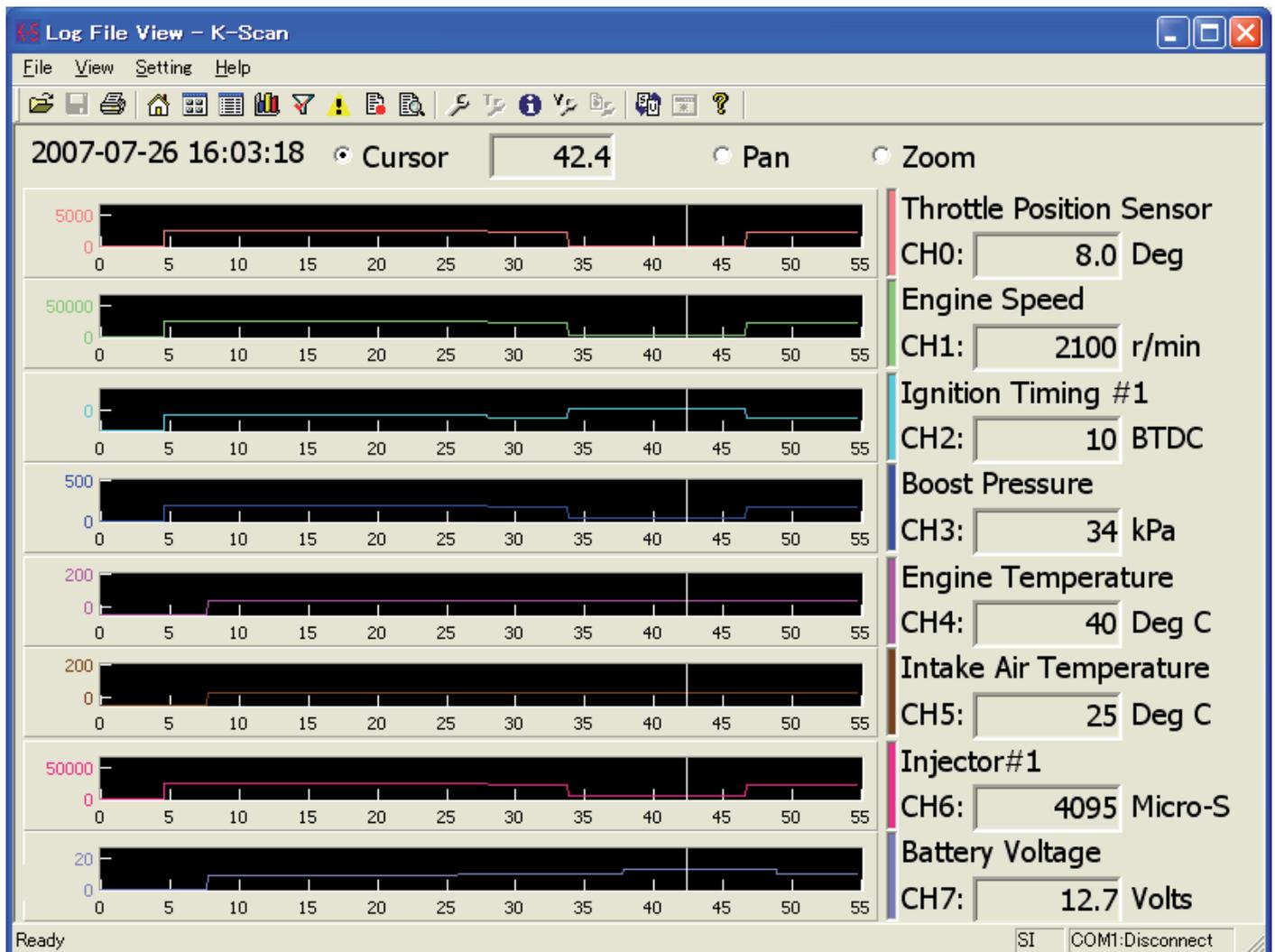


Figure 14 Log File View(Parallel) Screen

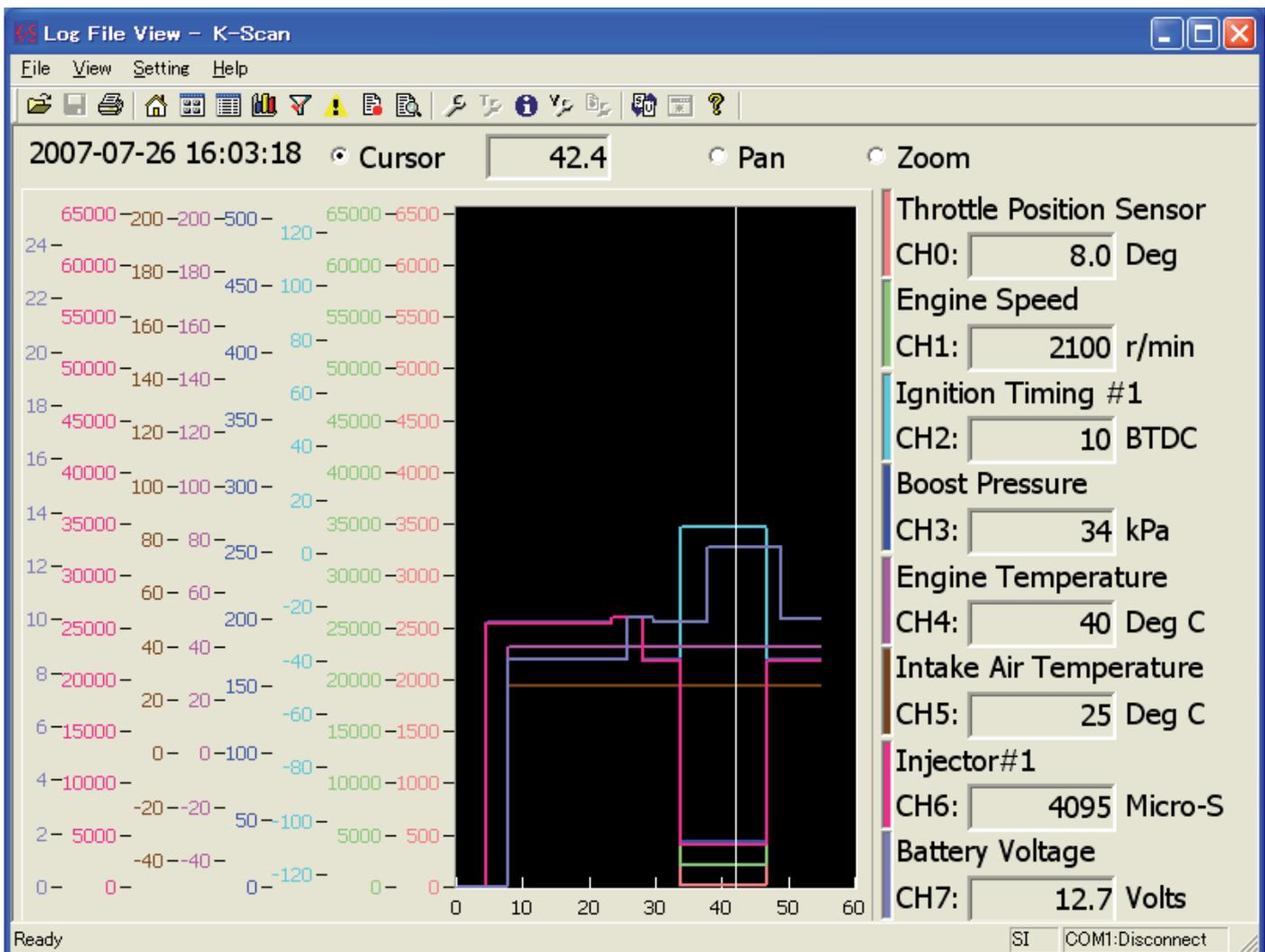


Figure 15 Log File View(Overlay) Screen

- | | | |
|---|--------------------------------|---|
| 1 | Date/Time | Display date and time in a log file. |
| 2 | Graph | Display sensor values of Data Items.
There is no limitation to the x-axis that means time span. |
| 3 | Operation Mode | Set mouse operation mode on graphs.
When [Zoom] is selected, plot areas of graphs will be initiated.
Cursor: You can drag a cursor to display the sensor values at the cursor position. A passed time at the cursor position will be displayed in the text box.
Pan: You can scroll graphs by dragging a plot area.
Zoom: You can drag a plot area to zoom in plot area. You can also click a plot area with [Shift] key to zoom out. |
| 4 | Selected Data Item | Display a value of Data Item at the cursor position. |
| 5 | [Toolbar] View Setting button | Show Log File View Setting Dialog. |
| 6 | [Toolbar] Print button | Print a screen image. |
| 7 | [Toolbar] Open Log File button | Show common dialog to open a log file. |

Log File View Setting

This dialog is used to set graph parameter.

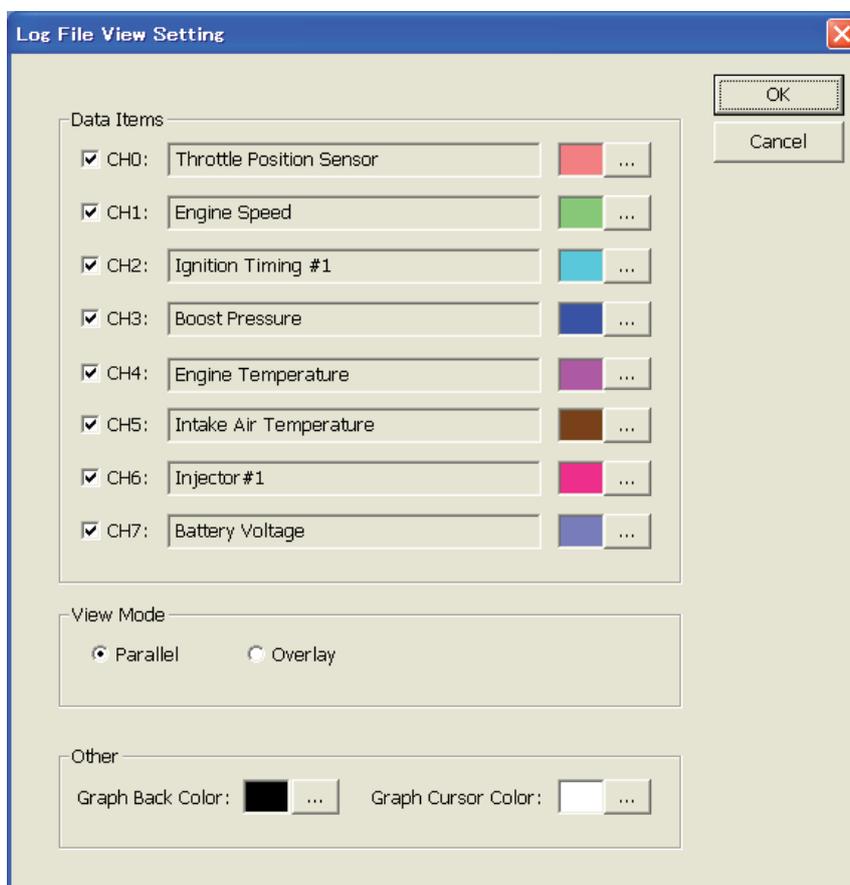


Figure 16 Log File View Setting Dialog

- | | | |
|---|-------------------------|--|
| 1 | Data Items Check box | Set a channel to be displayed or not.
Checked channels are displayed by graph. |
| 2 | Data Items Combo box | Select Data Item of a channel. |
| 3 | Data Items [...] button | Select a plot color of a channel. |
| 4 | View Mode | Select a view mode.
Parallel: Each channel is displayed in a separate graph.
Overlay: All channels are displayed in one graph. |
| 5 | Graph Back Color | Select a back color of graphs. |
| 6 | Graph Cursor Color | Select a cursor color of graphs. |
| 7 | [OK] button | Save settings and close this dialog. |
| 8 | [Cancel] button | Cancel settings and close this dialog. |

OPERATING TIME VIEW

This dialog is used to set Operating time view.

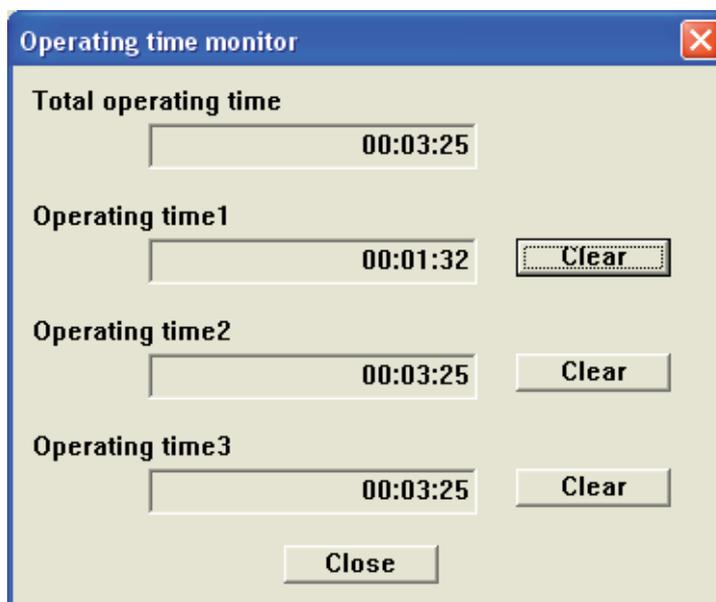


Figure 17 Operating time View

- | | | |
|---|--|--|
| 1 | Total operating time | Display the Total operating time.
Can not be cleared. |
| 2 | Operating time 1 | Display the Operating time 1. |
| 3 | [Clear] button
Operating time 1 Clear | Clear the Operation time 1. |
| 4 | Operating time 2 | Display the Operating time 2. |
| 5 | [Clear] button
Operating time 2 Clear | Clear the Operation time 2. |
| 6 | Operating time 3 | Display the Operating time 3. |
| 7 | [Clear] button
Operating time 3 Clear | Clear the Operation time 3. |
| 8 | [Close] button | Close this dialog. |

Transfer Setting

This dialog is used to set the transfer.

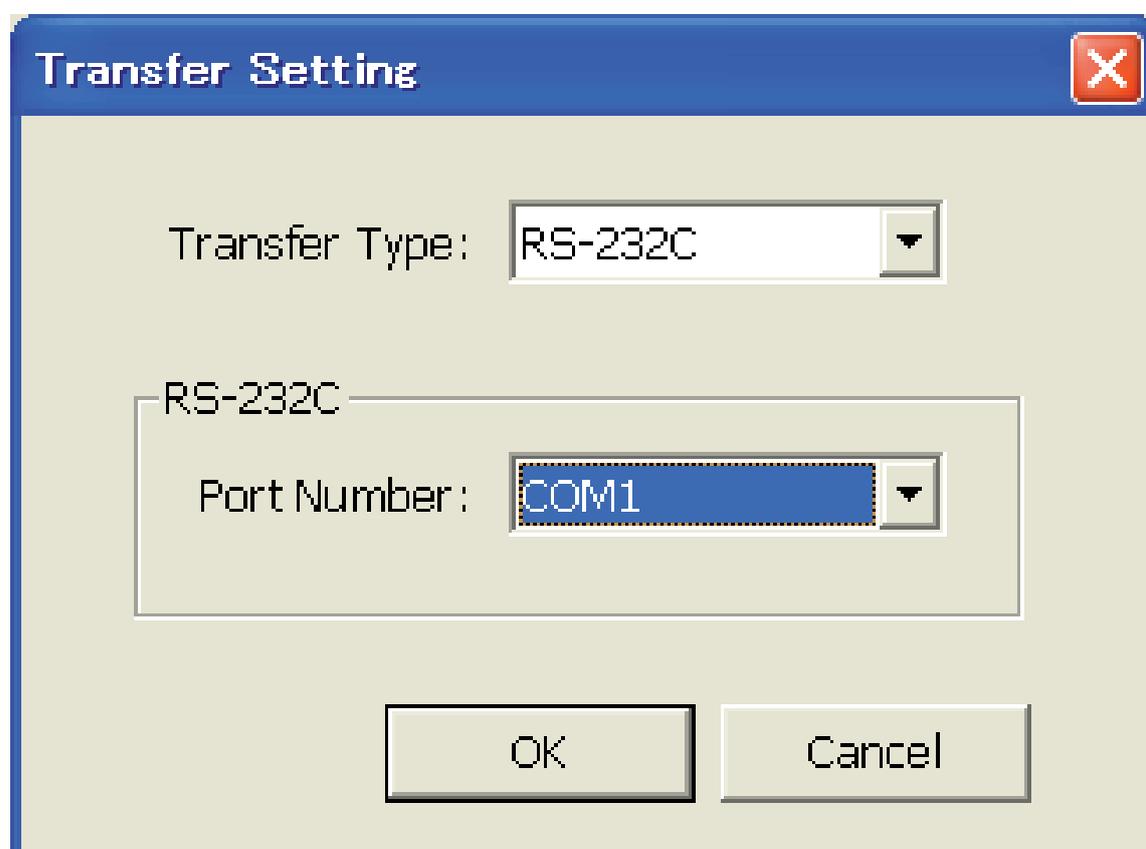


Figure 18 Transfer Setting Dialog

- | | | |
|---|------------------------------|---|
| 1 | Transfer Type combo box | Set the transfer type. You can select the transfer type only 'RS232C' in this version. |
| 2 | RS232C Port Number combo box | Set the COM port. It is possible to select COM port from 'COM1' - 'COM10' and 'Auto'. If 'Auto' is selected, COM port is searched from 'COM1' to 'COM10' when the Back button is clicked. |
| 3 | [OK] button | Check ECU connection. If succeeded to connect to the ECU, close this dialog. If failed to connect to the ECU, the Message 13 will be shown. |
| 4 | [Cancel] button | Cancel settings and close this dialog. |

Language Setting

This dialog is used to select a language.

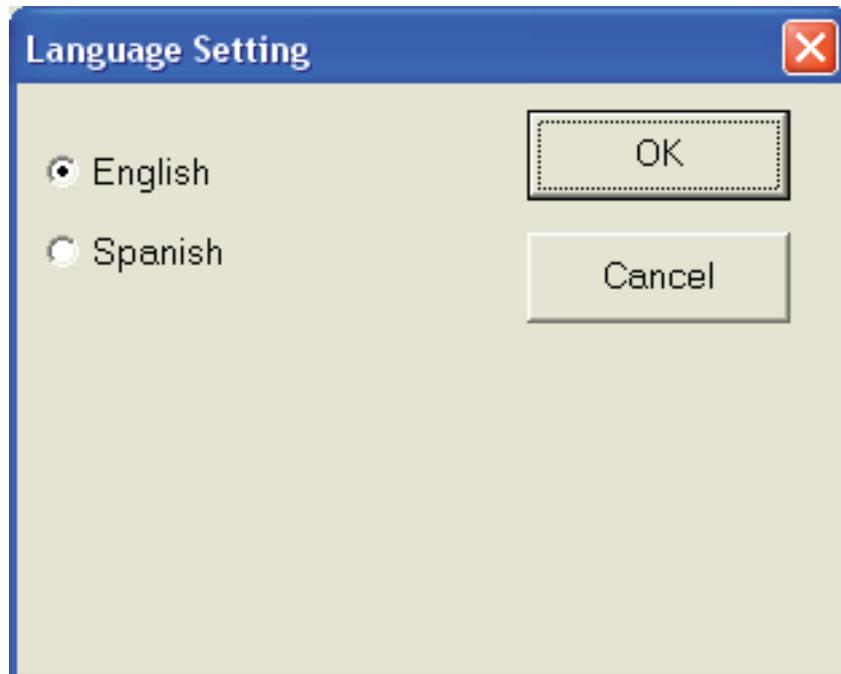


Figure 19 Language Setting Dialog

- | | | |
|---|-----------------|---|
| 1 | English | Select English as the language setting. |
| 2 | Spanish | Select Spanish as the language setting. |
| 3 | [OK] button | Save settings and close this dialog. |
| 4 | [Cancel] button | Cancel settings and close this dialog. |

Throttle Setting

This function is to set a TPS (Throttle Position Sensor) voltage at closing point to the ECU. In order to adjust differences of throttle body (TH/B) on a vehicle, it is possible to let the ECU to learn the TPS voltage at the metal touch position of throttle butterfly.

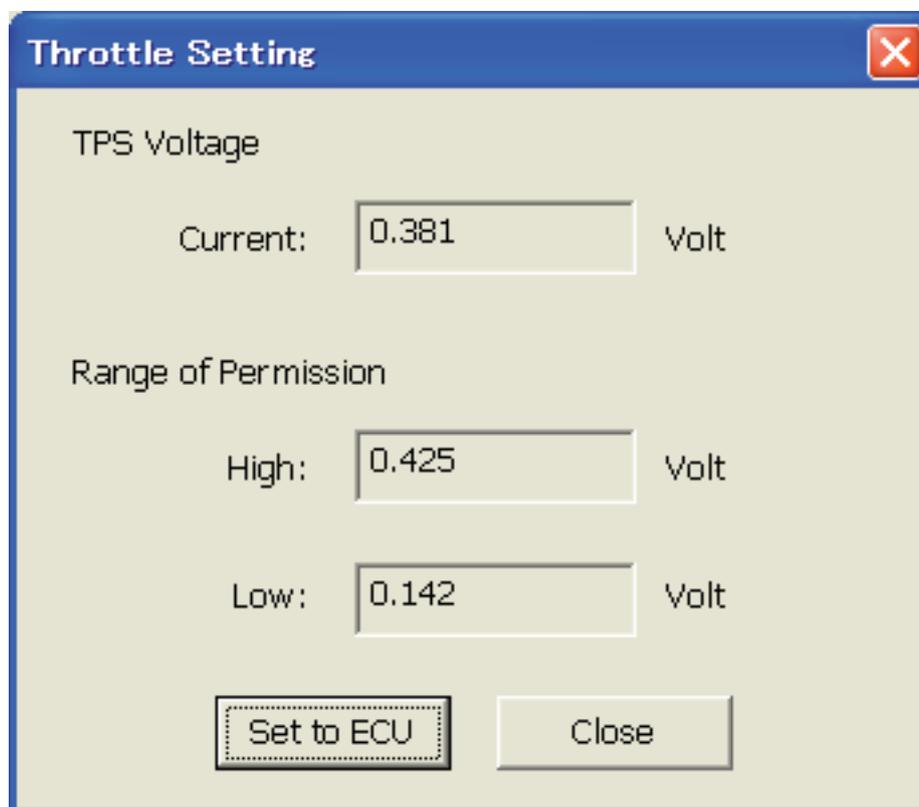
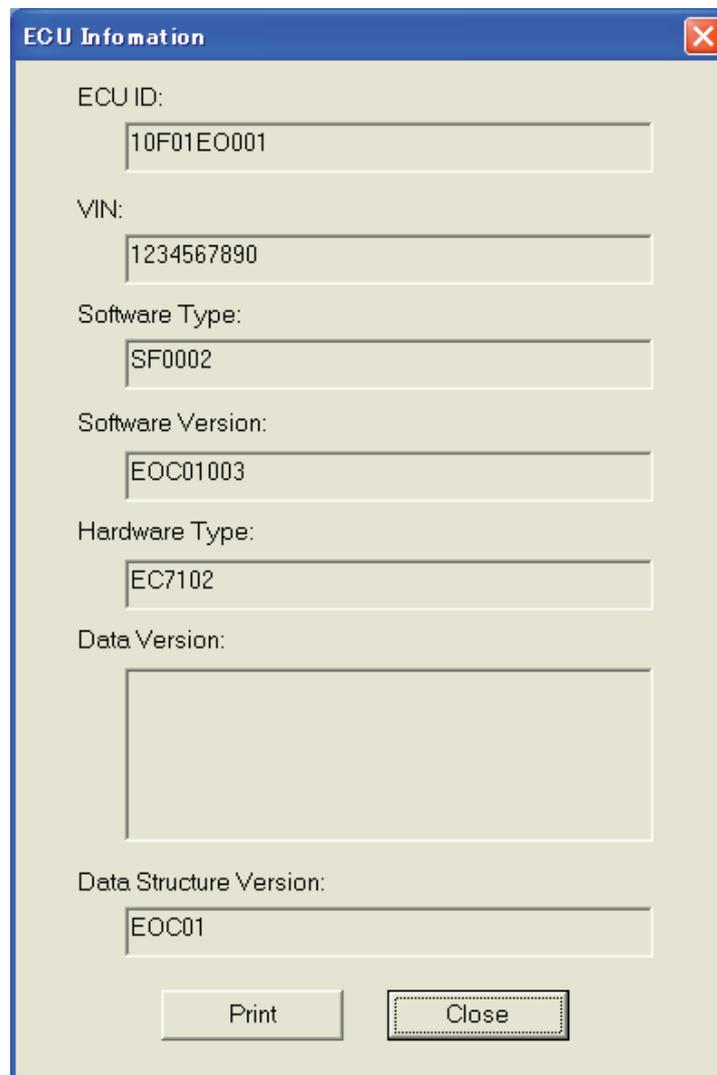


Figure 20 Throttle Setting Dialog

- | | | |
|---|--------------------------|--|
| 1 | TPS Voltage Current | Display current TPC voltage. If the voltage is not within a normal range, it will bedisplayed in red. |
| 2 | Range of permission High | Display upper bound voltage within the normal range. |
| 3 | Range of permission Low | Display lower bound voltage within the normal range. |
| 4 | Set to ECU button | Set the TPS voltage to the ECU. When you clicked the button, the Message 19 will beshown.
If you select 'Yes' button, current TPS Voltage will be setto the ECU. If it is succeeded to set, the Message 20 willbe shown. But if it is failedto set, one of the Message 21-28 will be shown. |
| 5 | [Close] button | Close this dialog. |

ECU INFORMATION

This dialog is used to see ECU information.



ECU Information

ECU ID:
10F01EO001

VIN:
1234567890

Software Type:
SF0002

Software Version:
EOC01003

Hardware Type:
EC7102

Data Version:
[Empty]

Data Structure Version:
EOC01

Print Close

Figure 21 ECU Information Dialog

- | | | |
|---|------------------------|--|
| 1 | ECU ID | Display the ECU ID (Serial Number). |
| 2 | VIN | Display a VIN (Vehicle Identification Number) code of the ECU. |
| 3 | Software Type | Display a software type of the ECU. |
| 4 | Software Version | Display a hardware version of the ECU. |
| 5 | Hardware Type | Display a hardware type of the ECU. |
| 6 | Data Version | Display a data version of the ECU. |
| 7 | Data Structure Version | Display a data structure version of the ECU. |
| 8 | [Print] button | Print ECU information data. |
| 9 | [OK] button | Close this dialog. |

VIN SETTINGS

This dialog is used to set a VIN code to the ECU.

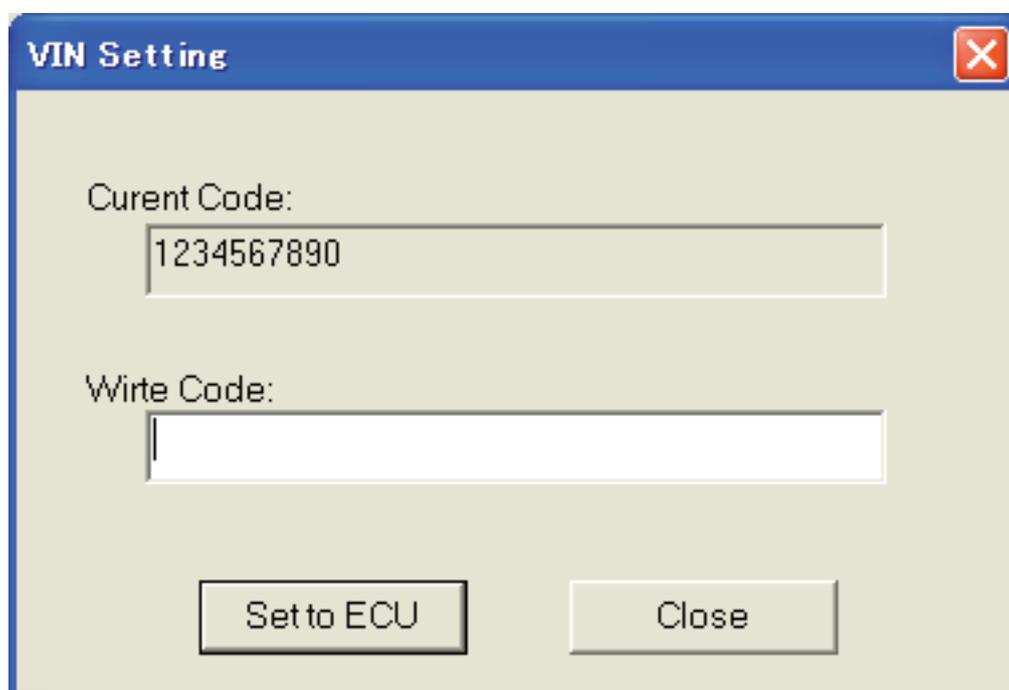


Figure 22 VIN Setting Dialog

- | | | |
|---|---------------------|--|
| 1 | Current Code | Display a VIN (Vehicle Identification Number) code of the ECU. |
| 2 | Write Code text box | Input a VIN code to be set to the ECU. |
| 3 | [Set to ECU] button | Set inputted VIN code to the ECU. When you clicked the button, the Message 29 will be shown. If you select 'Yes' button, the VIN code will be set to the ECU. If it is succeeded to set, Current Code will be updated. But if it is failed to set, the Message 30 will be shown. |
| 4 | [Close] button | Close this dialog. |

About K-Scan

This dialog is used to display version information.

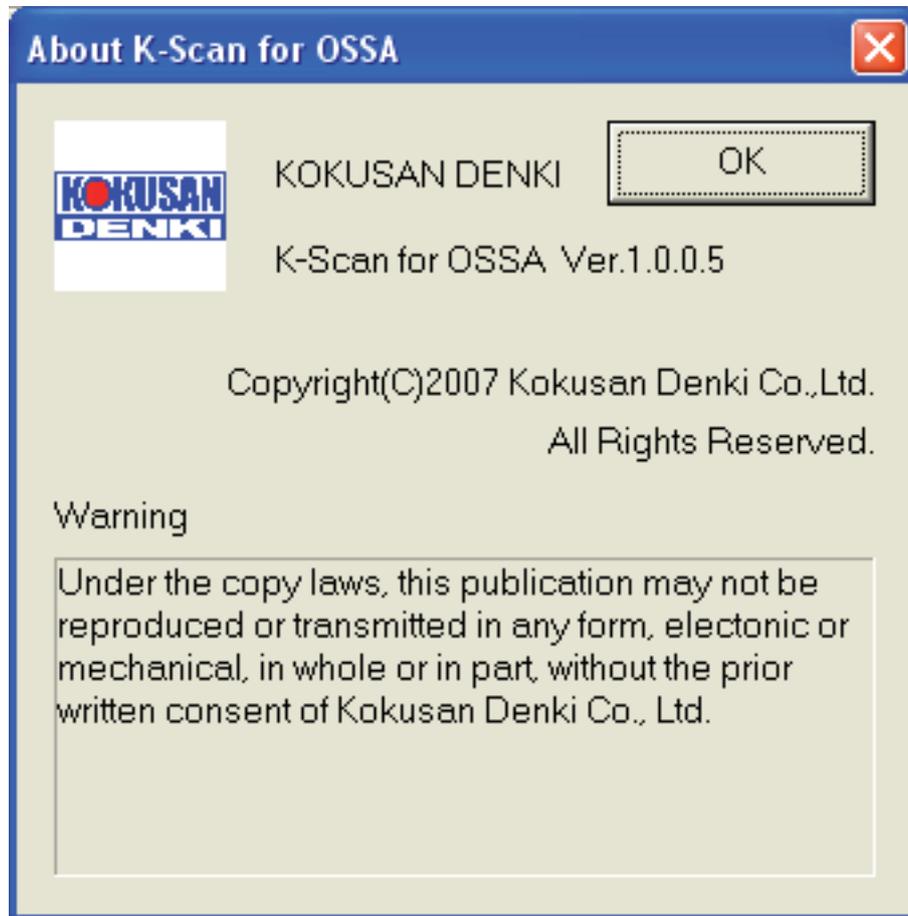


Figure 23 About K-Scan Dialog

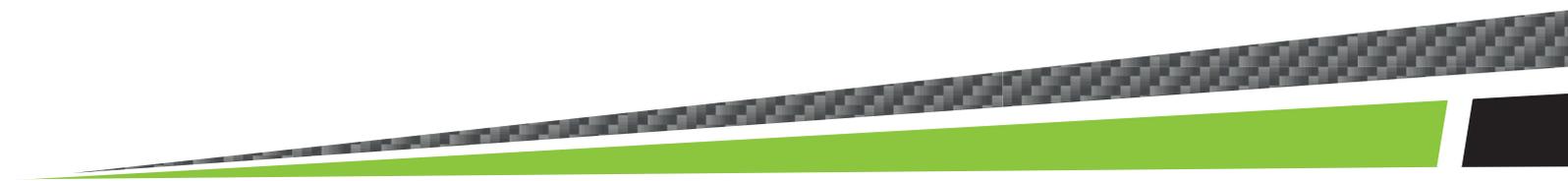
- 1 [OK] button Close this dialog.

MESSAGE LIST

#	Message	Type	Screen	Case
1	Cannot open 'K-Scan.txt'.	OK	Title	'K-Scan.txt' does not exist.
2	Cannot open 'GraphSetting.txt'.	OK	Title	'GraphSetting.txt' does not exist.
3	Cannot open 'PCodeSetting.csv'.	OK	Title	'PCodeSetting.csv' does not exist.
4	Cannot open 'MakerCodeSetting.txt'	OK	Title	'MakerCodeSetting.txt' does not exist.
5	Cannot open 'ActiveTestSetting.csv'.	OK	Title	'ActiveTestSetting.csv' does not exist.
6	Cannot load the language DLL.	OK	Title	The DLL file of selected language does not exist.
7	Cannot connect to the ECU.	OK	Transfer Data View Data View Large Graph View Diagnosis Active Test Data Recording Throttle Setting ECU Information VIN Setting Operating time	The application cannot connect to the ECU.
8	The ECU connection is reconnected.	OK	Transfer Data View Data View Large Graph View Diagnosis Active Test Data Recording Throttle Setting ECU Information VIN Setting Operating time	The ECU connection is reconnected.
9	The ECU returned invalid maker code.	OK	Transfer Data View Data View Large Graph View Diagnosis Active Test Data Recording Throttle Setting ECU Information VIN Setting Operating time	The ECU returned invalid maker code that is supported by 'MakerCodeSetting.txt'.

10	The ECU returned invalid code. Please reset the ECU.	OK	Diagnosis	When the ECU returned invalid code.
11	Push the stop button, and try again.	OK	Graph View Active Test Running Data Recording	When you click the button to Switch Screen while each process of Screens is running.
12	This version does not support this language.	OK	The language	When you select except English.
13	Cannot connect to the ECU!	OK	The transfer	The application cannot connect to the ECU with the setting when you click the back button.
14	Would you like to clear all historic errors?	YESNO	Diagnosis	When you click the History Clear button.
15	Cannot clear historic errors.	OK	Diagnosis	The application failed to clear the 'Historic Error'.
16	The recording error occurred.	OK	Data Recording	The application failed to record data.
17	The recording was finished.	OK	Data Recording	The recording was finished normally.
18	Cannot open the recording file.	OK	Data Recording	The application cannot open the recording file.
19	Have you set a throttle butterfly to the metal touch position? Is the range of the current voltage normal?	YESNO	Throttle Setting	When you click the Set to ECU button.
20	Setting is succeeded.	OK	Throttle Setting	When the ECU returned normal code.
21	TPS voltage is out of range.	OK	Throttle Setting	When the ECU returned this error code.
22	TPS Sensor Error.	OK	Throttle Setting	When the ECU returned this error code.
23	TPS Sensor Power Error.	OK	Throttle Setting	When the ECU returned this error code.
24	Engine is running.	OK	Throttle Setting	When the ECU returned this error code.
25	Out of Battery.	OK	Throttle Setting	When the ECU returned this error code.
26	There is no software in the ECU.	OK	Throttle Setting	When the ECU returned this error code.
27	Unexpected error occurred.	OK	Throttle Setting	When the ECU returned this error code.
28	This function is not supported by the ECU.	OK	Throttle Setting Operating time	When the ECU returned this error code.

29	Would you like to write VIN code?	YESNO	VIN Setting	When you click the Set to ECU button.
30	Cannot write VIN Code.	OK	VIN Setting	When the application failed to write the 'Historic Error'.
31	Cannot save screen data.	OK	Data View Diagnosis	When the application failed to save screen data.
32	Cannot open selected log file.	OK	Log File View	When the application failed to open a log file.
33	Cannot print screen data.	OK	ECU Information	When the application failed to print screen data.
34	Cannot open 'K-Scan.pdf'.	OK	Help	When the application failed to open the 'K-Scan.pdf'.



QUICK SOFTWARE UPDATING

1. First of all disconnect the Capacitor Unit wires (under the headlight mask) and connect to a 12V Battery.

2. Execute the [Kwrite Pro] software.

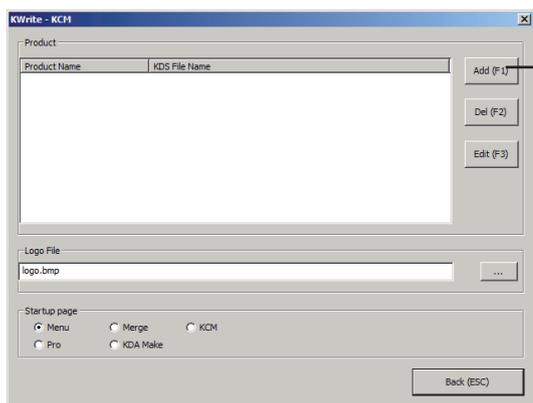
3. Register the “kds file” in [Kwrite Pro].

Note: this process is necessary to execute only once for each update version.



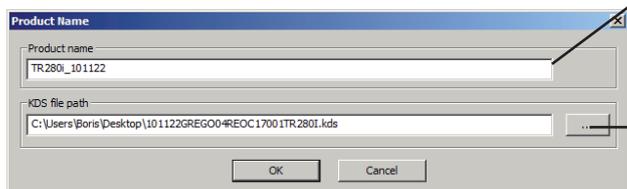
Step 1

Start [Kwrite Pro] and click on “KCM”



Step 2

Click on “Add”, and set up the information path of the kds file.

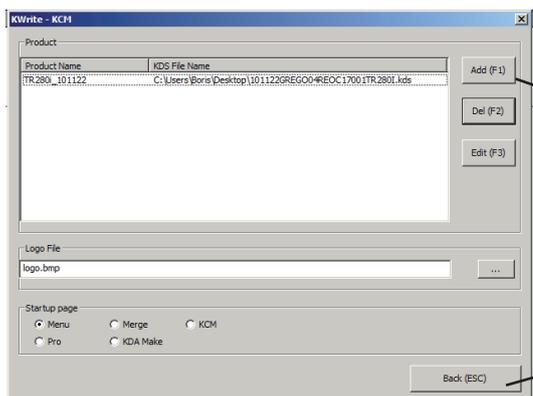


Step 3

Input the information on the file (i.e. Update date)

Step 4

Click here and select the .kds file.



The registration of the .kds file was completed by the above-mentioned operation

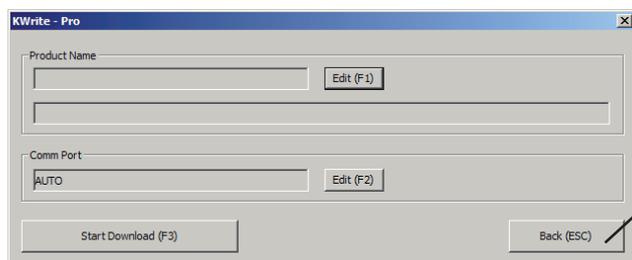
Step 5

Click on “Back”

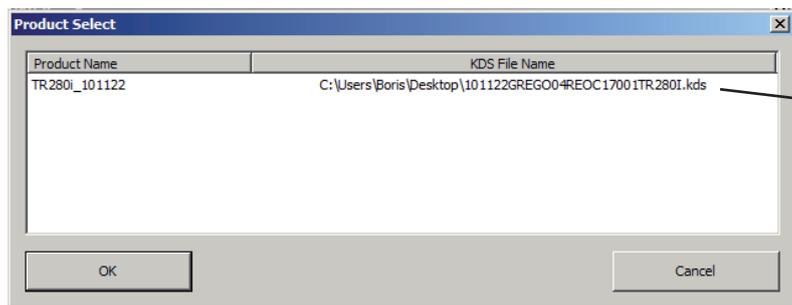
4. Write/-Update the .kds file in ECU.



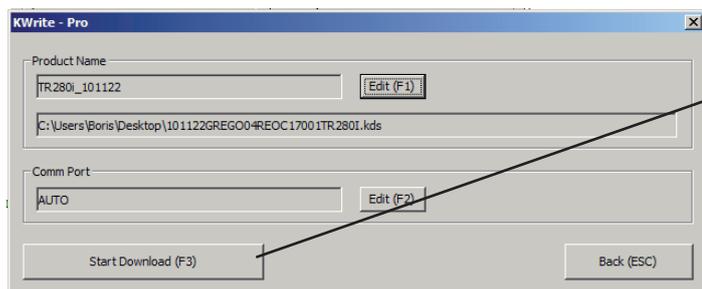
Step 1
Click on "Pro"



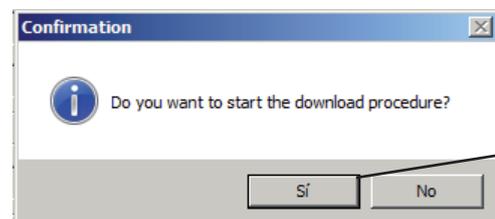
Step 2
Click on "Edit" only the first time.



Step 3
The .dks file registered by Process 2 is displayed. Select the file that executes writing.



Step 4
Click on "Start Download".



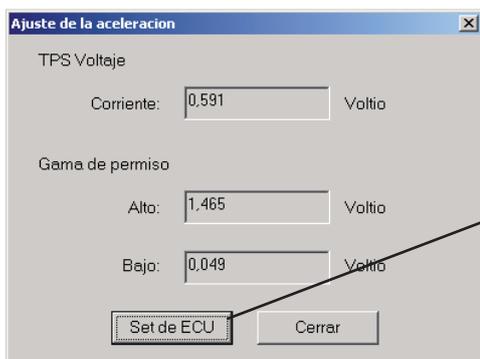
Step 5
Click on "Yes"

5. Adjustment of Idle Position: Execute the [Kscan] software.



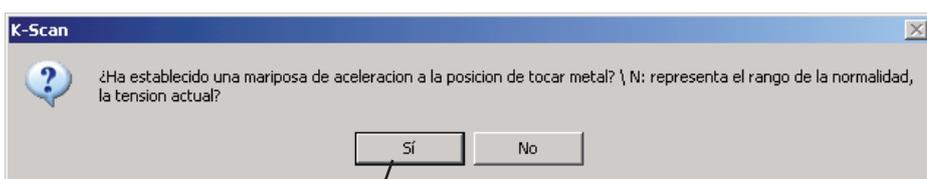
Step 1

Click the icon "Ajuste de la aceleracion"



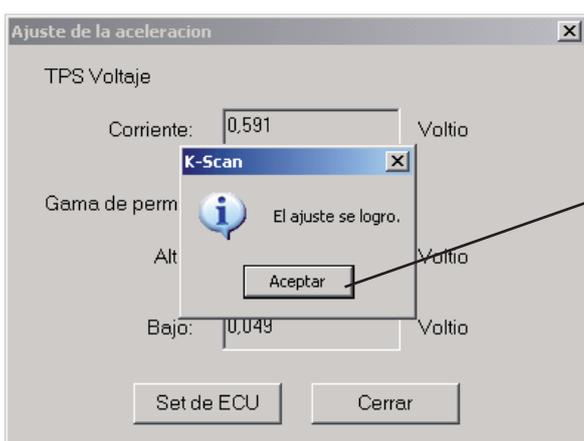
Step 2

With the throttle on the base position (idle position) click "Set de ECU"



Step 3

Click "Yes" to confirm.



Step 4

The adjustment of the idle position is done. Click "Ok".

6. IMPORTANT!!! In order to ensure correct updating of the ECU, please restart the Battery voltage before starting the engine. If not updates will not be saved.

5.1 CYLINDER HEAD

Check the flatness of the surface and the state of the rubber O-rings. If the O-rings are deteriorated they should be replaced

5.2 CYLINDER

Check the state of the 'Nikasil' plating. There should be no abnormal vertical scratches.

5.3 PISTON AND RINGS

Check the wear using a 0.25mm gauge for the maximum separation space on the rings. If the space is larger, replace the rings.

5.4 PISTON ROD

Check if there is play on the rod. Without taking out the crankshaft from the crankcase, tapping it by hand in a perpendicular direction to the axle of the rod.

5.5 CRANKSHAFT

Check if it is centered and the possible wear on the are where the seals sit.

5.6 CLUTCH

Check the flatness of the clutch discs, and the total thickness of the pack (3+2 discs). The minimum thickness is 9'75mm

5.7 GEAR ASSEMBLY

Check the state of the shift drum and the possible wear on the gear forks. The minimum thickness on the contact part with the moving gears is 2'55mm

5.8 TRANSMISSION

Replace sprockets and chain if the chain has 4 mm of play between the sprocket teeth.

5.9 BEARINGS

Check their lateral play and smooth rolling.

5.10 SEALS

Check the state of the seal lips, to make sure the wear has not made them flat.

5.11 SPARK PLUG

Ensure it is tightened to the recommended torque (see page 18)

5.12 ENGINE OIL

Use 350 cm³ of Gear Extreme 75w oil. Change after first ride and every 30 hours of use.