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Introduction

Hardware Configuration home

The hardware configuration for Mercedes-Benz is as shown in Figure 01.

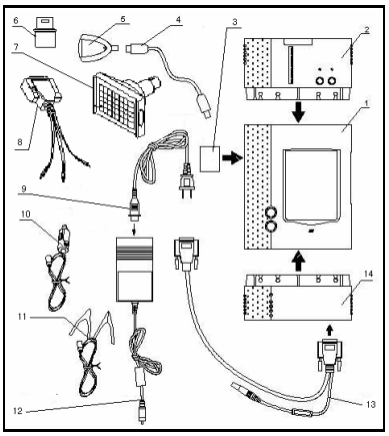

Figure 01

Configuration for Mercedes-Benz Diagnosis (Figure 01)

Item	Name	Descriptions	Item	Name	Descriptions
1	X-431 main unit	To display operation buttons, test result, help information, etc.	8	[Smart-3] connector	To diagnose vehicles with 16PIN or 8PIN rectangular diagnostic socket
2	MINIPRINTER	To print test result. (optional)	9	Power cord	To connect the AC 100-240V outlet and the power adapter.
3	CF cartridge	To store diagnostic software and data	10	Cigarette lighter cable	To get power from the vehicle cigarette lighter
4	USB cable	To connect CF card reader/writer and computer	11	Battery cable w/two clips	To get power from the vehicle battery
5	CF card reader/writer	To read or write data on the CF card	12	Power adapter	To convert 100-240V AC power into 12V DC power.
6	[Smart OBDII-16] connector	To diagnose vehicles with OBDII-16PIN trapezoid diagnostic socket	13	Main cable	To connect the diagnostic connector and SMARTBOX
7	[Mercedes-Benz-38] connector	To diagnose Mercedes-Benz vehicles with 38PIN diagnostic socket	14	SMARTBOX	To perform vehicle diagnosis

Ports and Indicators

home

See Figure 02 for X-431 connection ports and indicators.

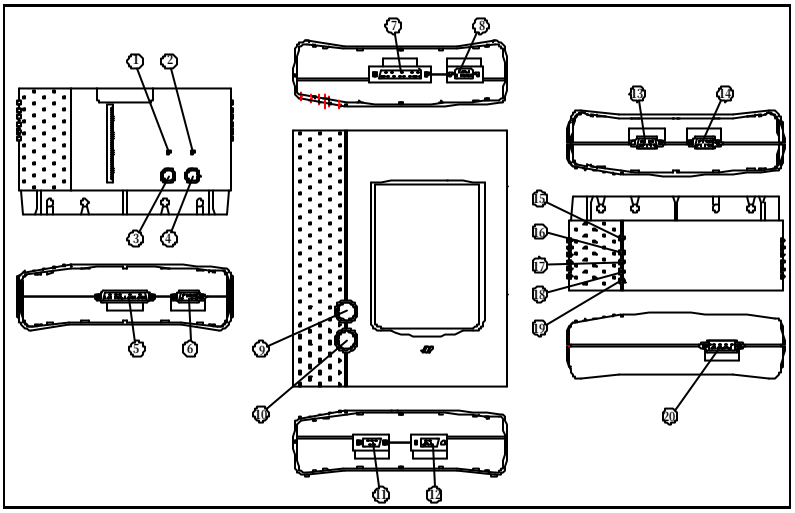

Figure 02

1	Printer SEL indicator（printer readiness）
2	Printer power indicator
3	Printer SEL button （printer readiness）
4	Printer FL button （paper feed）
5	Parallel communication port for connecting printer to main unit
6	Power input for printer
7	Parallel communication port for connecting main unit to printer
8	Power output of main unit.
9	Hotkey of main unit
10	Power switch of the main unit.
11	Power input of main unit
12	Serial communication port of main unit
13	Power output of SMARTBOX
14	Serial communication port of SMARTBOX
15	SMARTBOX power indicator
16	Indicator to show SMARTBOX sending data to the main unit
17	Indicator to show SMARTBOX receiving data from the main unit
18	Indicator to show SMARTBOX sending data to ECU
19	Indicator to show SMARTBOX receiving data from ECU
20	SMARTBOX data port

Printer Operation

home

Mounting Paper

home

MINIPRINTER uses heat sensitive paper with size of Φ30×57mm (internal hole Φ7mm). Refer to Figure 03a to Figure 03d for mounting the paper.

1. Open the paper lid on the back of the printer. See Figure 03a.

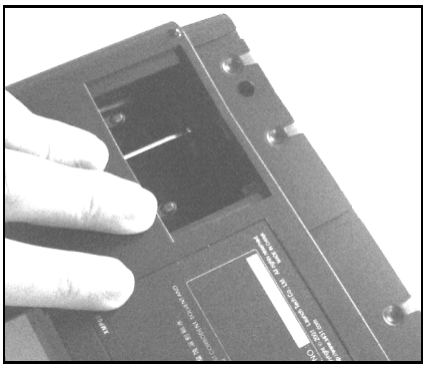

Figure 03a

2. Take out the spindle and mount the paper scroll onto the spindle. See Figure 03b.

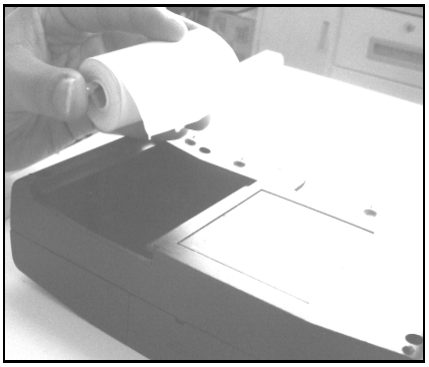

Figure 03b

3. Put the paper spindle into the printer with correct direction. The paper may not be fed if the direction is wrong. See Figure 03b and Figure 03c.

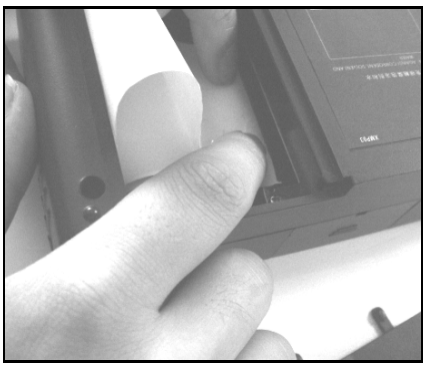

Figure 03c

4. Open the side plate, pull up the pressing rod and lead the paper into slot. Turn the feed knob clockwise until the paper comes

out of the outlet. See Figure 03d.

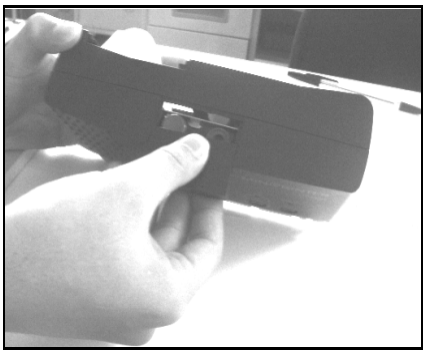

Figure 03d

5. Push down the pressing rod, mount the side plate, attach the paper lid, and then connect the printer to the X-431 main unit.

Printing Test Result

home

There are two indicators on the printer:

1. [SEL]：to show the readiness of the printer.
2. [POWER]：the power indicator of the printer.

If the [SEL] indicator is not lit, you can press the [SEL] button to turn it on and make the printer ready.

When the [SEL] indicator is lit, it shows that the printer is ready. Click the [PRINT] button (if it appears) on the screen of X-431 main unit to print the test result.

Explanation of Buttons

home

[POWER]	Power button
[HOTKEY]	Hot key. Press it to calibrate the screen after the machine is turned on. Or press it to enter the vehicle diagnosis interface after X-431 is started.
[SEL]	To select the printer. When [SEL] indicator is lit, the printer is ready to print. If [SEL] indicator is not lit, the printer is not able to print.
[FL]	Paper-feed button.

Button Descriptions

home

The main buttons on the operation interface and their functions are as follows:
[**BACK**]: to return to the previous interface.
[**START**]: to do the next operation.
[**EXIT**]: to exit the diagnostic program.
[**OK**]: to confirm and execute.
[**CANCEL**]: to cancel present operation and return to the previous interface.
[**PAGE UP**]: to display the previous page. It is inactive if the current page is the first page.
[**PAGE DOWN**]: to display the next page. It is inactive if the current page is the last page.
[**HOME**]: return to the main interface.
[**PRINT**]: to print the test result.
[**BOX INFO**]: to show the version information of SMARTBOX.
[**HELP**]: to display the help information.
[**RETRY**]: to do the unfinished operation once again.

Conditions for Test

home

- The voltage of vehicle battery should be 11-14V. The rated voltage of the X-431 is 12V.
- Turn off all electric devices such as A/C, headlight, stereos etc.
- The throttle should be in the closed position.
- The ignition timer and idle speed should be in the standard range; the water temperature should be 90-110℃ and the transmission oil temperature should be 50-80℃.

Select Diagnostic connector

- Select the [Benz-38] connector for 38PIN diagnostic socket, or
- Select [Smart OBDII-16] connector for 16PIN trapezoid diagnostic socket, or
- Select [Smart-3] connector for 16PIN or 8PIN rectangular diagnostic socket.

Note:
In [Smart-3] connector, the red probe is for power，black probe for grounding and yellow probe for signal.

Diagnostic Socket Location

- The 16PIN trapezoid diagnostic socket is located in the cab under the instrument.
- The 38PIN diagnostic socket is in the engine compartment, passenger side, near the strut tower.
- The 16PIN or 8PIN rectangular diagnostic socket is located near the firewall of the vehicle.

Pin Definitions

home

16PIN Diagnostic Socket

The 16PIN trapezoid diagnostic socket is as shown in Figure 04.

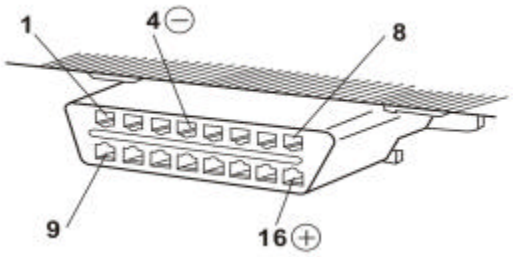

Figure 04

PIN definition of 16PIN OBDII diagnostic socket

PIN	Definition
1	Two way communication line
2	Not used
3	Not used
4	Body ground
5	Signal ground
6	CAN interior bus (H)
7	Two way communication line
8	Ignition signal
9	Two way communication line
10	Not used
11	Two way commu nication line
12	Two way communication line
13	Two way communication line
14	CAN interior bus (L)
15	Two way communication line
16	Battery voltage

16PIN rectangular diagnostic socket

The 16PIN rectangular diagnostic socket is as shown in Figure 05.

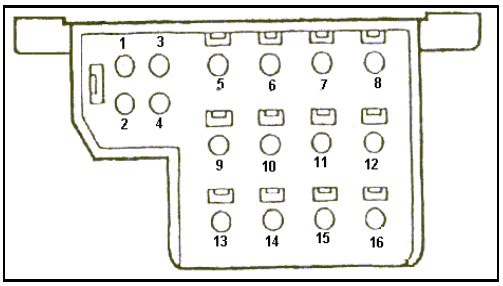

Figure 05

PIN definition of 16PIN rectangular diagnostic socket

PIN	Definition
1	Body ground
2	On-board diagnostic switch
3	CIS-E/DM
4	EDS/LED
5	ASD
6	AB
7	AC(124)/RB(129)
8	DI/HFM, SFI, MFI /DMS
9	ADS /RB(124)
10	RST(129)/speed signal
11	ATA
12	IRCL
13	EATC
14	EA(124)/ISC(124)/ESCM(129)/CC
15	Not used
16	Positive pole of power

38PIN Diagnostic Socket

The 38PIN diagnostic socket is as shown in Figure 06.

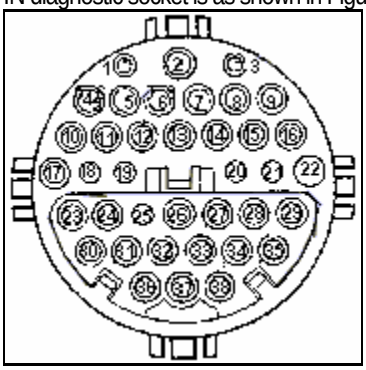

Figure 06

PIN definition of 38PIN diagnostic socket

PIN	Definition
1	Body ground (or battery ground)
2	Ignition signal

3	Power
4	ENG ECU (M120 right), IGN ECU, diesel ENG ECU
5	LH engine ECU (M120 left)
6	ABS/ASR
7	Electronic throttle/CC /Idle Control
8	Comprehensive ECU
9	ASD
10	Auto transmission
11	ADS
12	PML, SPS
13	Not used; RPM signal (LH & HFM - direct ignition)
14	Not used; Percentage diagnosis (LH-right)
15	Dash board; Percentage diagnosis (LH-left)
16	A/C
17	EZL (M120 right), TD signal (HFM & 140), RPM signal (LH)
18	EZL (M120 left)
19	CARB.DM
20	CLS, PSE
21	Additional equipment (slide roof control)
22	Additional equipment (rollover bar control module)
23	EDW
24	Not used
25	Not used
26	Not used; ASD
27	Not used
28	Not used
29	Additional memory; Not used
30	SRS; AB/ETR
31	Infrared door lock
32	Not used
33	Travel ECU; Not used
34	Not used
35	Not used
36	Assistant heater
37	Not used
38	Not used

8PIN rectangular diagnostic socket

The 8PIN rectangular diagnostic socket is as shown in Figure 07.

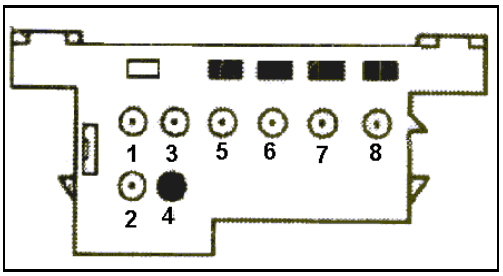

Fig.07

PIN definition of 8PIN rectangular diagnostic socket

PIN	Definition
1	Body ground
2	Ignition signal/Press button
3	Diagnosis percentage
4	Engine trouble code/LED
5	ASD
6	SUS trouble code
7	A/C trouble code
8	Ignition control system

Connection

home

Refer to Figure 08 and Figure 09 for 38PIN and 16PIN trapezoid diagnostic sockets connection.

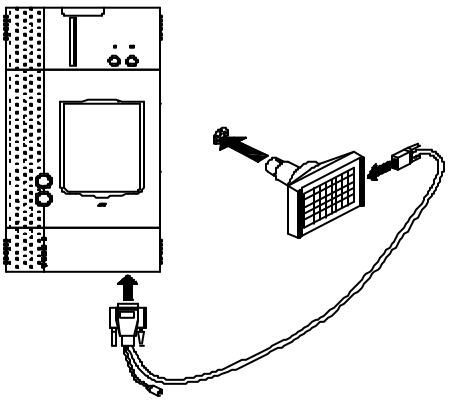

Figure 08

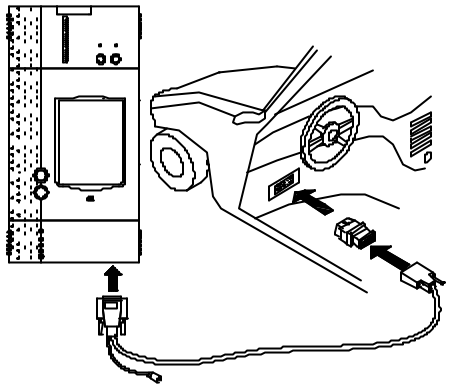

Figure 09

- ✍ Insert the CF cartridge into the CF cartridge slot, let the side printed with "X-431" be downward, and make sure the cartridge is fully seated.
- ✍ Insert one end of the main cable into the diagnostic socket on SMARTBOX.
- ✍ Connect the other end of the main cable to the selected diagnostic connector.
- ✍ Connect the other end of the diagnostic connector to the vehicle diagnostic socket.

Note:
If the power supply on vehicle diagnostic socket is insufficient or the power pin is damaged, you can get power in the following ways:

- ? ***From cigarette lighter: insert one end of the cigarette lighter cable into the lighter socket in vehicle and connect the other end to the power connector of X-431 main cable.***

- ? ***From battery: clamp the two clips of battery cable on the positive and negative poles of battery and insert another end of the cable into the power connector of X-431 main cable.***

- ? ***From power adapter: connect the power adapter to the 100-240V AC outlet with power cord. Insert the 12V DC plug of power adapter into the power connector of X-431 main cable***

If the diagnostic socket is rectangular 16PIN or 8PIN, make the connection in the following way:

- ✍ Earth the black probe of the [Smart-3] connector. It means that plug the black probe of the connector into jack #1 of the 8PIN or 16PIN diagnostic socket.
- ✍ Connect the red probe of the [Smart-3] connector to the power in the following ways:
  1. For 16PIN rectangular diagnostic socket, plug the red probe of the connector into jack #16 of 16PIN diagnostic socket.
  2. For 8PIN rectangular diagnostic socket, it is necessary to get power by means of battery cable or cigarette lighter cable as described above.
  3. Connect the yellow probe of the [Smart-3] connector to signal cable. Refer to the screen prompts for specific jack.
- ✍ Connect the other end of [Smart-3] connector to the main cable. Then connect the main cable to SMARTBOX.

Operation

home

Entering Function Menu

After connection, press [**POWER**] key to start X-431.

After starting the main unit, press [**HOTKEY**] (or click [**Start**] button on **the main menu**, and select [**GAG**]→[**GD Scan**] on the pop-up menu), the screen will display the home page of vehicle diagnosis as shown in Figure 10.

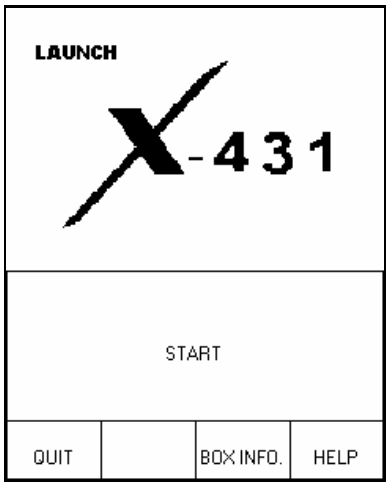

Figure 10

Button descriptions:
[**QUIT**]: to exit the diagnostic program.
[**BOX INFO.**]: to display hardware and software version of SMARTBOX.
[**HELP**]: to display help information.
[**START**]: to start the diagnosis.

Click [**START**] button, the screen will display **the vehicle make menu** as shown in Figure 11.

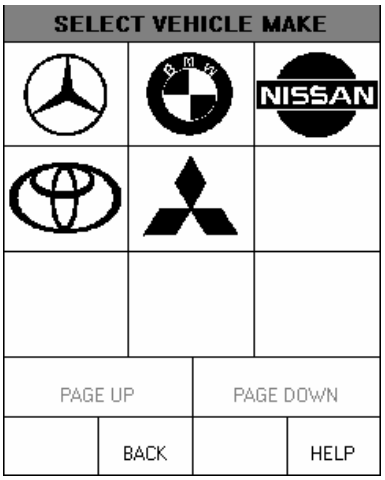

Figure 11

Button descriptions:
[**BACK**]: to return to the previous interface.
[**PAGE UP**]: to display the previous page, it is inactive if the current page is the first page.
[**PAGE DOWN**]: to display the next page, it is inactive if the current page is the last page.
[**HELP**]: to display the help information.

Click the icon of Mercedes-Benz on the vehicle make menu, the screen will display as shown in Figure 12.

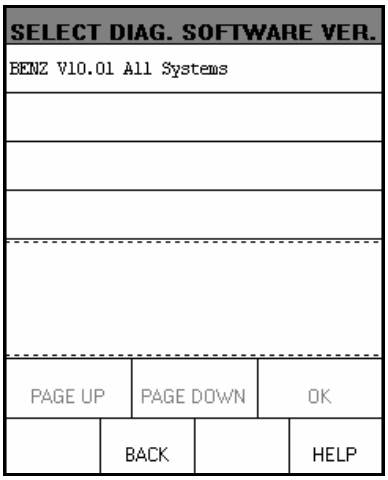

Figure 12

Click [**BENZ V10.01 All Systems**], the screen will display as shown in Figure 13.

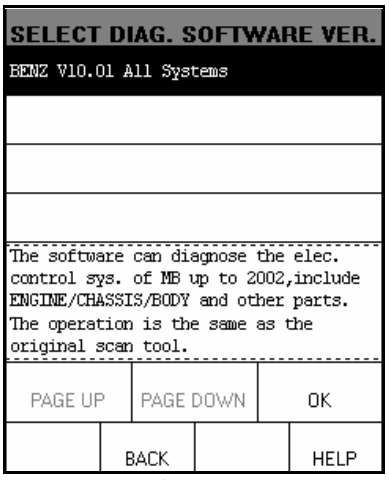

Figure 13

The software can diagnose the electronic control systems of Mercedes-Benz up to 2000, including ENGINE/CHASIS/BODY and other parts. The operation is the same as that of the original scan tool.

Click [**OK**] button, X-431 begins reset and check the SMARTBOX, and download the

diagnostic program from the CF cartridge. After download, the screen will display as shown in Figure 14.

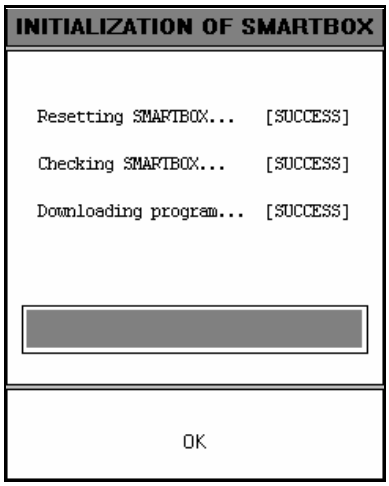

Figure 14

Button descriptions:
[**OK**]: to go on test.

Digital Diagnosis

home

When the initialization is finished, click [**OK**] button, the screen will display **the chassis menu** of Mercedes-Benz vehicle. See Figure 15.

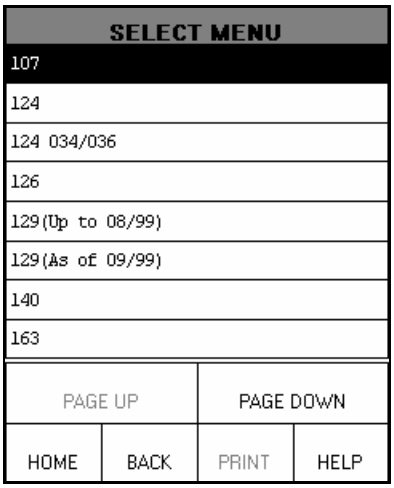

Figure 15

Click [**PAGE DOWN**] or [**PAGE UP**] to find the item corresponding to the tested vehicle. Then click the item to enter the next menu.

Note:

- ***Now we take [220] (Chassis)→[Gasoline engine] → [Left-hand steering] → [220.065.S320]→[Control units]→[Drive] as example to explain the diagnosis steps.***
- ***There are too many models and systems for MERCEDES-BENZ. It is not possible and not necessary to list the test steps for all of the models and systems. The test procedures for different models and systems are similar. X-431 displays tips and help information. User can refer to the example or the tips to perform test for different models and systems.***

Click [PAGE DOWN] to find [220] and dick it. The screen display will be as shown in Figure 16:

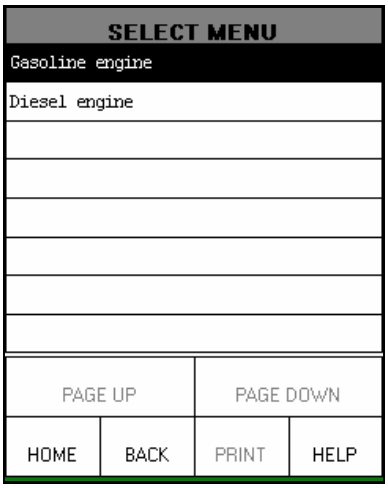

Figure 16

Button description:
[PRINT]: to print the test result (this function is available only when the word becomes black.).

Click **[Gasoline engine]**, the screen display will be as shown in Figure 17:

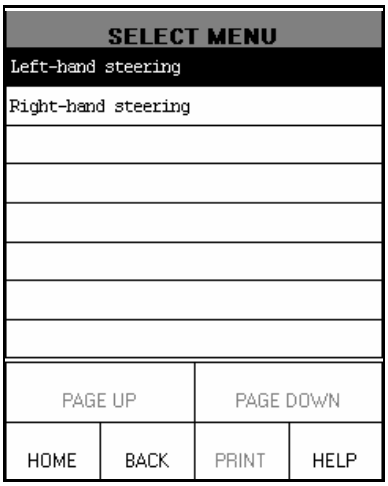

Figure 17

Click [Left-hand steering], the screen will display the 220 chassis menu, as shown in Figure 18：

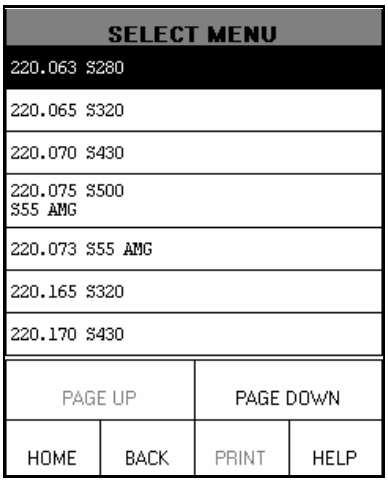

Figure 18

There are two pages showing the menu of 220 chassis. Click [PAGE DOWN] to display the second page, as shown in Figure 19:

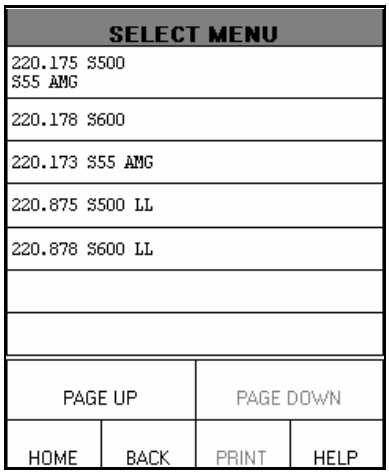

Figure 19

Click [220.065.S320] that in the 220 chassis menu. The screen display will be as shown in Figure 20:

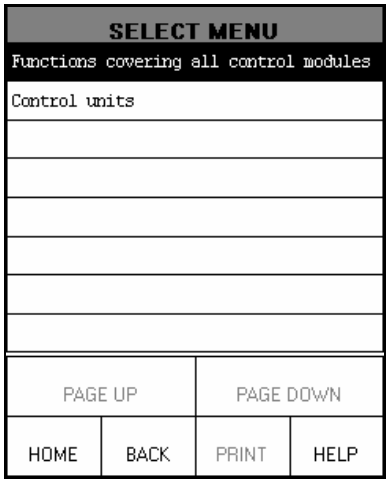

Figure 20

The difference between these two items is in the classification method of system. For easy operation, usually select [Control units].

Click [Control units]. The screen will display the system classification menu, as shown in Figure 21:

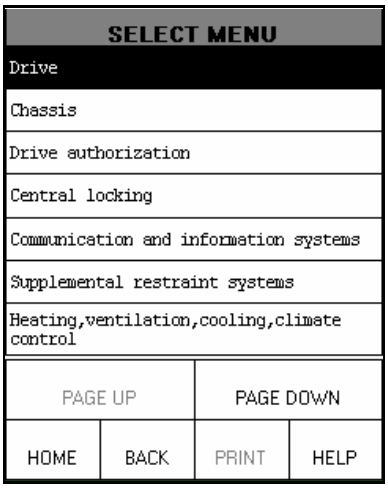

Figure 21

Note:
Different chassis may have different system classification menu.

Click [Drive], the screen will display the menu of driving system, as shown in Figure 22:

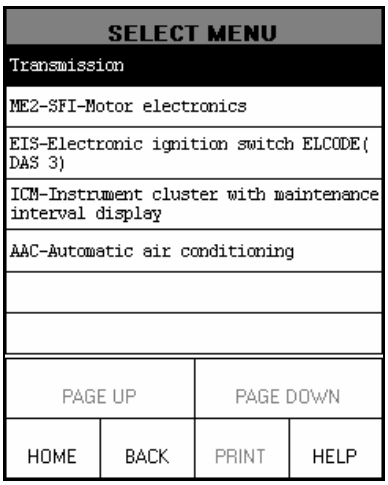

Figure 22

Click [ME2-SFI-Motor electronics]. The screen display will be as shown in Figure 23:

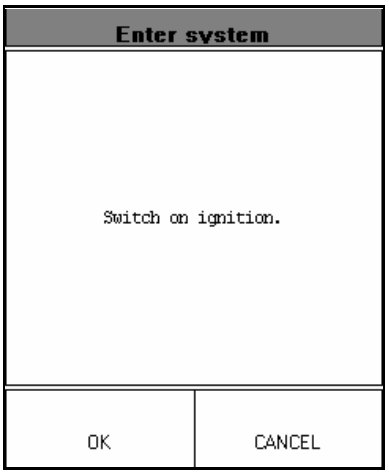

Figure 23

Follow the tips on the screen to switch on the ignition. Then click [OK] button to perform test. Click [CANCEL] to return to the previous interface.

Note:

- ***It may be necessary to start the engine when testing some types of vehicle.***
- ***If the test fails with the ignition switched on, you can try the test again after the engine is started.***

After turning on the ignition, click [OK]. A moment later, X-431 displays the function menu relating to the tested engine model, as shown in Figure 24:

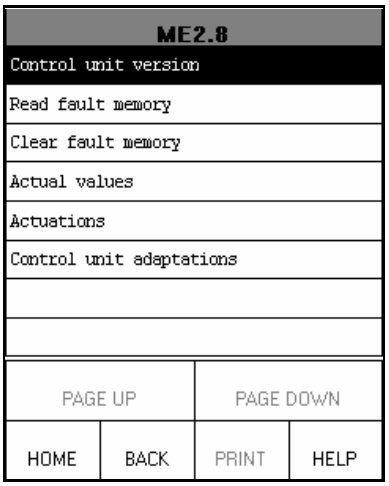

Figure 24

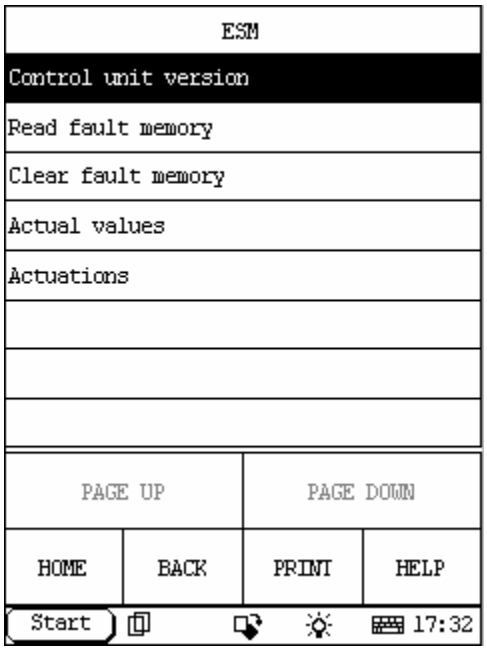

Figure25

ESM SYSTEM

home

In ESM system following functions can be selected for running:

- Control unit version
- Read fault memory
- Clear fault memory
- Actual values
- Actuations

Click corresponding item to perform the function test.

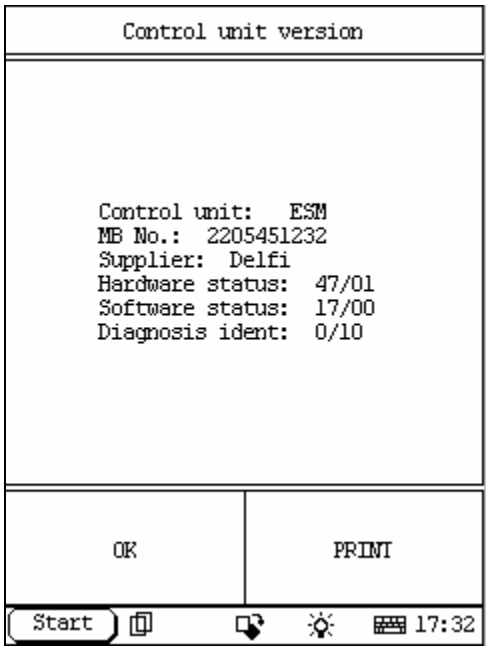

Figure26

Control Unit Version

home

Click [**Control unit version**] that in the function menu. The screen will display the information about the control unit version of the test system, as shown in Figure26.

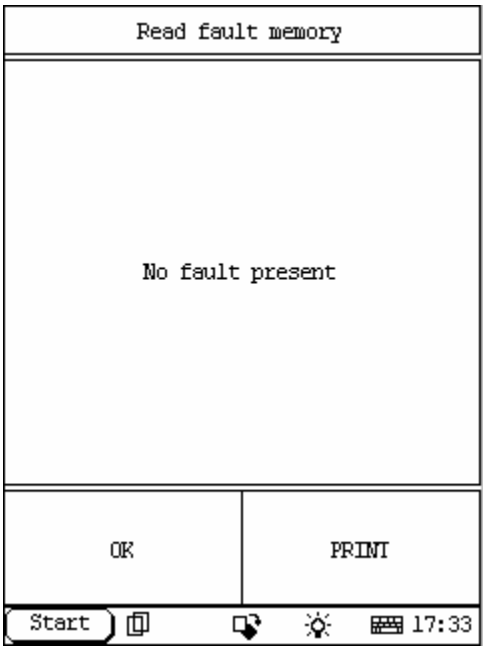

Figure27

Read Fault Memory

home

Click [**READ FAULT CODE**] in the function menu. X-431 starts to scan the fault code. The screen will display the result after the scanning is finished. Figure 27 shows an example.

Note:

- ***The first part of the information is the fault code; the second part is description of the fault code; the third part is the status of the fault code (there may be no third part for some fault code).***
- ***If there is no fault code in the tested system, the screen will display message "No fault present".***
- ***After the test result is displayed, click [PRINT] to print out the test result.***
- ***Click [ok] to return to the function menu.***

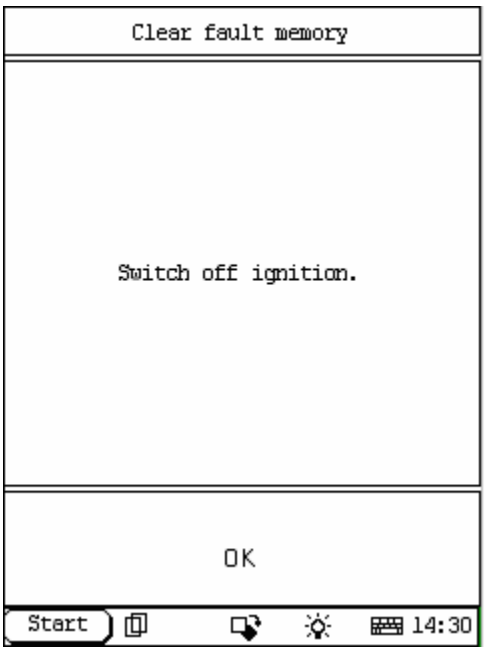

Figure28

Clear Fault Memory

home

Click [**Clear fault memory**] that in the function menu. The screen will prompt the user to switch off the ignition, as shown in Figure28:

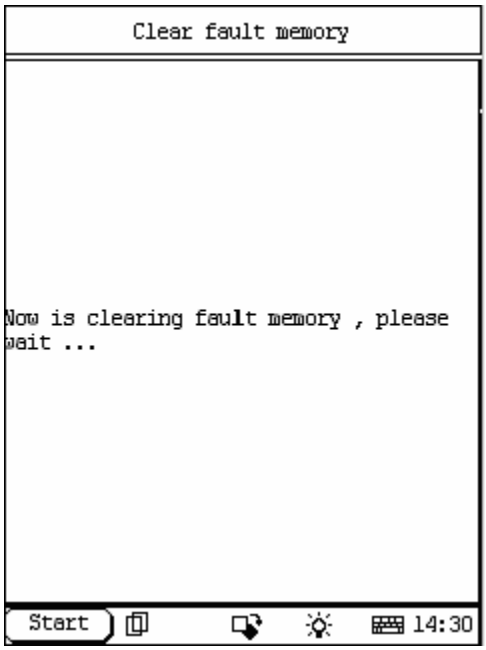

Figure29

After the ignition is turned off, click [**OK**] to clear the fault memory. The screen will display the massage as shown in Figure29:

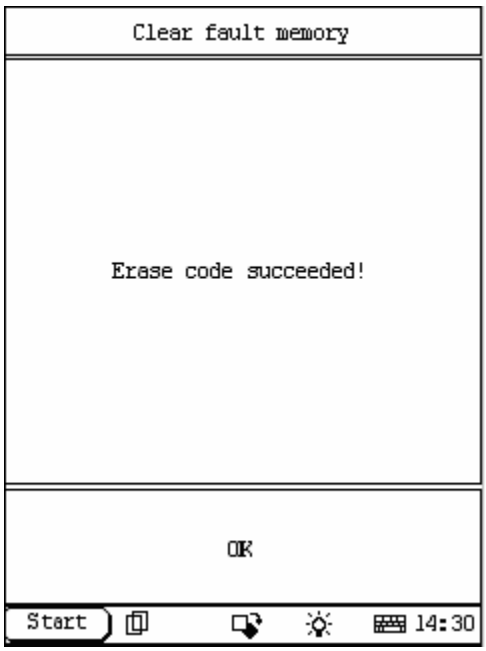

Figure30

After the fault code is cleared, the screen will show the related message. Click [**OK**] to return to the function menu.

Figure31

Read Data Stream

home

Click [Actual values] that in the function menu. The screen will display the list of data streams, as shown in Figure 31

There is more than one page for the list. Click [**PAGE UP**] or [**PAGE DOWN**] to turn the page. Figure 31 shows the first page.

.

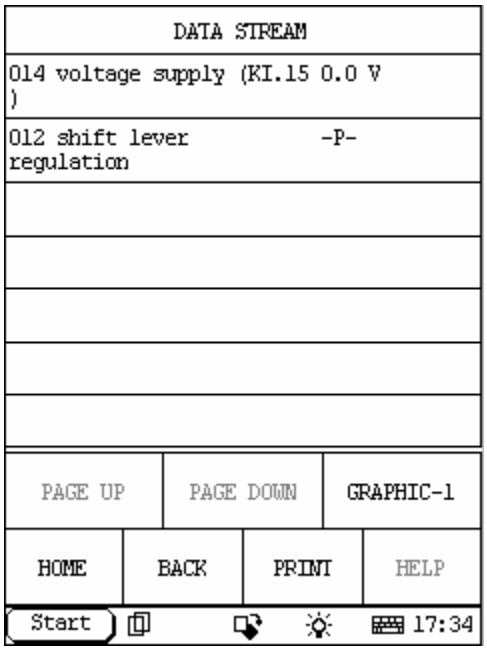

Figure32

For example, select 2 items -- [**Voltage supply**] and [Shift lever] then click [**OK**]. The screen will display the real-time values of these 4 items, as shown in Figure32:

Note:

- ***When clicking [DIGITAL] in the interface, the screen will display the real-time value of the data stream again.***
- ***The three display mode -- [DIGITAL], [GRAPHIC-1] and [GRAPHIC-2] can be switched in turn.***

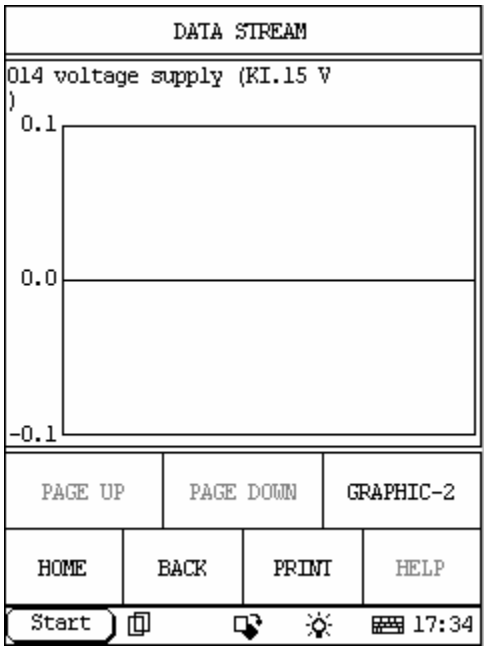

Figure33

Click [**GRAPHIC-1**] in the interface shown in Figure 32. The screen will display the waveform for one data stream item. See Figure 33.

Click [**PAGE DOWN**] to display the waveform of the next data stream item.

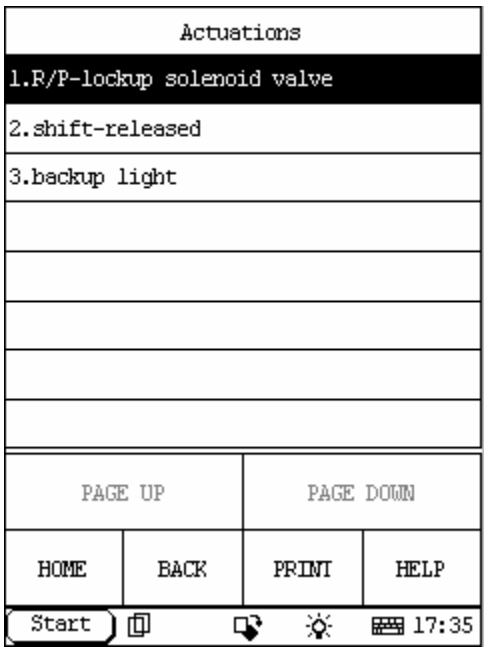

Figure34

Actuations

home

Click [**Actuations**] in the function menu. The screen will display a list of actuations, as shown in Figure 34:

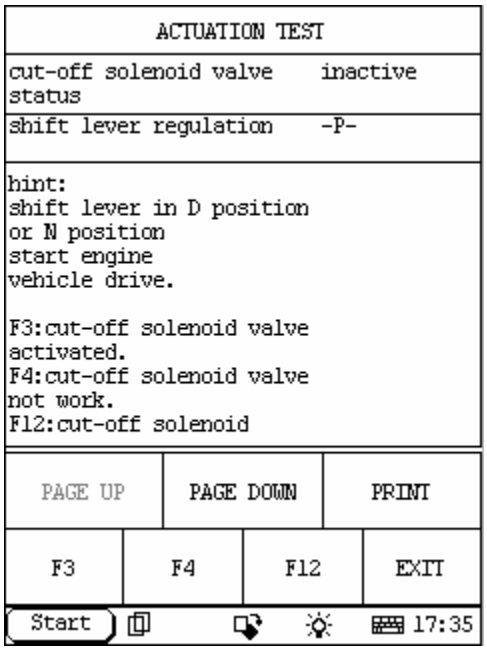

Figure35

Click [**R/P-lock solenoid valve**] then the screen will display a list of actuations, as shown in Figure35:

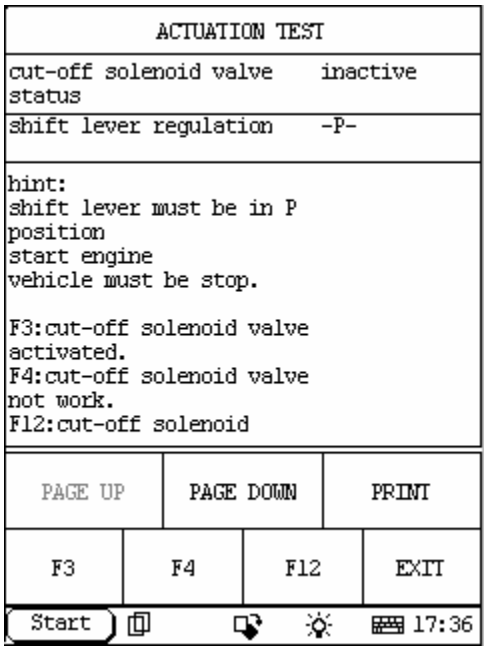

Figure36

Click [**Shift released**] that in figure34 then the screen will display a list of actuations, as shown in Figure36:

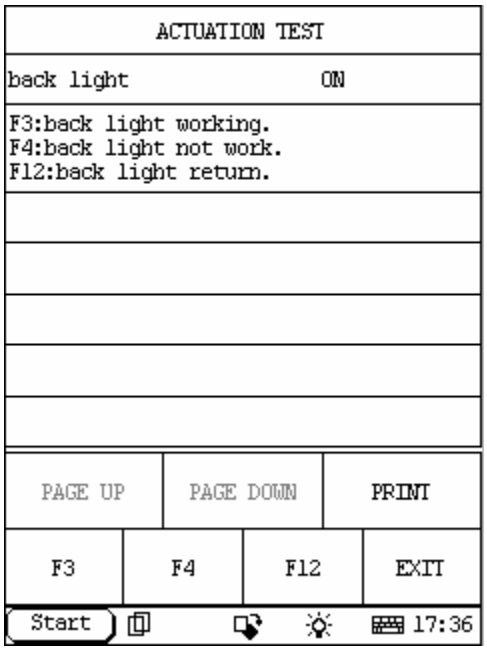

Figure37

Click [**Shift released**] that in figure34 then the screen will display a list of actuations, as shown in Figure37:

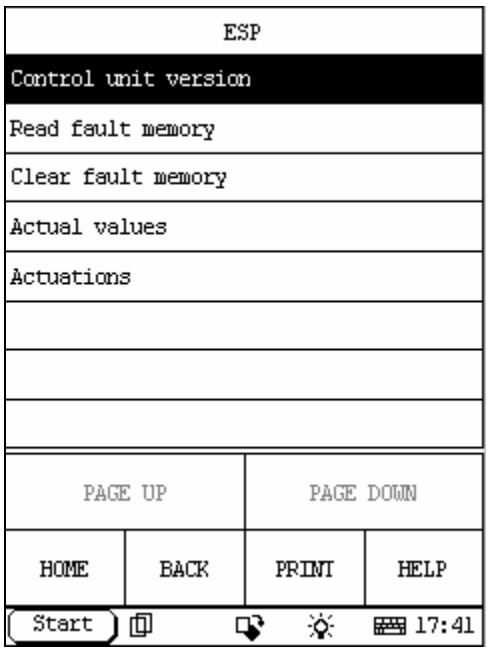

Figure38

ESP SYSTEM

home

In ESP system following functions can be selected for running:

- Control unit version
- Read fault memory
- Clear fault memory
- Actual values
- Actuations

Click corresponding item to perform the function test.

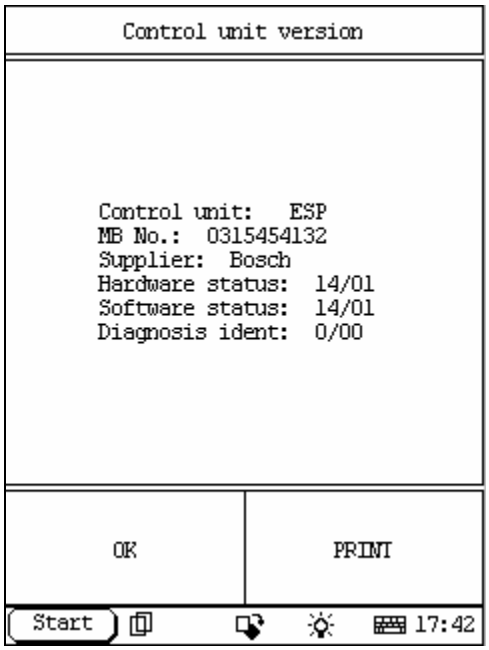

Figure39

Control Unit Version

home

Click [**Control unit version**] that in the function menu. The screen will display the information about the control unit version of the test system, as shown in Figure39:

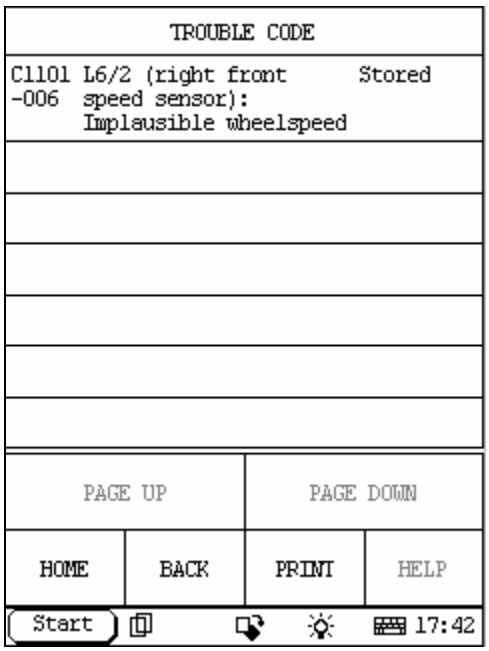

Figure40

Read Fault Memory

home

Click [**READ FAULT CODE**] in the function menu. X-431 starts to scan the fault code. The screen will display the result after the scanning is finished. Figure 40 shows an example.

Note:

- ***The first part of the information is the fault code; the second part is description of the fault code; the third part is the status of the fault code (there may be no third part for some fault code).***
- ***If there is no fault code in the tested system, the screen will display message "No fault present".***
- ***After the test result is displayed, click [PRINT] to print out the test result.***
- ***Click [BACK] to return to the function menu.***

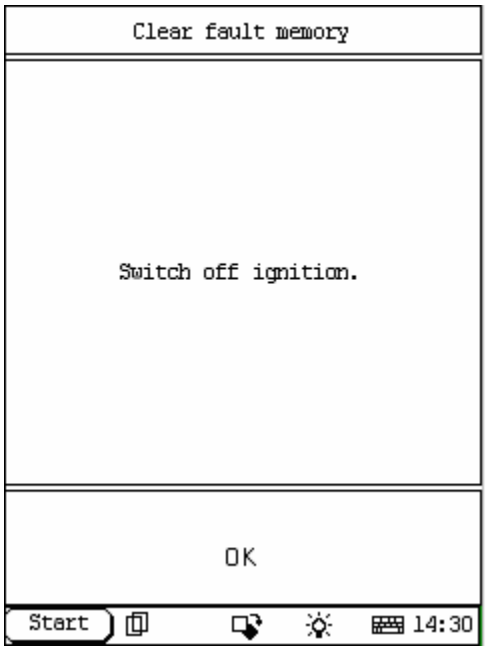

Figure41

Clear Fault Memory

home

Click [**Clear fault memory**] that in the function menu. The screen will prompt the user to switch off the ignition, as shown in Figure41:

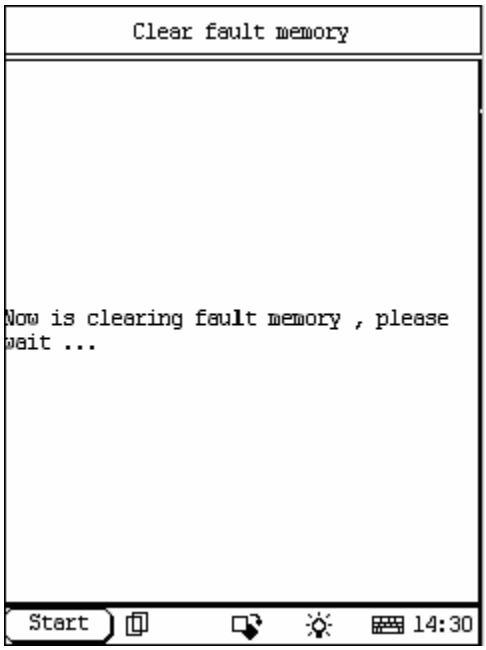

Figure42

After the ignition is turned off, click [**OK**] to clear the fault memory. The screen will display the massage as shown in Figure42:

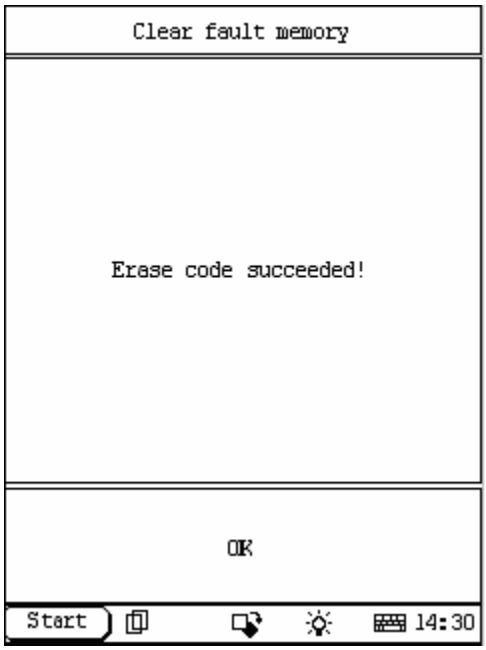

Figure43

After the fault code is cleared, the screen will show the related message. Click [**OK**] to return to the function menu.

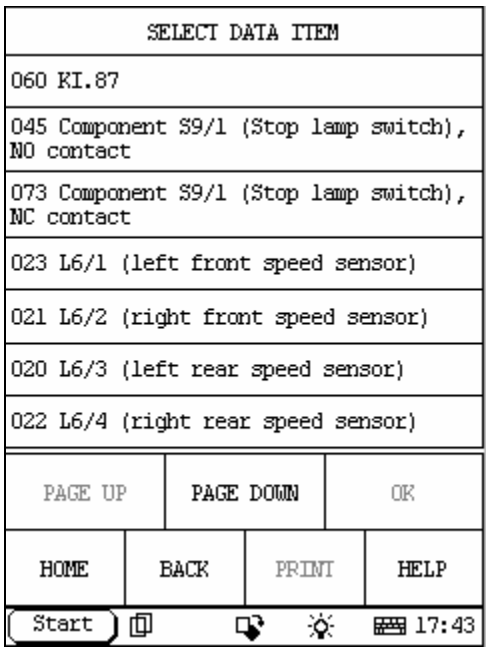

Figure44

Read Data Stream

home

Click [**Actual values**] that in the function menu. The screen will display the list of data streams, as shown in Figure 44:

There is more than one page for the list. Click [**PAGE UP**] or [**PAGE DOWN**] to turn the page. Figure44 shows the first page.

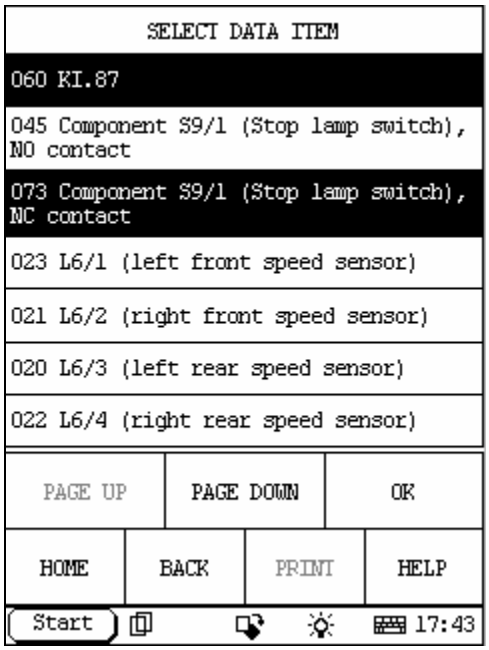

Figure45

Select the corresponding item the screen will display the real-time values.

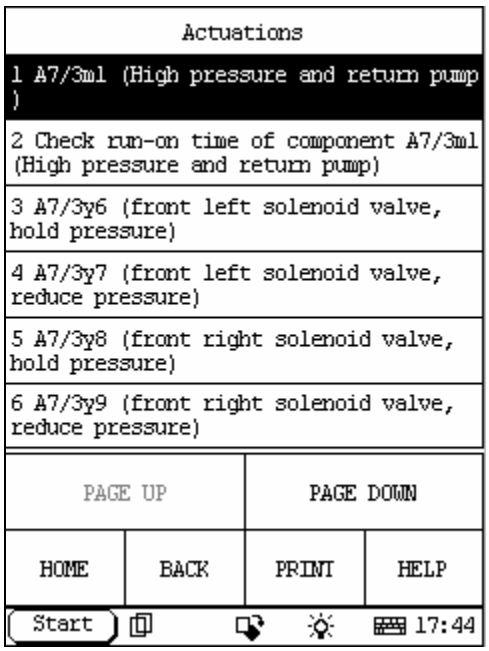

Figure46

Actuations

home

Click [**Actuations**] in the function menu. The screen will display a list of actuations, as shown in Figure46:

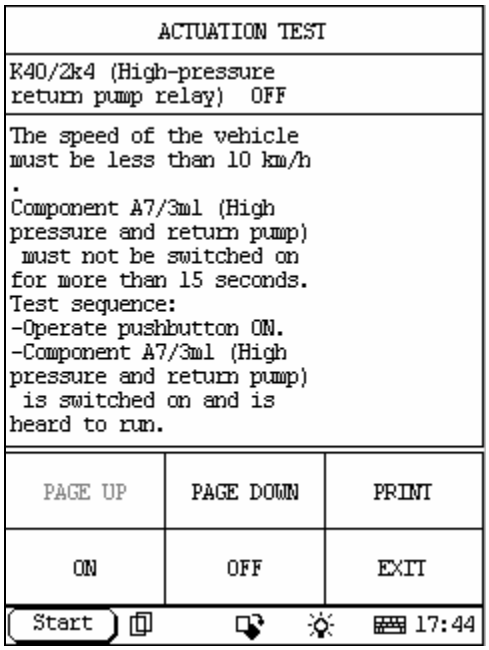

Figure47

Click [**R/P-lock solenoid valve**] then the screen will display a list of actuations, as shown in Figure47:

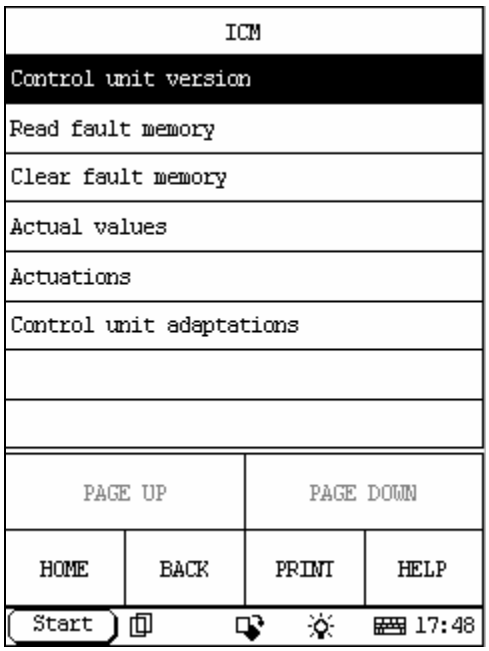

Figure48

ICM SYSTEM

home

In ICM system following functions can be selected for running:

- Control unit version
- Read fault memory
- Clear fault memory
- Actual values
- Actuations
- Control unit adaptations

Click corresponding item to perform the function test.

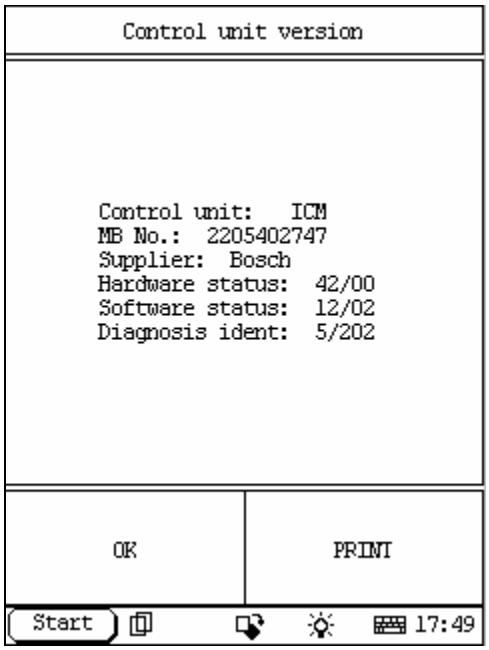

Figure49

Control Unit Version

home

Click [**Control unit version**] that in the function menu. The screen will display the information about the control unit version of the test system, as shown in Figure49:

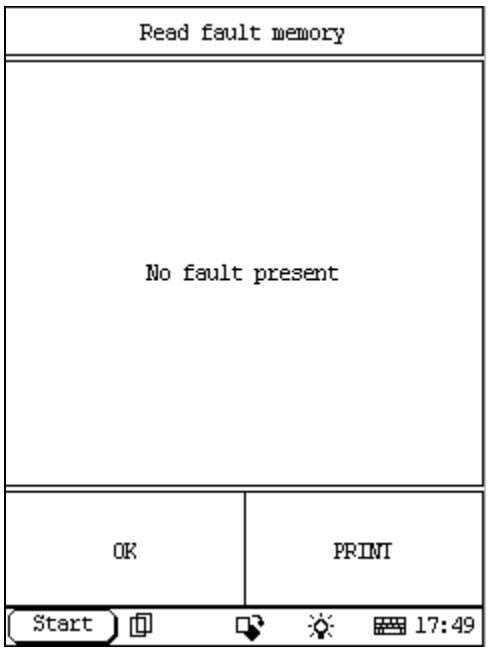

Figure50

Read Fault Memory

home

Click [**READ FAULT MEMORY**] in the function menu. X-431 starts to scan the fault code. The screen will display the result after the scanning is finished. Figure 50 shows an example.

Note:

- ***The first part of the information is the fault code; the second part is description of the fault code; the third part is the status of the fault code (there may be no third part for some fault code).***
- ***If there is no fault code in the tested system, the screen will display message "No fault present".***
- ***After the test result is displayed, click [PRINT] to print out the test result.***

Click [ok] to return to the function menu

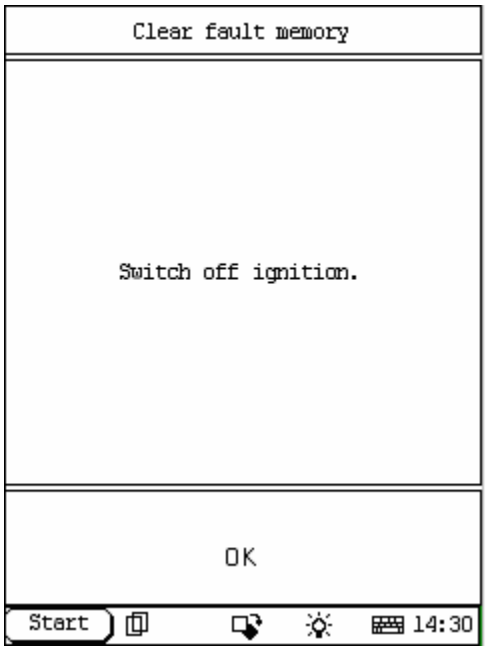

Figure51

Clear Fault Memory

home

Click [**Clear fault memory**] that in the function menu. The screen will prompt the user to switch off the ignition, as shown in Figure51:

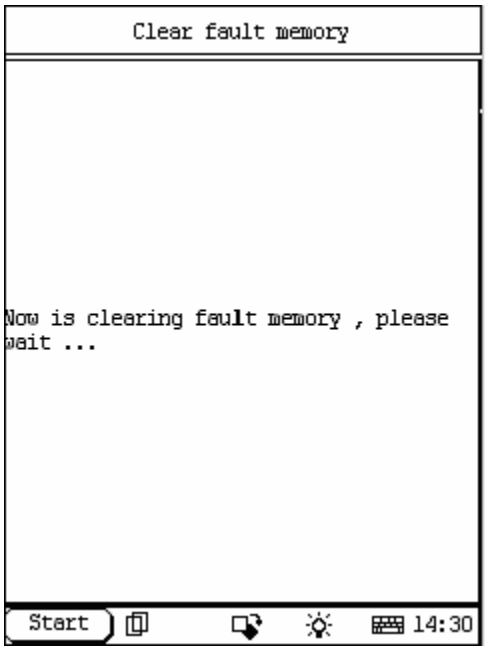

Figure52

After the ignition is turned off, click [**OK**] to clear the fault memory. The screen will display the massage as shown in Figure52:

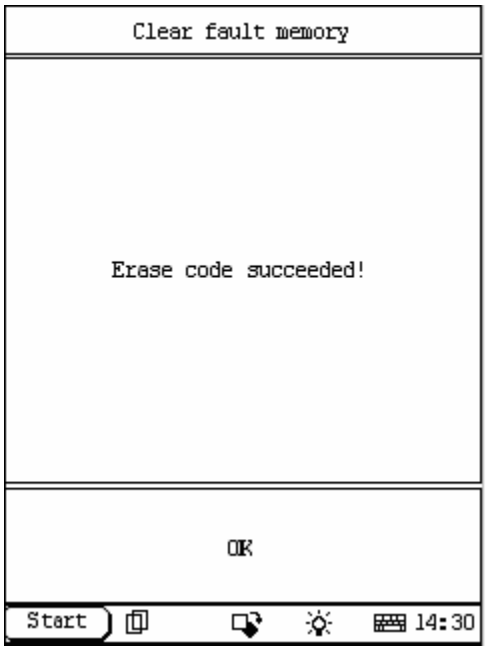

Figure53

After the fault code is cleared, the screen will show the related message. Click [**OK**] to return to the function menu.

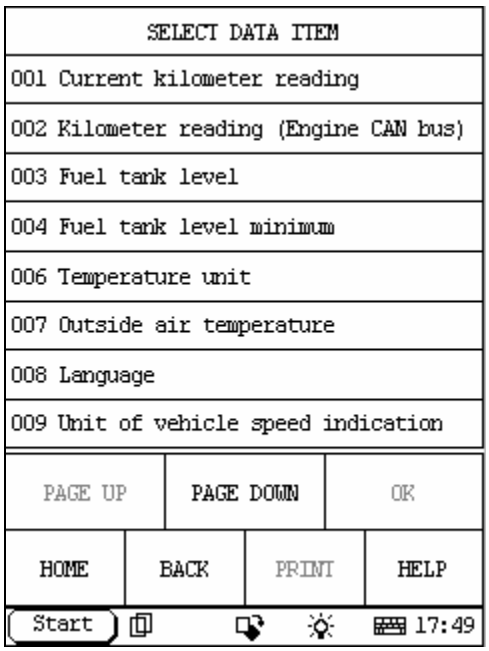

Figure54

Read Data Stream

home

Click [**Actual values**] that in the function menu. The screen will display the list of data streams, as shown in Figure 54:

There is more than one page for the list. Click [**PAGE UP**] or [**PAGE DOWN**] to turn the page. Figure54 shows the first page.

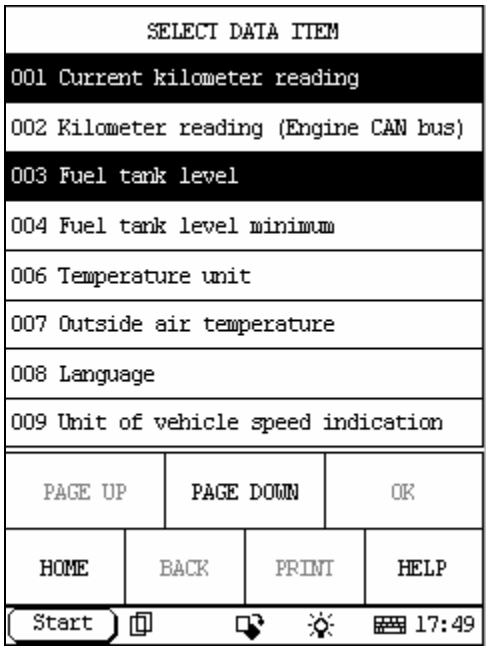

Figure55

Select the corresponding item and click [**ok**] the screen will display the real-time values.

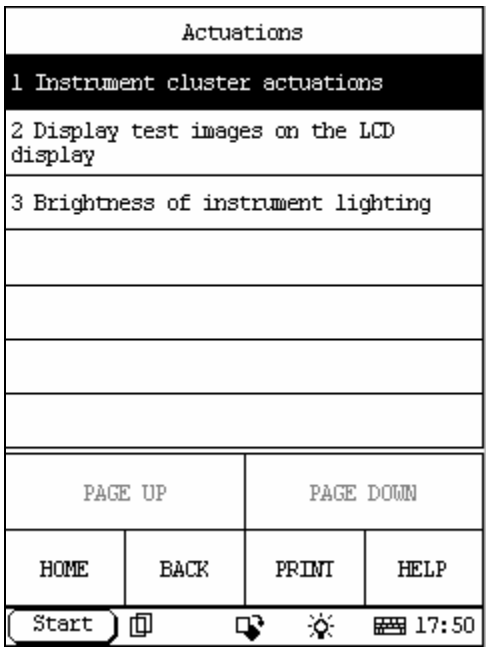

Figure56

Actuations

home

Click [**Actuations**] in the function menu. The screen will display a list of actuations, as shown in Figure56:

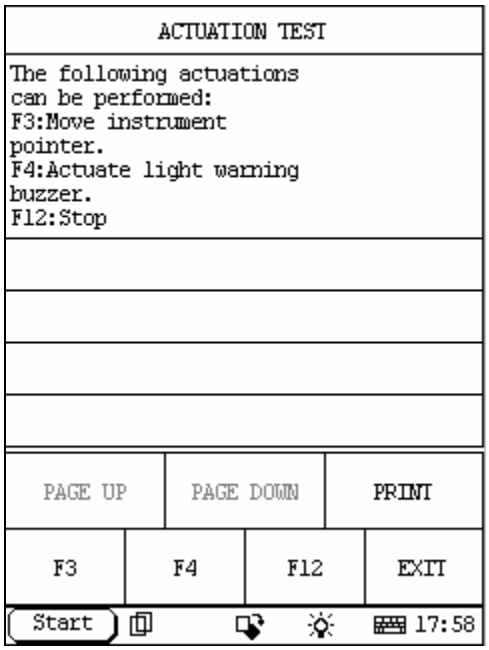

Figure57

Click [**Instrument cluster actuations**] then the screen will display a list of actuations that can be performed, as shown in Figure57:

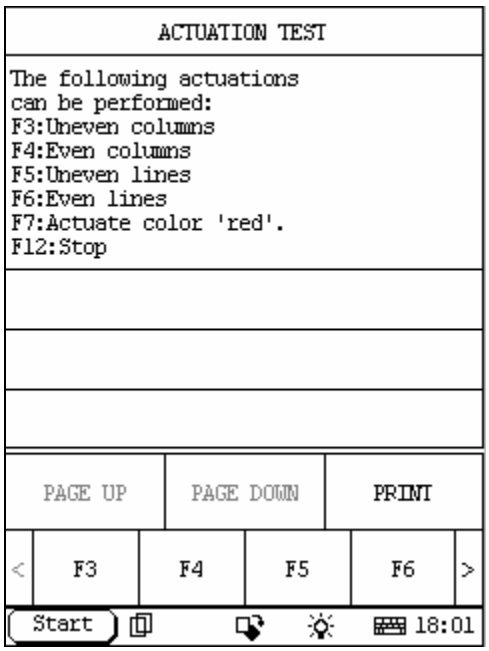

Figure58

Click [**Display test images on LCD display**] that in figure56 then the screen will display a list of actuations that can be performed, as shown in Figure58:

[>]More function key

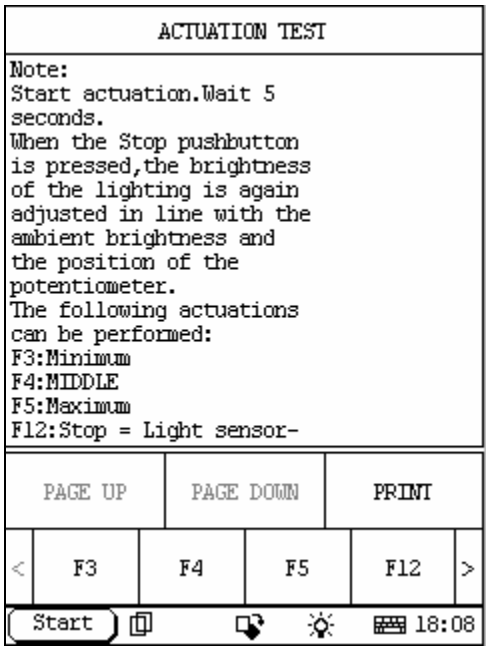

Figure58

Click [**Brightness of instrument lighting**] that in figure56 then the screen will display a list of actuations that can be performed, as shown in Figure58:

[>]Press the key can display more function keys

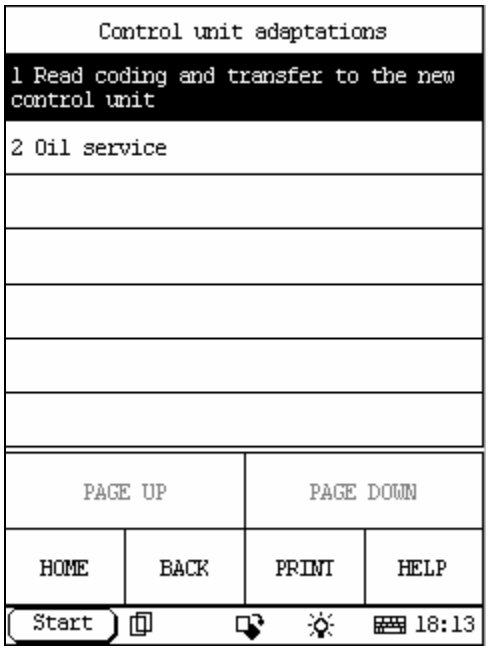

Figure60

Control Unit Adaptations

home

Warning!
Do not perform this operation discretionarily; only the professional can do the control unit adaptations.

Click [**Control Unit Adaptations**] in the function menu. The screen display will be as shown in Figure60:

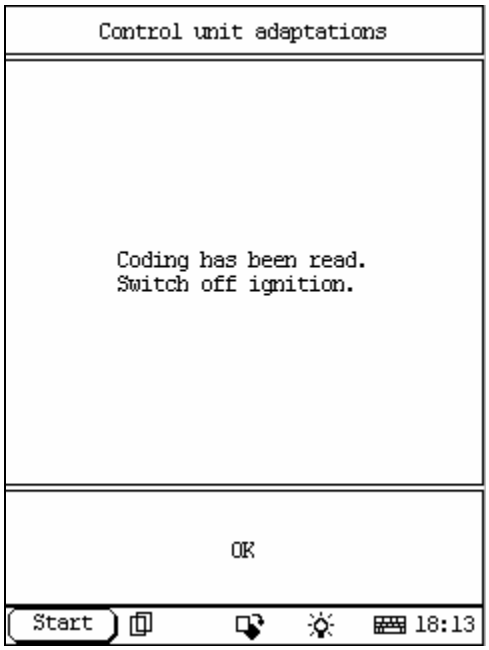

Figure61

Click [**reading coding and transfer to the new control unit**]. The screen display will be as shown in Figure61:

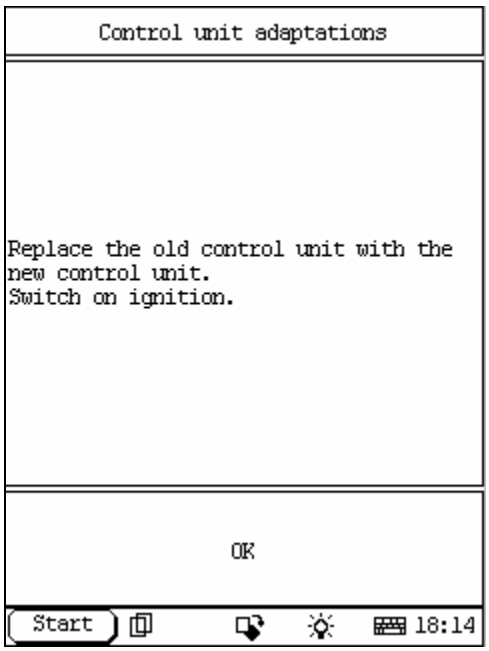

Figure62

Turn off the ignition according to the tips on the screen and then click [**OK**]. The screen display will be as shown in Figure62:

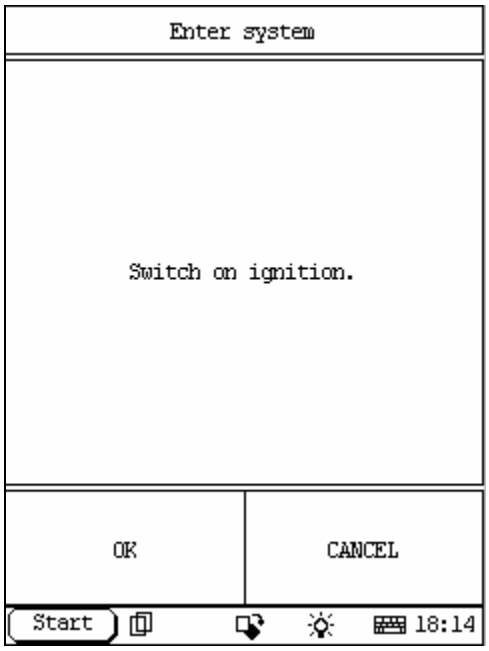

Figure63

After the ignition is turned on, click [**OK**]. X-431 starts the control unit adaptation. The screen display will be as shown in Figure63:

Note:

? ***After the ignition is turned on, click [OK] to go on the operation.***

? ***Click [CANCEL] to cancel the operation.***

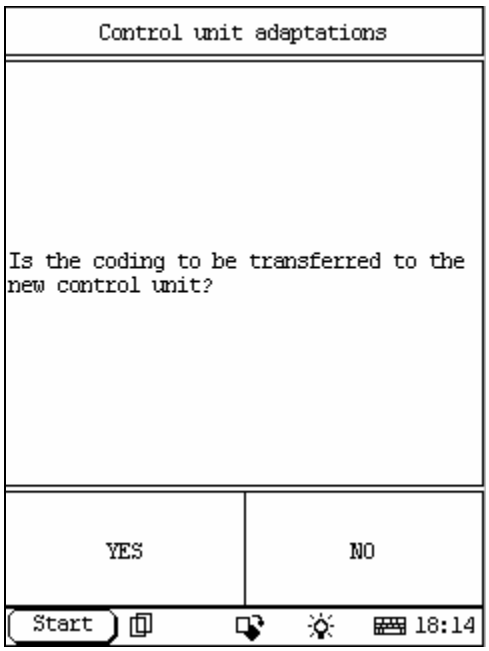

Figure64

Click [**Oil service**]. The screen display will be as shown in Figure64:

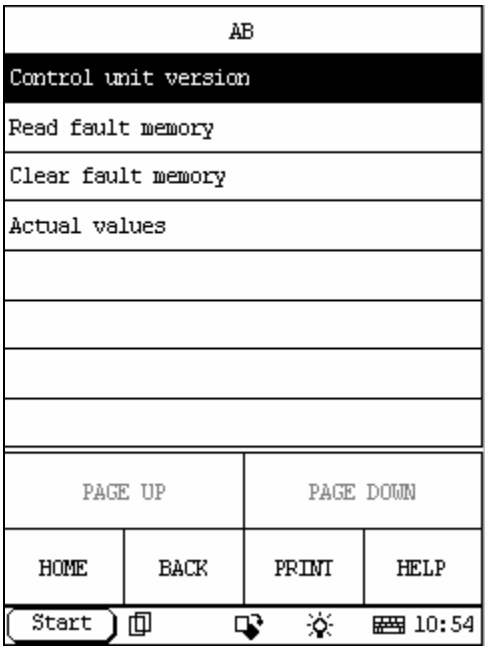

Figure65

AB SYSTEM

home

In AB system following functions can be selected for running:

- Control unit version
- Read fault memory
- Clear fault memory
- Actual values

Click corresponding item to perform the function test.

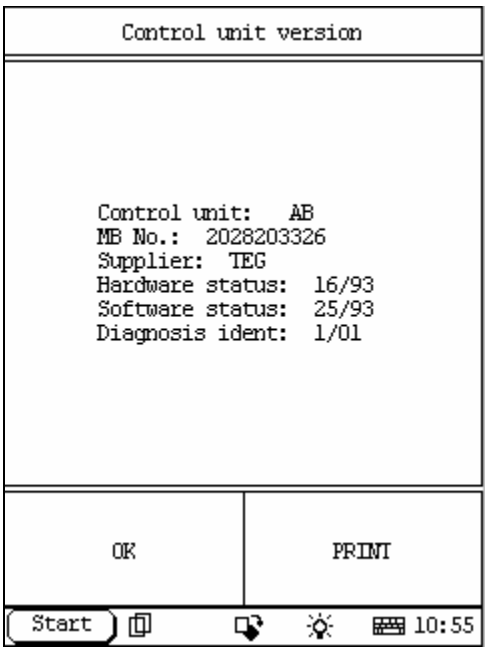

Figure66

Control Unit Version

home

Click [**Control unit version**] that in the function menu. The screen will display the information about the control unit version of the test system, as shown in Figure66:

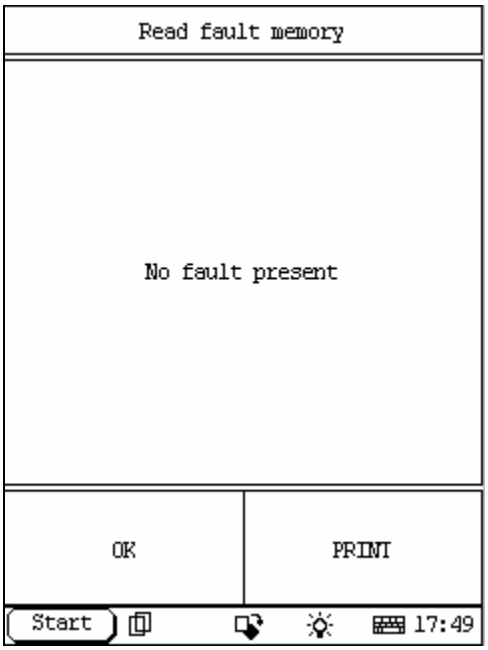

Figure67

Read Fault Memory

home

Click [**READ FAULT MEMORY**] in the function menu. X-431 starts to scan the fault code. The screen will display the result after the scanning is finished. Figure67 shows an example.

Note:

- ***The first part of the information is the fault code; the second part is description of the fault code; the third part is the status of the fault code (there may be no third part for some fault code).***
- ***If there is no fault code in the tested system, the screen will display message "No fault present".***
- ***After the test result is displayed, click [PRINT] to print out the test result.***

Click [ok] to return to the function menu

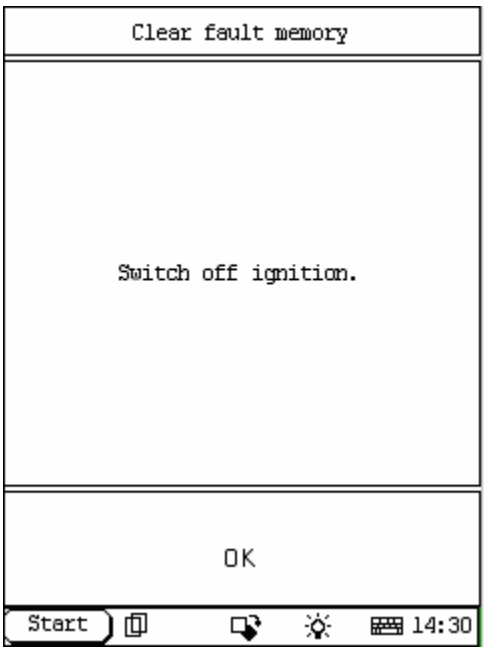

Figure68

Clear Fault Memory

home

Click [**Clear fault memory**] that in the function menu. The screen will prompt the user to switch off the ignition, as shown in Figure

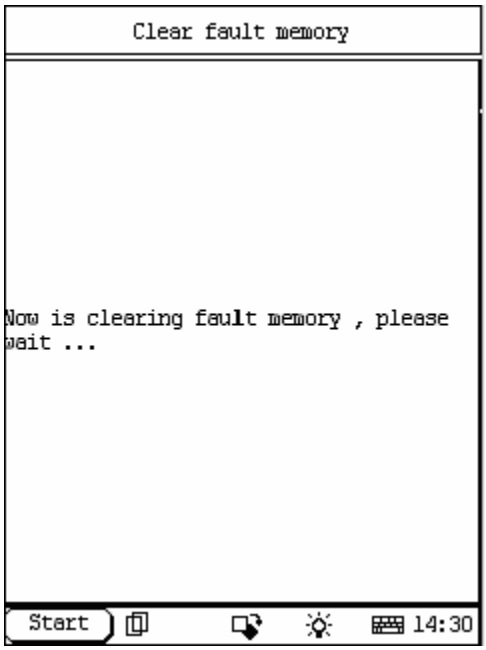

Figure69

After the ignition is turned off, click [**OK**] to clear the fault memory. The screen will display the massage as shown in Figure69:

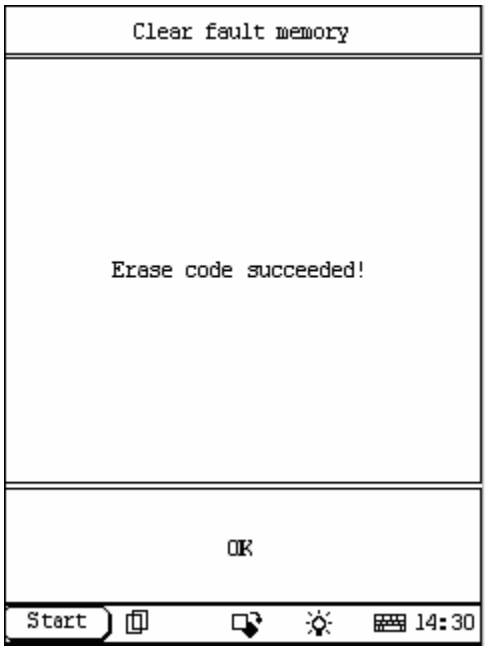

Figure70

After the fault code is cleared, the screen will show the related message. Click [**OK**] to return to the function menu.

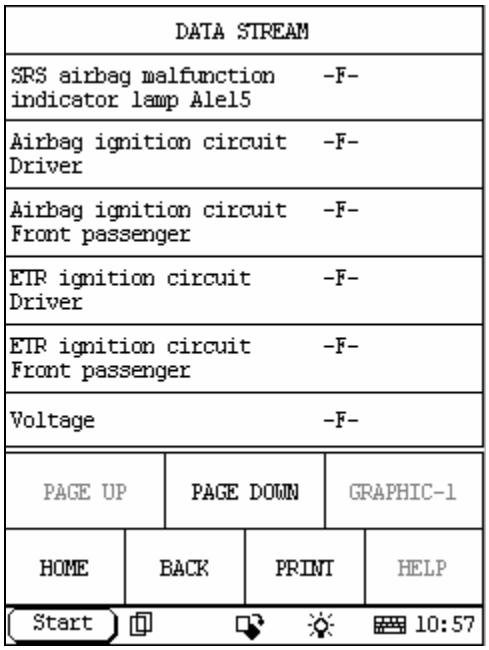

Figure71

Read Data Stream

home

Click [Actual values] that in the function menu. The screen will display the list of data streams, as shown in Figure 71:

There is more than one page for the list. Click [**PAGE UP**] or [**PAGE DOWN**] to turn the page. Figure 71 shows the first page.

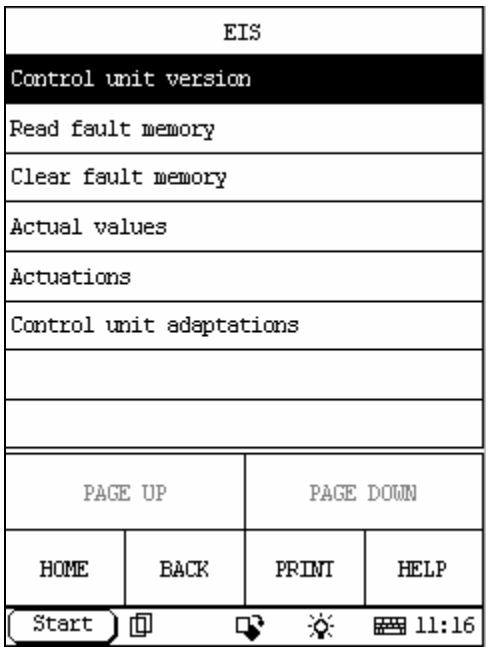

Figure72

EIS SYSTEM

home

In EIS system following functions can be selected for running:

- Control unit version
- Read fault memory
- Clear fault memory
- Actual values
- Actuations
- Control unit adaptations

Click corresponding item to perform the function test.

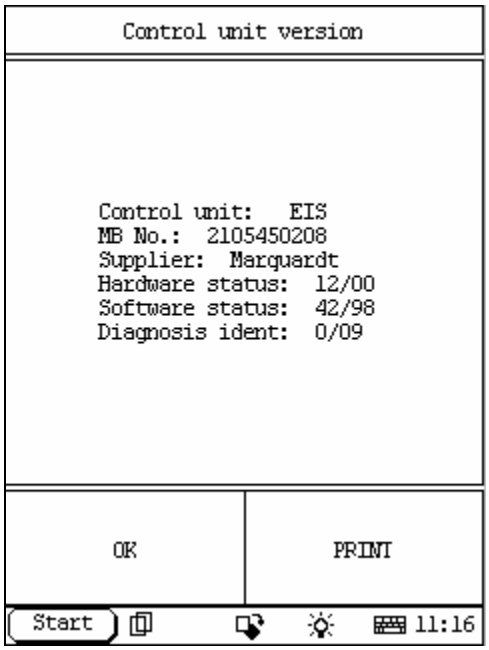

Figure73

Control Unit Version

home

Click [**Control unit version**] that in the function menu. The screen will display the information about the control unit version of the test system, as shown in Figure73:

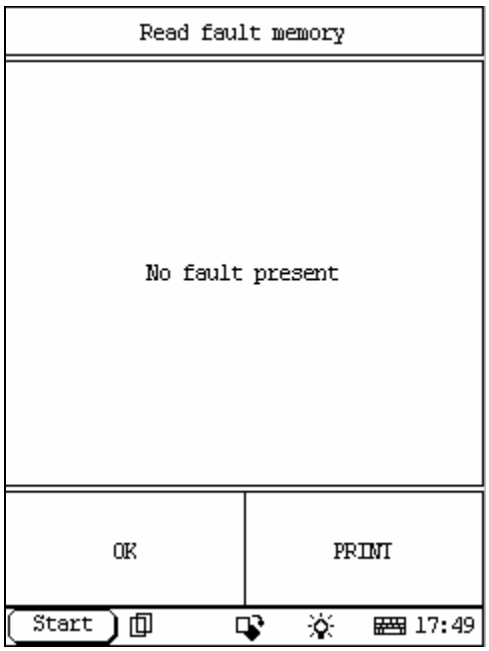

Figure74

Read Fault Memory

home

Click [**READ FAULT MEMORY**] in the function menu. X-431 starts to scan the fault code. The screen will display the result after the scanning is finished. Figure 74 shows an example.

Note:

- ***The first part of the information is the fault code; the second part is description of the fault code; the third part is the status of the fault code (there may be no third part for some fault code).***
- ***If there is no fault code in the tested system, the screen will display message "No fault present".***
- ***After the test result is displayed, click [PRINT] to print out the test result.***

Click [ok] to return to the function menu

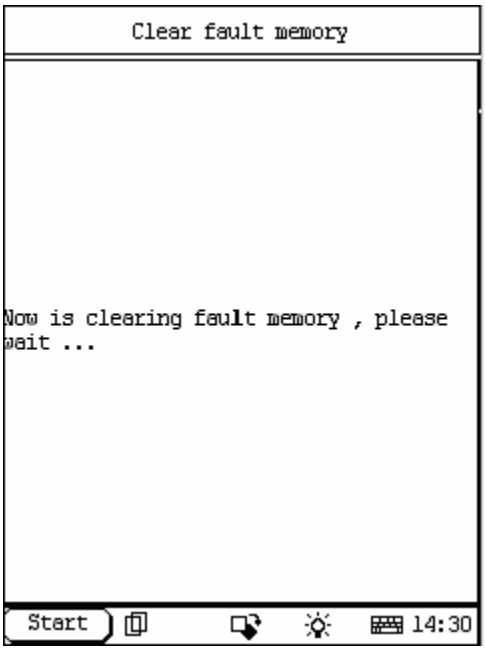

Figure75

Clear Fault Memory

home

Click [**Clear fault memory**] that in the function menu. The screen will prompt the user to switch off the ignition. After the ignition is turned off, click [**OK**] to clear the fault memory. The screen will display the massage as shown in Figure75:

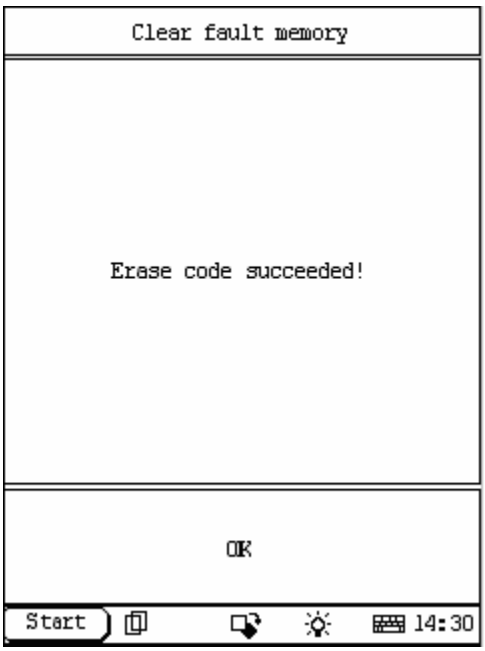

Figure76

After the fault code is cleared, the screen will show the related message. Click [**OK**] to return to the function menu.

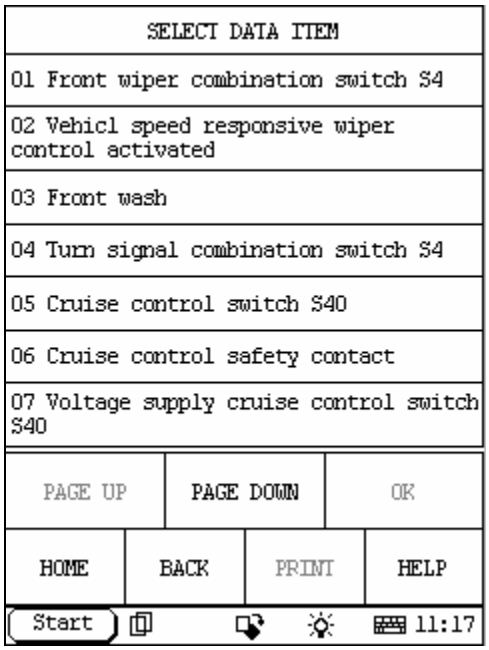

Figure77

Read Data Stream

home

Click [**Actual values**] that in the function menu. The screen will display the list of data streams, as shown in Figure 77:

There is more than one page for the list. Click [**PAGE UP**] or [**PAGE DOWN**] to turn the page. Figure 77 shows the first page

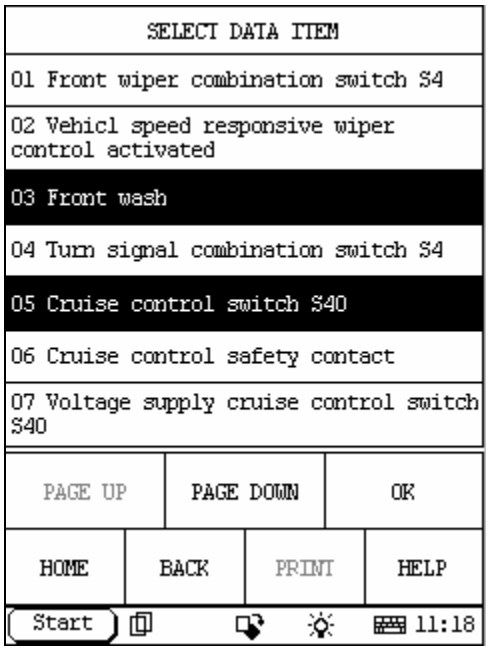

Figure78

Select the corresponding item and click [**ok**] then the screen will display the real-time values.

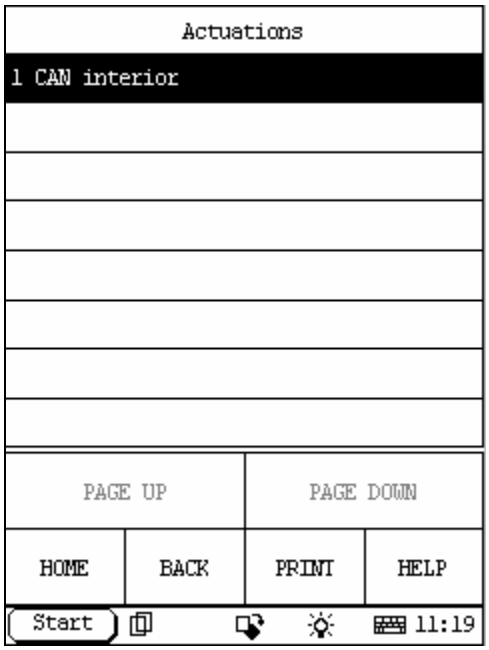

Figure79

Actuations

home

Click [**Actuations**] in the function menu. The screen will display a list of actuations, as shown in Figure79:

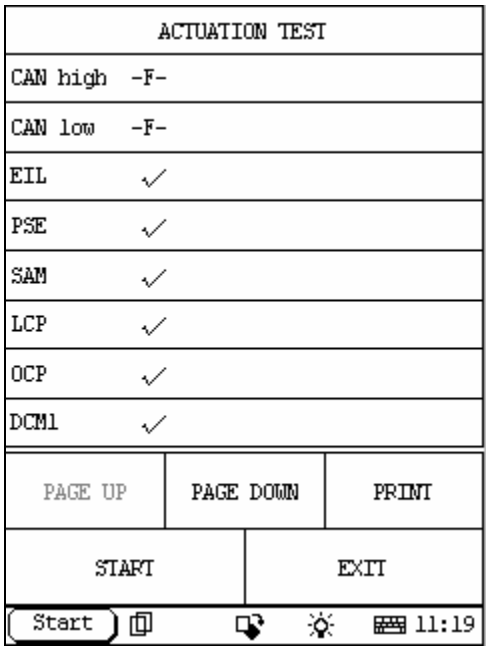

Figure80

Click [**CAN interior**] then the screen will display a list of actuations that can be performed, as shown in Figure80:

Click [**START**] then start actuation test.

Click [**EXIT**] then exit actuation test.

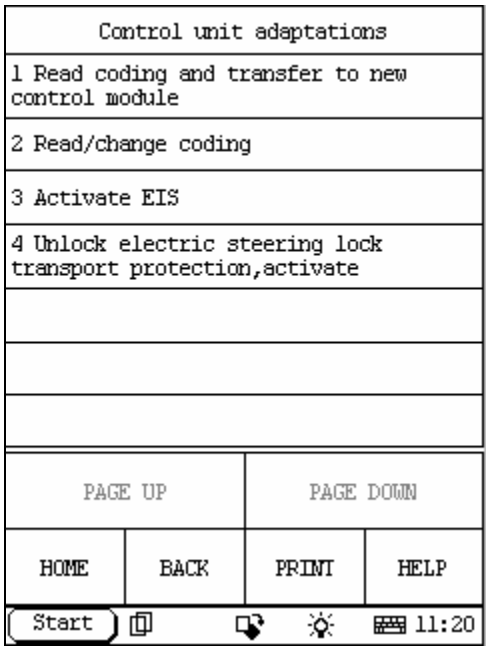

Figure81

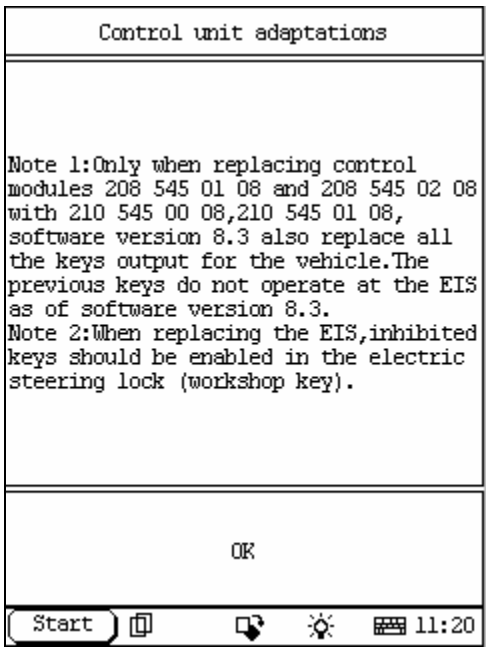

Figure82

Control Unit Adaptations

home

Warning!
Do not perform this operation discretionarily; only the professional can do the control unit adaptations.

Click [**Control Unit Adaptations**] in the function menu. The screen display will be as shown in Figure81:

Click [**1 read coding and transfer to new control module**] in figure81. The screen display will be as shown in Figure82:

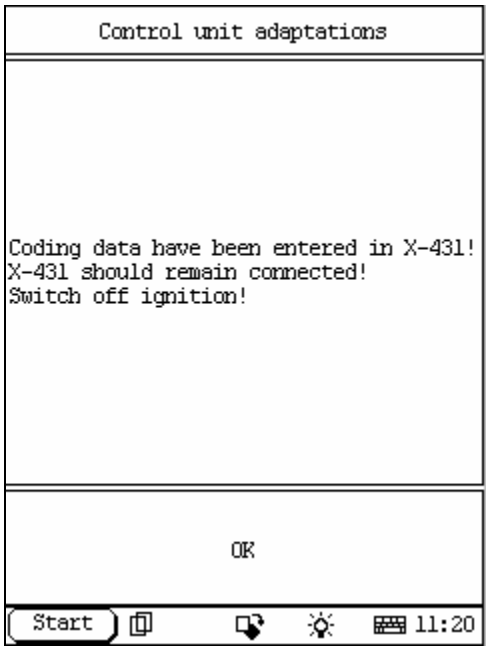

Figure83

Click [**ok**] the screen display will be as shown in Figure83:

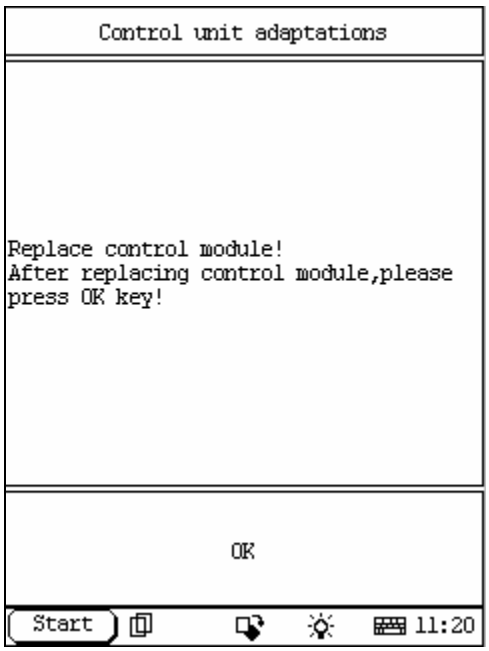

Figure84

Click [**ok**] the screen display will be as shown in Figure84:

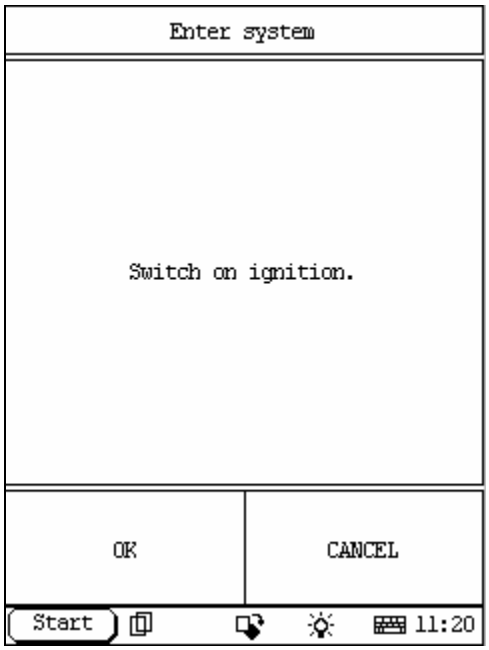

Figure85

Click [**ok**] the screen display will be as shown in Figure85:

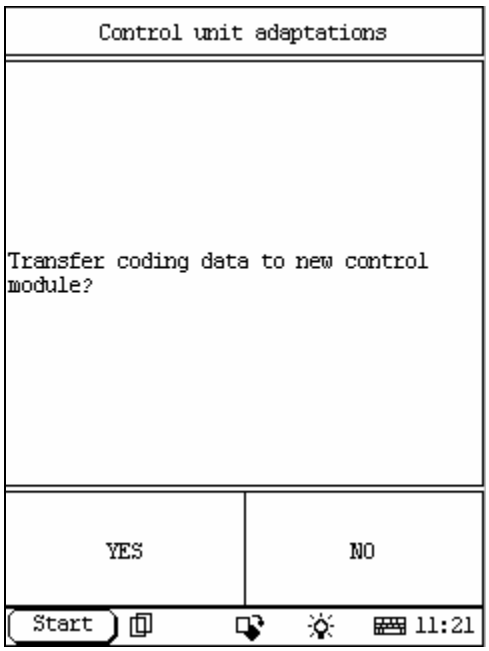

Figure86

Click [**ok**] the screen display will be as shown in Figure86:
Click [**cancel**] then exit.

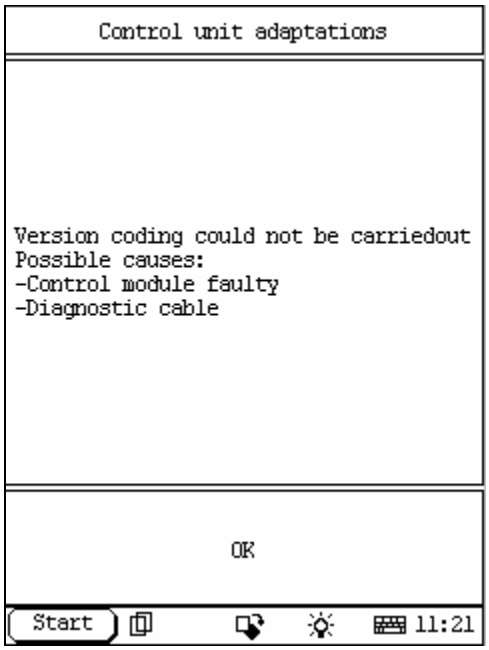

Figure87

Click [**yes**] the screen display will be as shown in Figure87:

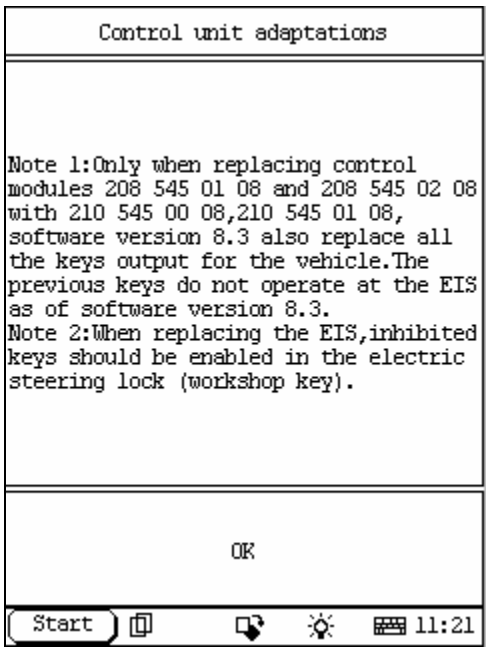

Figure88

Click [**ok**] the screen display will be as shown in Figure88:

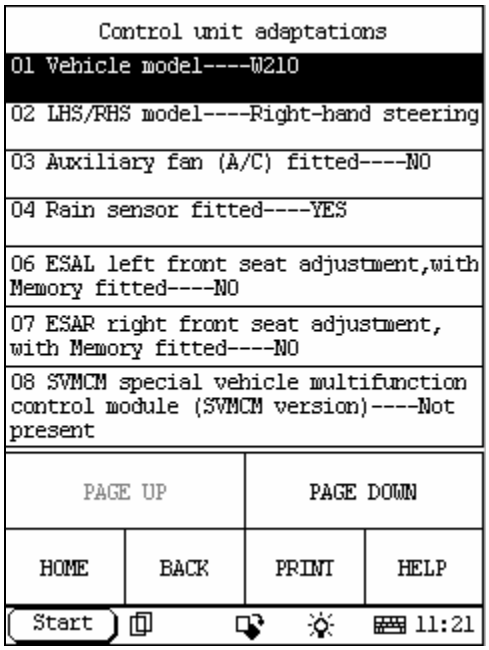

Figure89

Click [**read / change coding**] in figure81. The screen display will be as shown in Figure89:

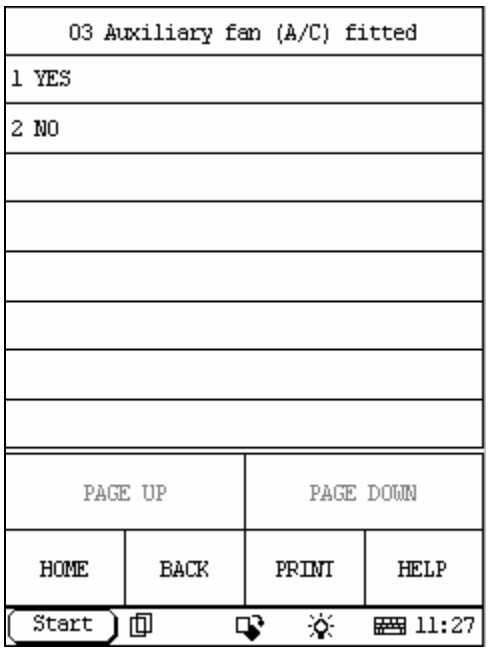

Figure90

Click [**03 Auxiliary fan (A/C) fitted**].The screen display will be as shown in Figure

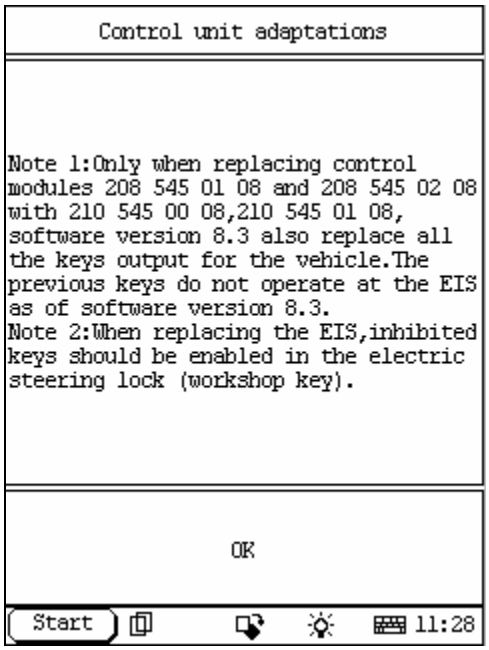

Figure91

Click [**Activate EIS**] in figure81. The screen display will be as shown in Figure91:

Figure92

Click [**OK**] in figure91. The screen display will be as shown in Figure92:

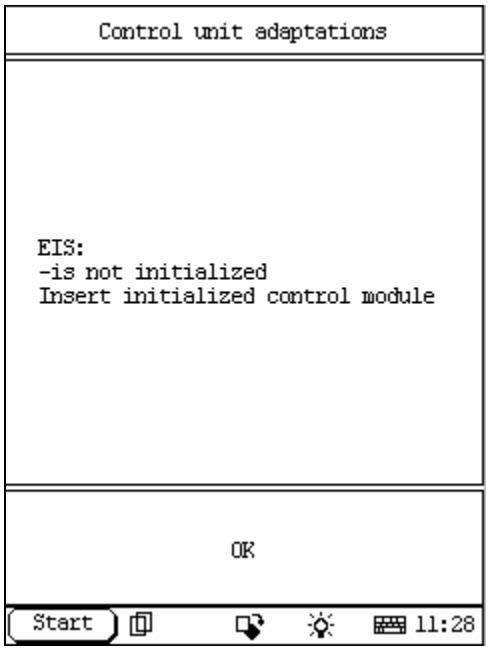

Figure93

Click [**OK**] in figure92. The screen display will be as shown in Figure:

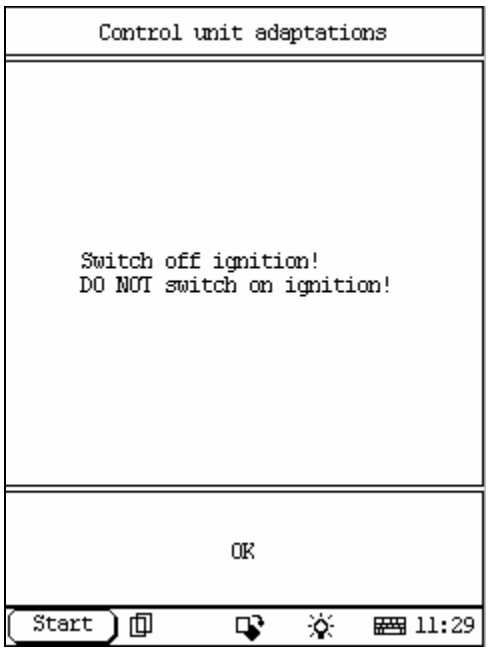

Figure94

Click [**OK**] in figure93. The screen display will be as shown in Figure94:

Figure95

Click [**OK**] in figure94. The screen display will be as shown in Figure:

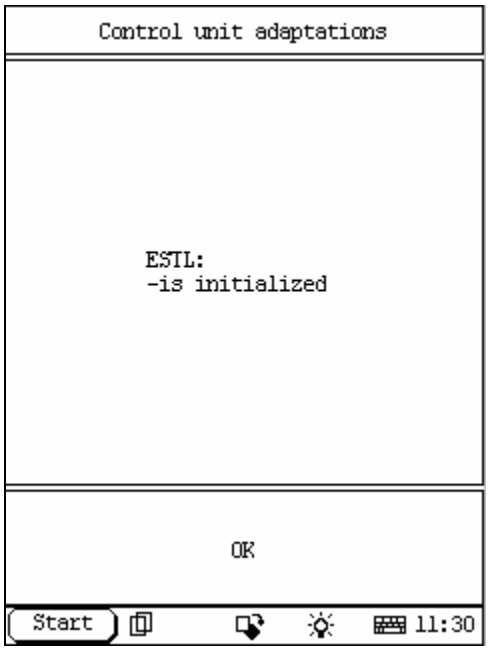

Figure96

Click [**OK**] in figure95. The screen display will be as shown in Figure:
Click [**ok**] will return.

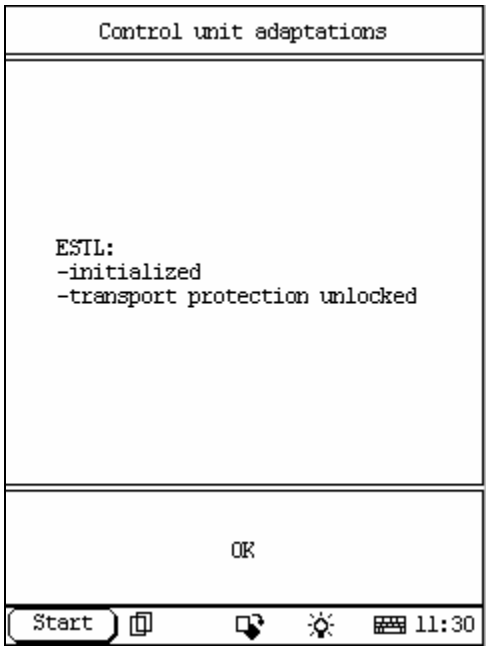

Figure97

Click [**Unlock electric steering lock transport protection, activate**] in figure81. The screen display will be as shown in Figure97:

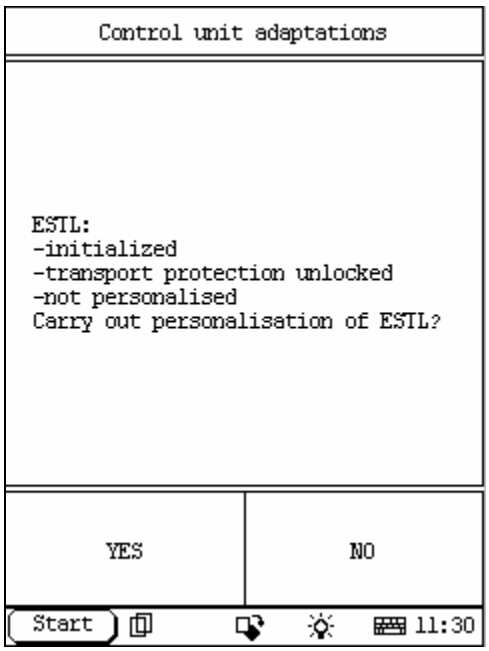

Figure98

Click [**ok**] in figure97. The screen display will be as shown in Figure98:
Click [**yes**] will carry out, click [**no**] then exit.

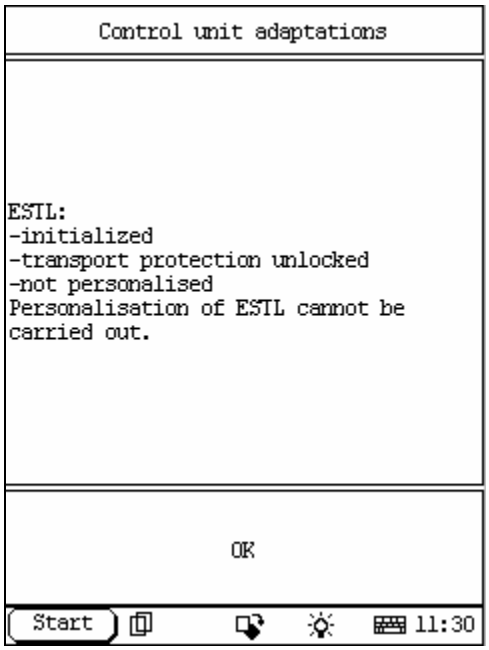

Figure99

If can't be carried out, the screen display will be as shown in Figure99:

Click [**OK**] and return.

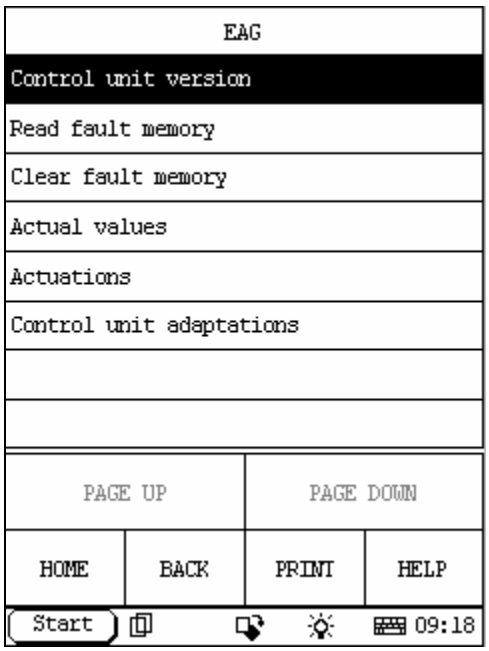

Figure100

ETC SYSTEM

home

In ETC system following functions can be selected for running:

- Control unit version
- Read fault memory
- Clear fault memory
- Actual values
- Actuations
- Control unit adaptations

Click corresponding item to perform the function test.

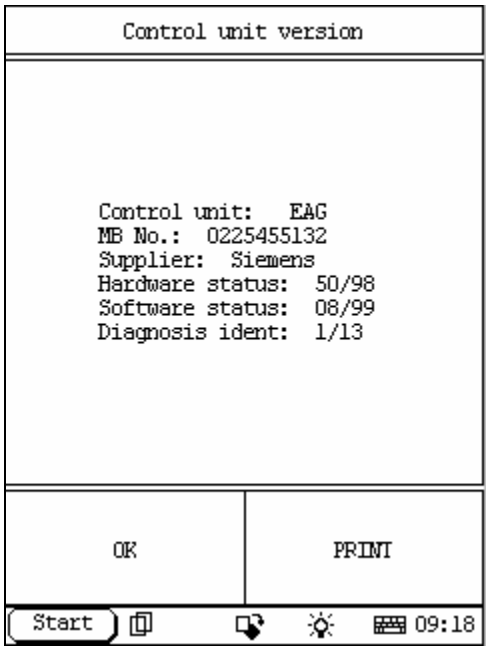

Figure101

Control Unit Version

Click [**Control unit version**] that in the function menu. The screen will display the information about the control unit version of the test system, as shown in Figure101

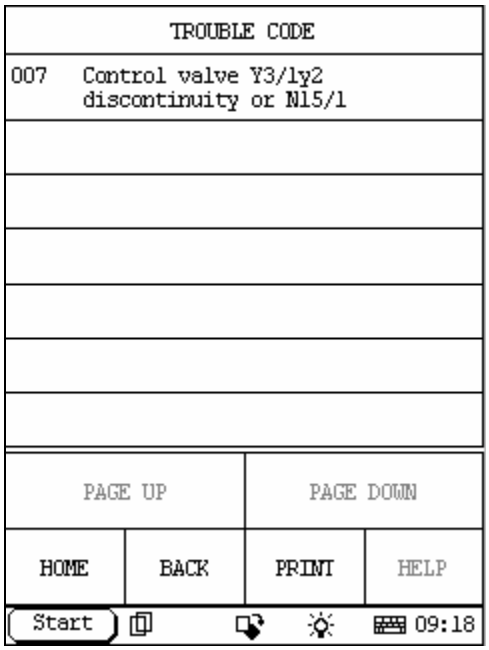

Figure102

Read Fault Memory

home

Click [**READ FAULT MEMORY**] in the function menu. X-431 starts to scan the fault code. The screen will display the result after the scanning is finished. Figure102 shows an example.

Note:

- ***The first part of the information is the fault code; the second part is description of the fault code; the third part is the status of the fault code (there may be no third part for some fault code).***
- ***If there is no fault code in the tested system, the screen will display message "No fault present".***
- ***After the test result is displayed, click [PRINT] to print out the test result.***

Click [ok] to return to the function menu

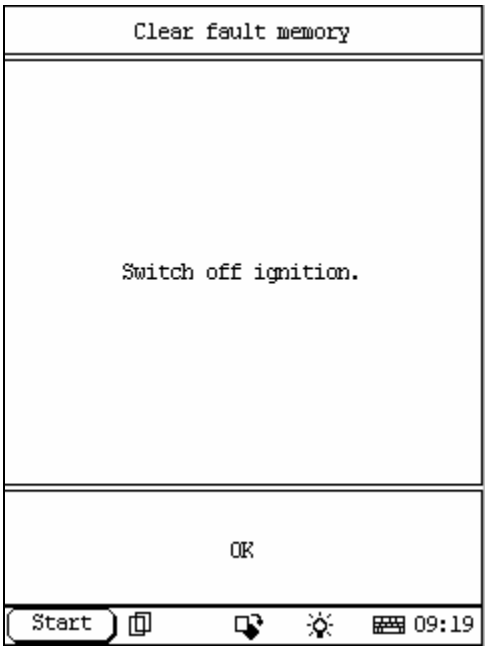

Figure103

Clear Fault Memory

home

Click [**Clear fault memory]** that in the function menu. The screen will prompt the user to switch off the ignition. After the ignition is turned off, click [**OK**] to clear the fault memory. The screen will display the massage as shown in Figure103:

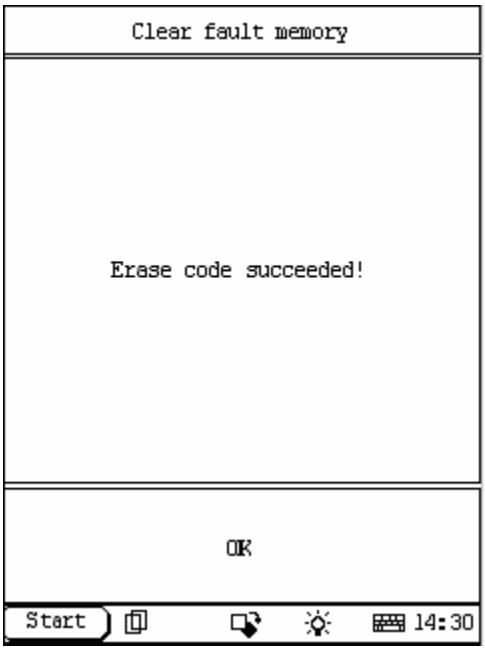

Figure104

After the fault code is cleared, the screen will show the related message. Click [**OK**] to return to the function menu.

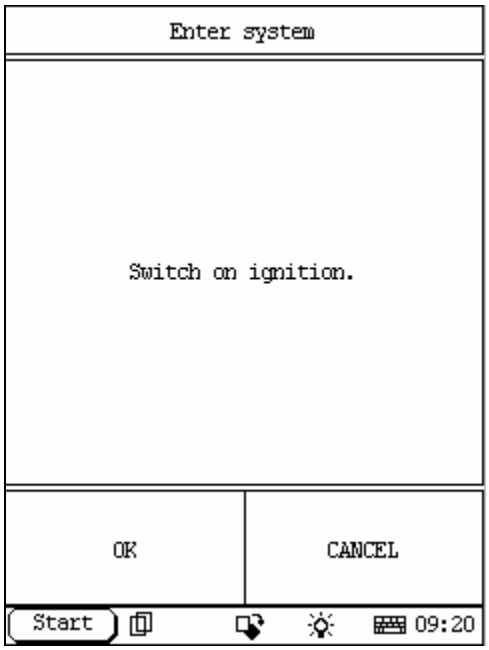

Figure105

Read Data Stream

home

Click [**Actual values**] that in the function menu. The screen will display, as shown in Figure 105

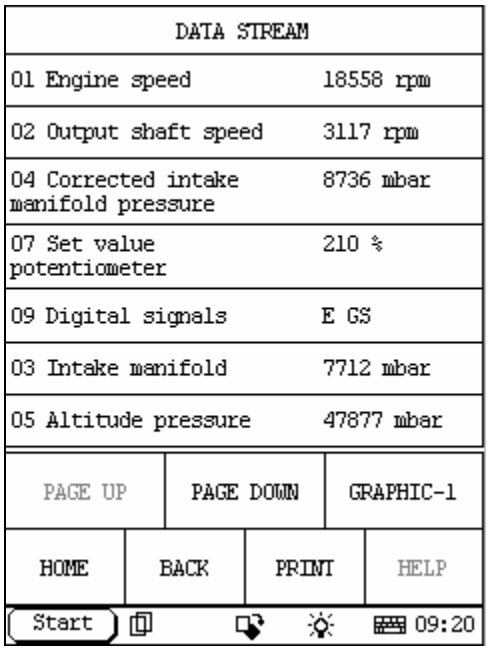

Figure106

Read Data Stream

home

Click [**OK**] infigure105. The screen will display the list of data streams, as shown in Figure 106:

There is more than one page for the list. Click [**PAGE UP**] or [**PAGE DOWN**] to turn the page. Figure106 shows the first page.

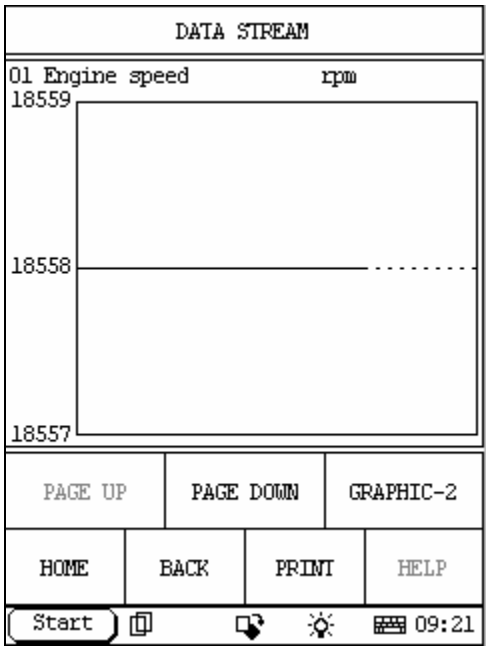

Figure107

Click [**graphic-1**], the screen display will be as shown in Figure107:

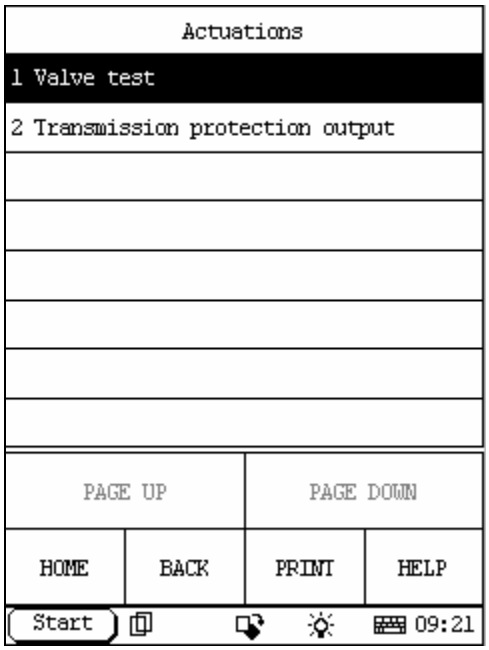

Figure108

Actuations

home

Click [**Actuations**] in the function menu. The screen will display a list of actuations, as shown in Figure108:

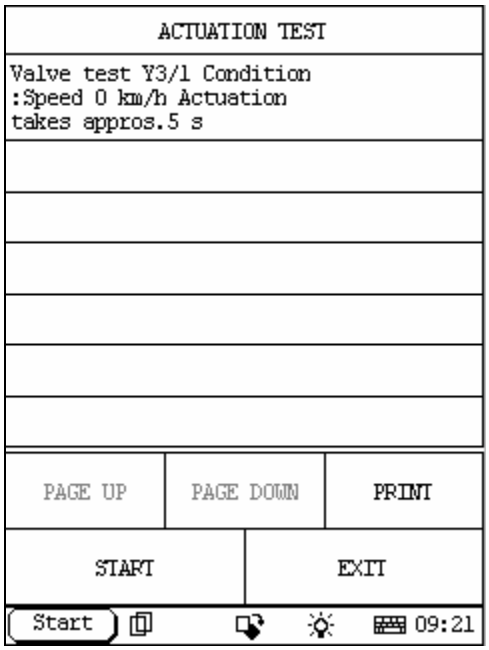

Figure109

Click [**1 valve test**], the screen display will be as shown in Figure109:

Click [**START**] will be started testing.

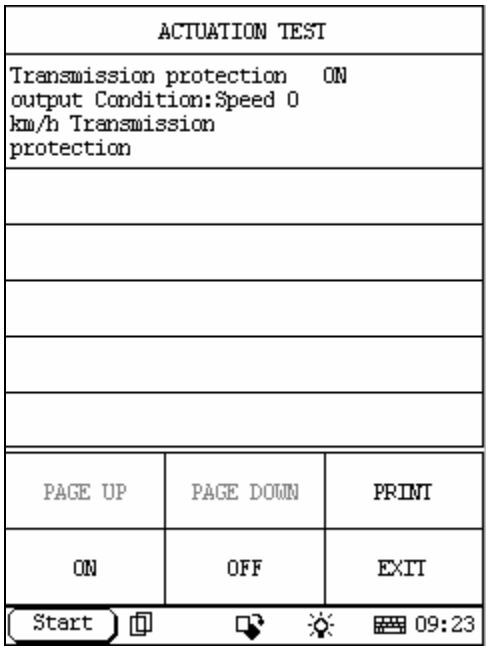

Figure110

Click [**2 transmission protect output**] that in figure108, the screen display will be as shown in Figure110:

You can carry out [**on**] or [**off**] test here.

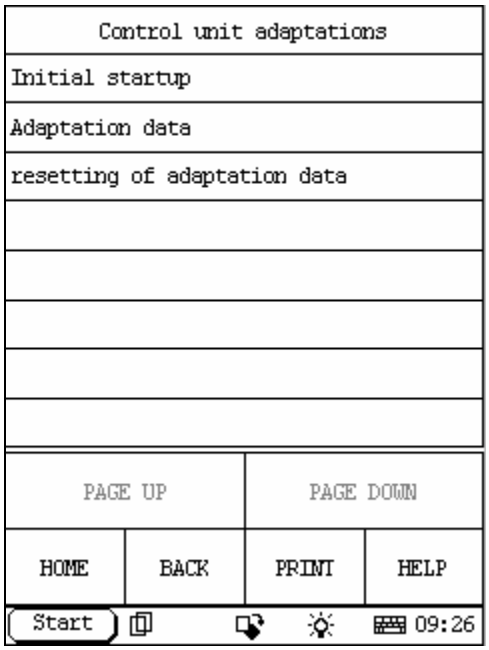

Figure111

Control Unit Adaptations

home

Warning!
Do not perform this operation discretionarily; only the professional can do the control unit adaptations.

Click [**Control Unit Adaptations**] in the function menu. The screen display will be as shown in Figure111:

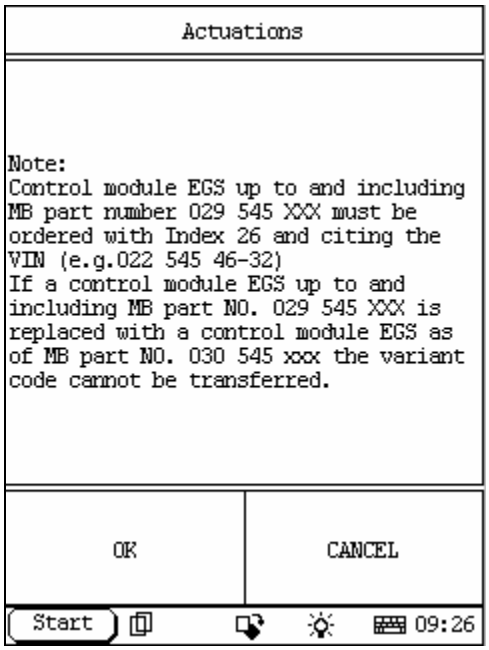

Figure112

Click [**Initial startup**], the screen display will be as shown in Figure112:

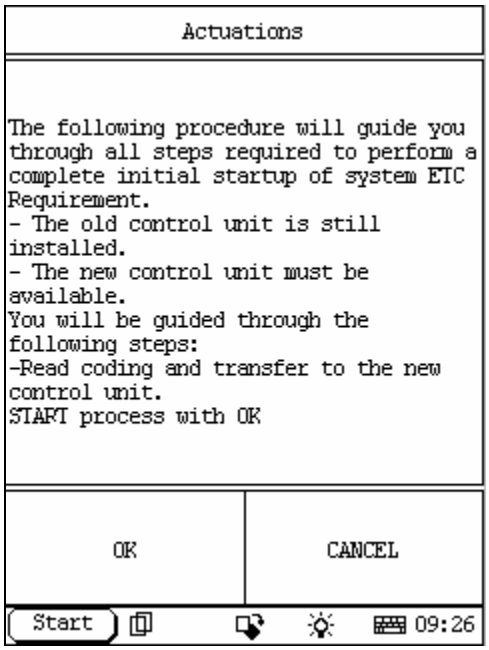

Figure113

Click [**ok**], the screen display will be as shown in Figure113:

Click [**cancel**] then exit.

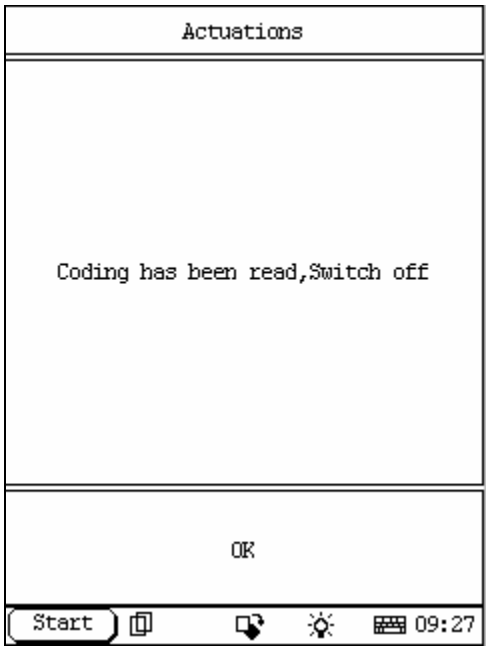

Figure114

Click [**ok**], the screen display will be as shown in Figure114:

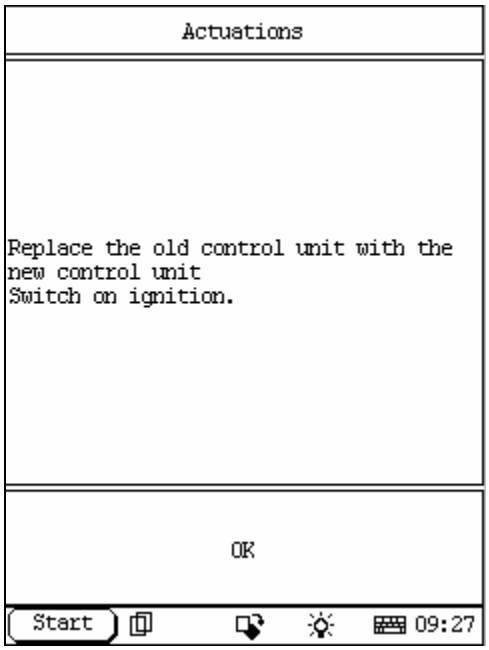

Figure115

Click [**ok**], the screen display will be as shown in Figure115:

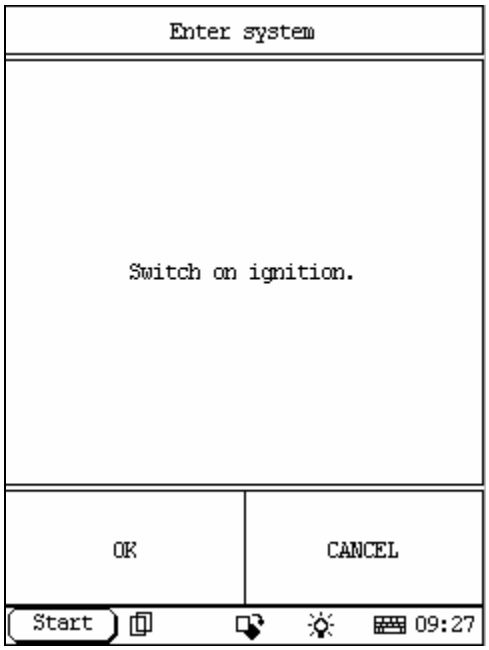

Figure116

Click [**ok**], the screen display will be as shown in Figure116:

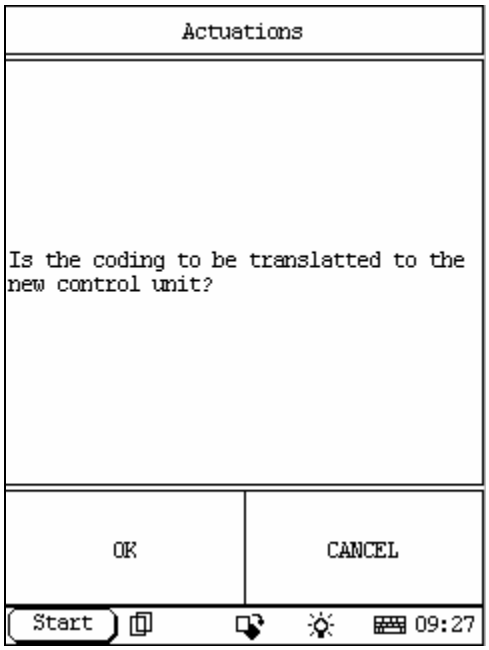

Figure117

Click [**ok**], the screen display will be as shown in Figure117:

Click [**cancel**] then exit.

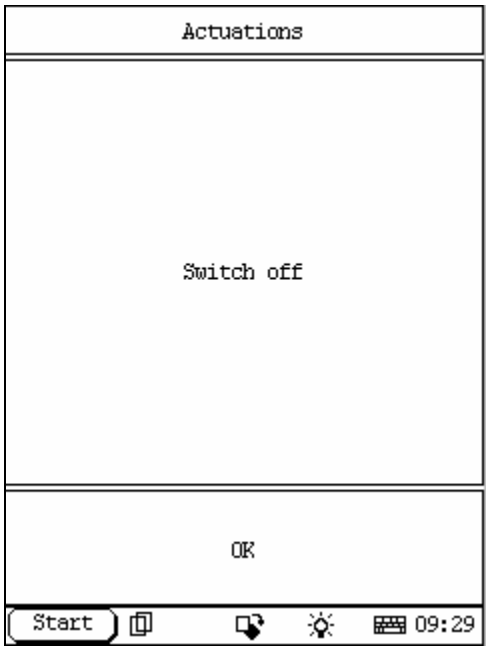

Figure118

Click [**ok**], the screen display will be as shown in Figure118:

Click [**cancel**] then exit

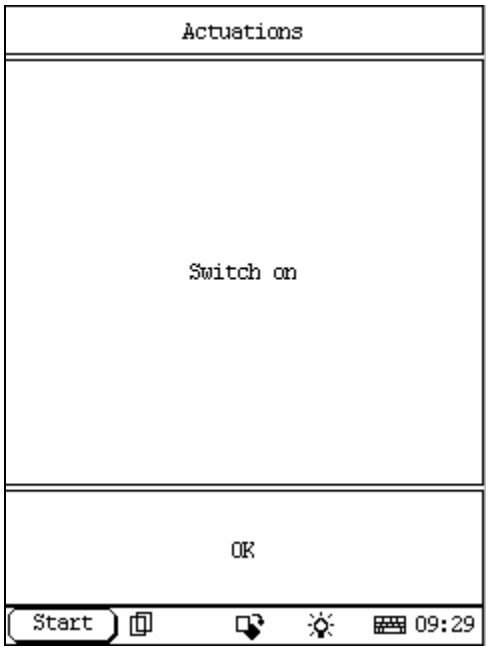

Figure119

Click [**ok**], the screen display will be as shown in Figure119:

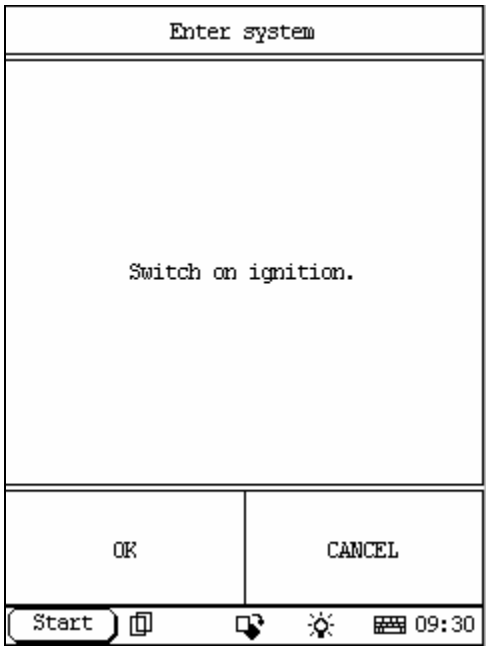

Figure120

Click [**ok**] , the screen display will be as shown in Figure120:

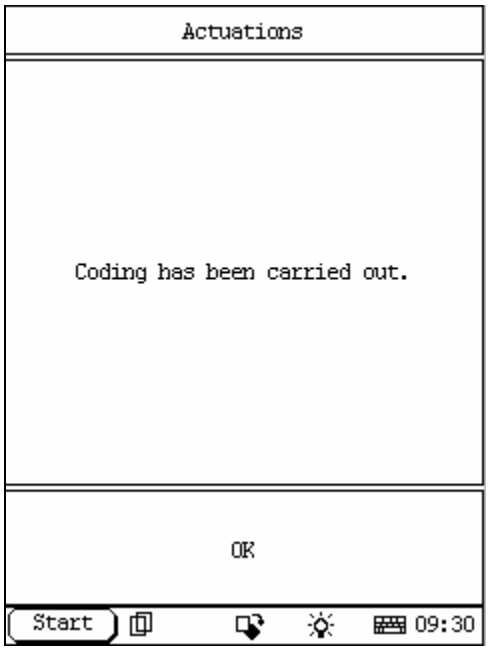

Figure121

Click [**ok**], the screen display will be as shown in Figure121:

Click [**cancel**] that in figure120 then exit

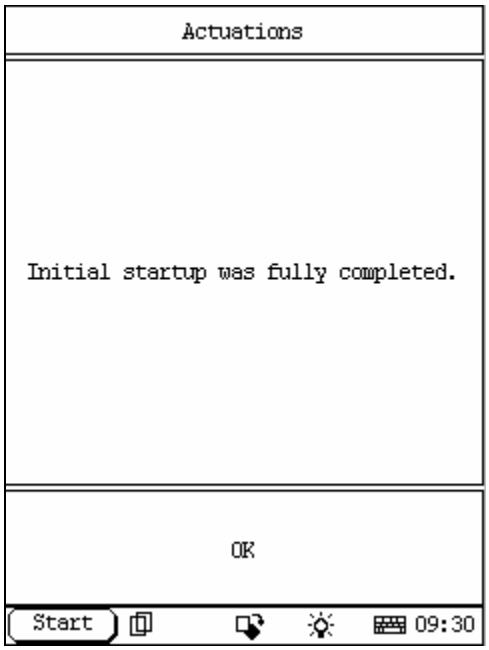

Figure122

Click [**ok**], the screen display will be as shown in Figure122:

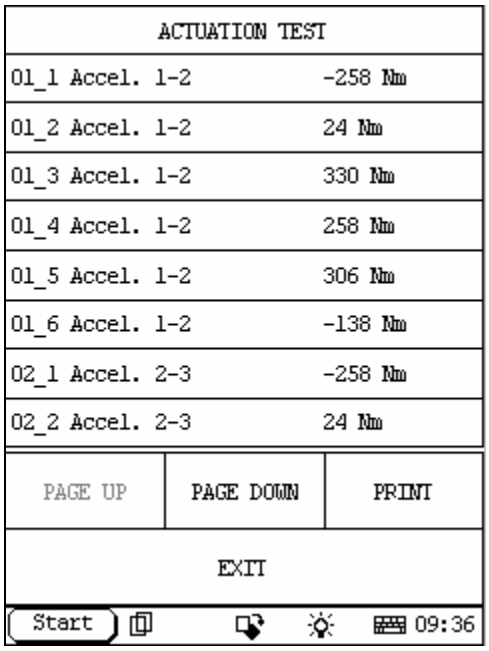

Figure123

Click [**adaptation data**] that in figure111, the screen will display the referenced data as shown in Figure123:

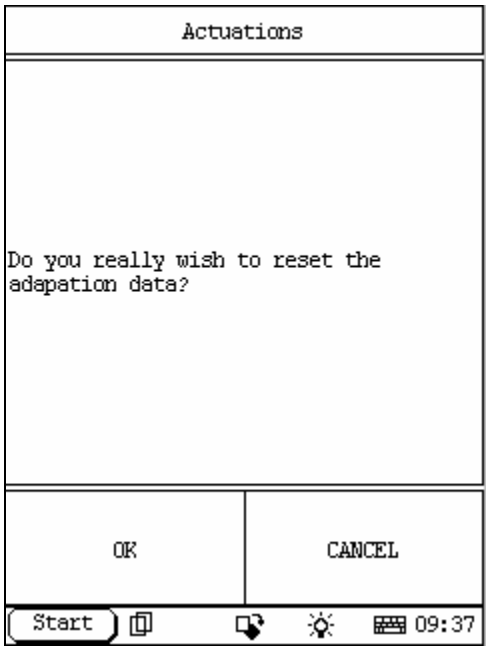

Figure124

Click [**resetting of adaptation data**] that in figure111, the screen display will be as shown in Figure124:

Click [**cancel**] then exit

Click [**ok**] start to reset.

Figure125

Click [**ok**] in here, complete resetting.

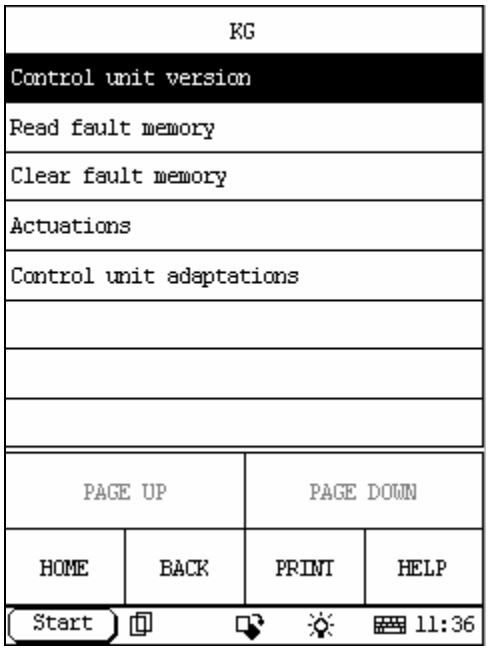

Figure126

KG SYSTEM

home

In KG system following functions can be selected for running:

- Control unit version
- Read fault memory
- Clear fault memory
- Actuations
- Control unit adaptations

Click corresponding item to perform the function test.

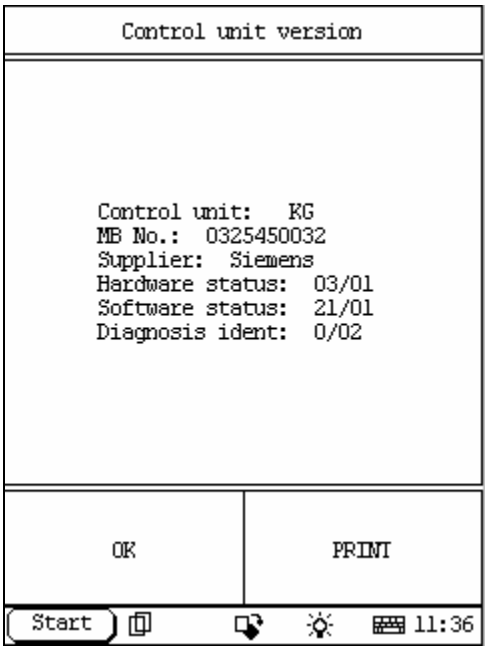

Figure127

Control Unit Version

home

Click [Control unit version] that in the function menu. The screen will display the information about the control unit version of the test system, as shown in Figure127

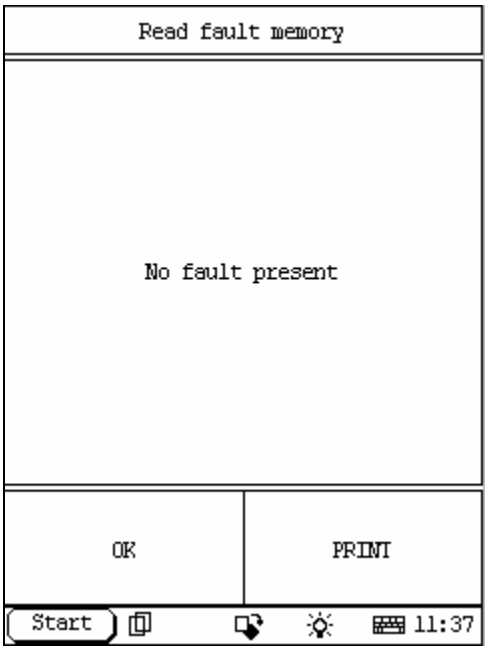

Figure128

Read Fault Memory

home

Click [**READ FAULT MEMORY**] in the function menu. X-431 starts to scan the fault code. The screen will display the result after the scanning is finished. Figure128 shows an example.

Note:

- ***The first part of the information is the fault code; the second part is description of the fault code; the third part is the status of the fault code (there may be no third part for some fault code).***
- ***If there is no fault code in the tested system, the screen will display message "No fault present".***
- ***After the test result is displayed, click [PRINT] to print out the test result.***

Click [ok] to return to the function menu

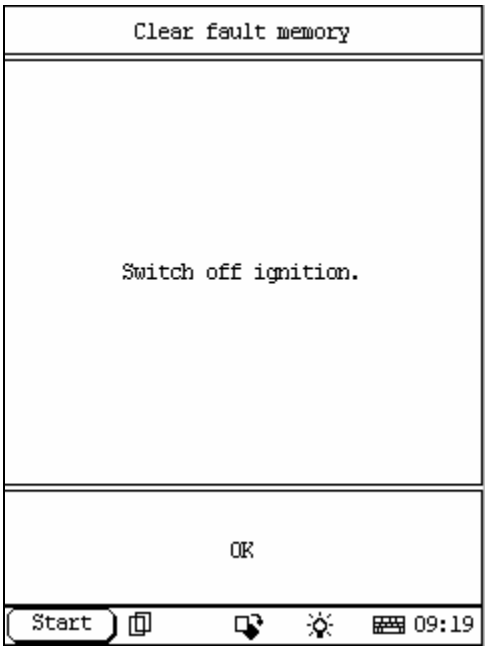

Figure129

Clear Fault Memory

home

Click [**Clear fault memory**] that in the function menu. The screen will prompt the user to switch off the ignition, as shown in Figure129:

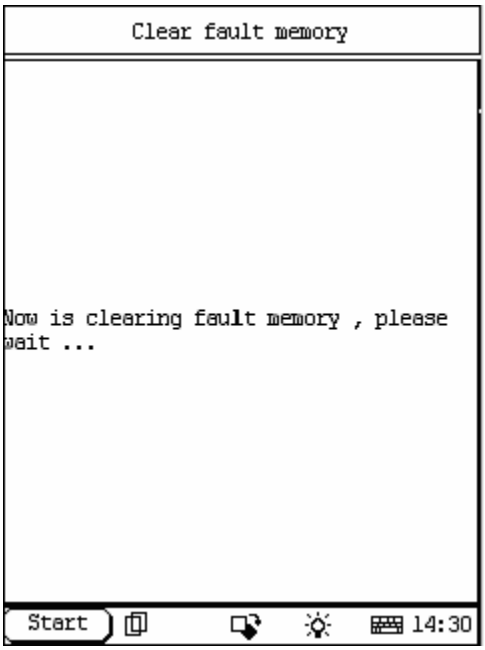

Figure130

After the ignition is turned off, click [**OK**] to clear the fault memory. The screen will display the massage as shown in Figure130:

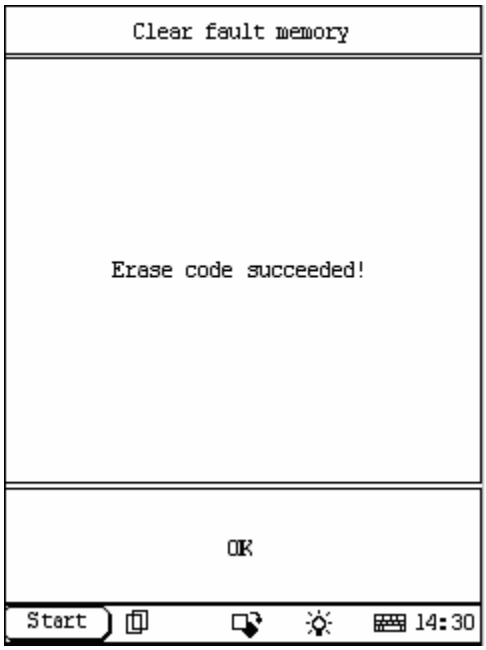

Figure131

After the fault code is cleared, the screen will show the related message. Click [**OK**] to return to the function menu.

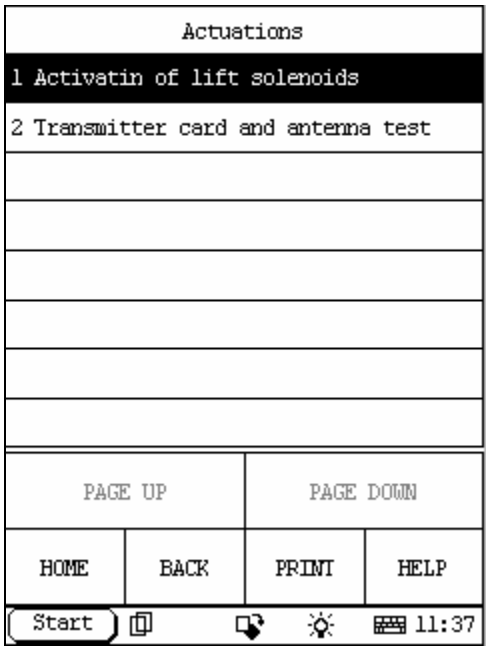

Figure132

Actuations

home

Click [**Actuations**] in the function menu. The screen will display a list of actuations, as shown in Figure132:

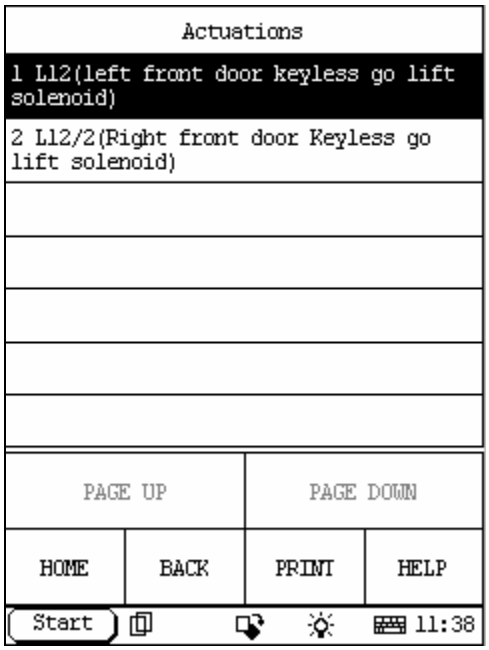

Figure133

Click [**activation of lift solenoids**], the screen will display a list of actuations, as shown in Figure133:

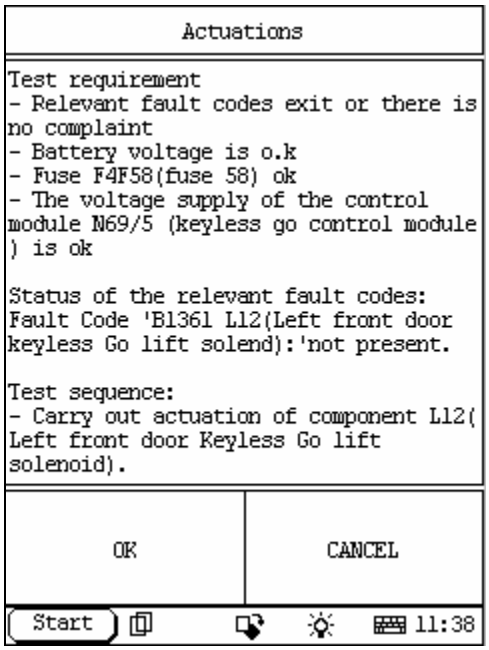

Figure134

Click [**1 L12**], the screen display as show in the figure:

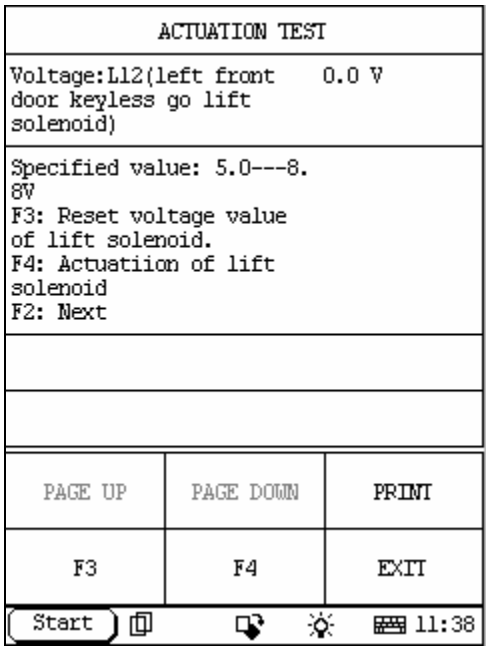

Figure135

Click [**ok**], the screen display as show in the figure135:

[**F3**] Reset voltage value of lift solenoid

[**F4**] Actuation of lift solenoid

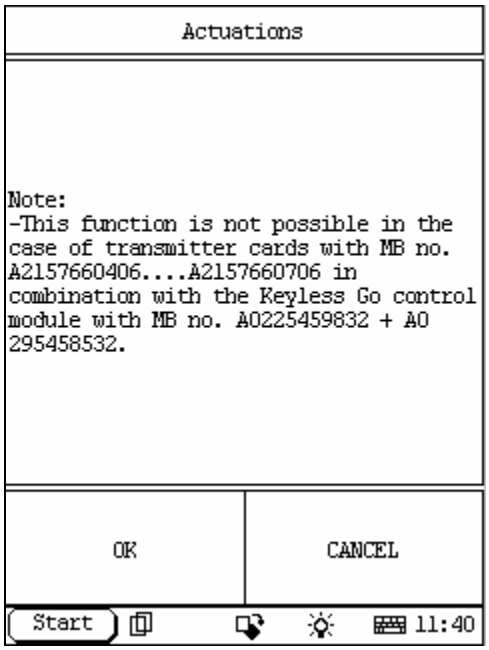

Figure136

Click [**transmitter card and antenna test**] that in figure132, the screen will display a list of actuations, as shown in Figure136:

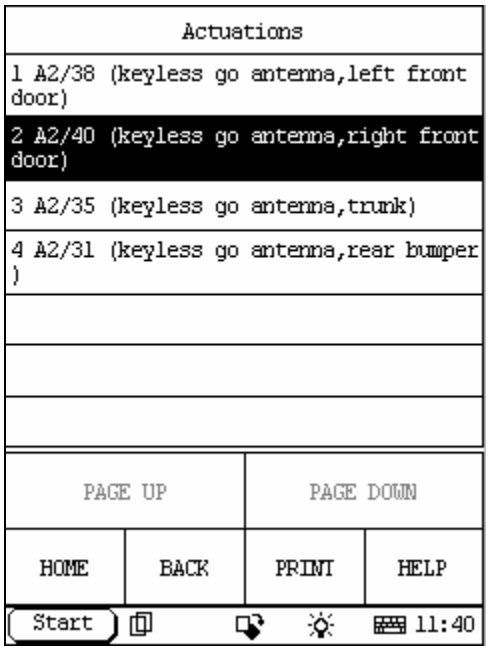

Figure137

Click [**ok**], the screen will display actuations items, as show in the figure137:

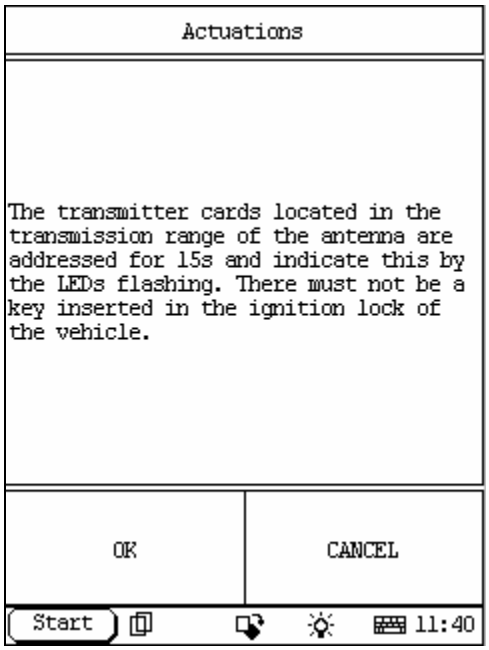

Figure138

We introduce the process by the second item. Click [**2 A2/40 (keyless go antenna, right front door)**], then the screen display as show in figure138:

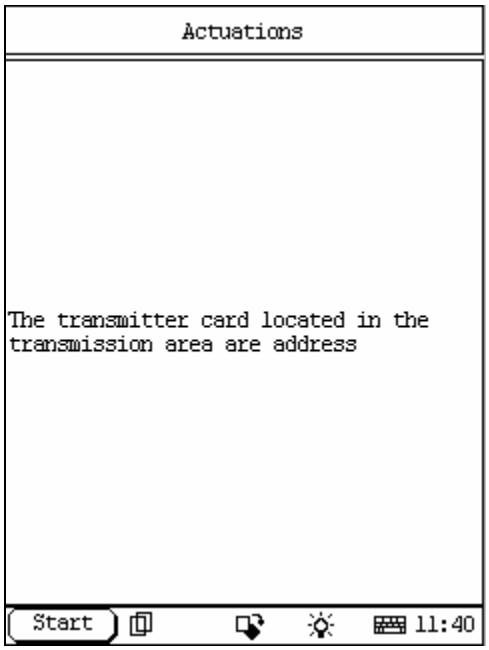

Figure139

Click [**ok**] then the screen display as show in figure139:

It may take minutes.

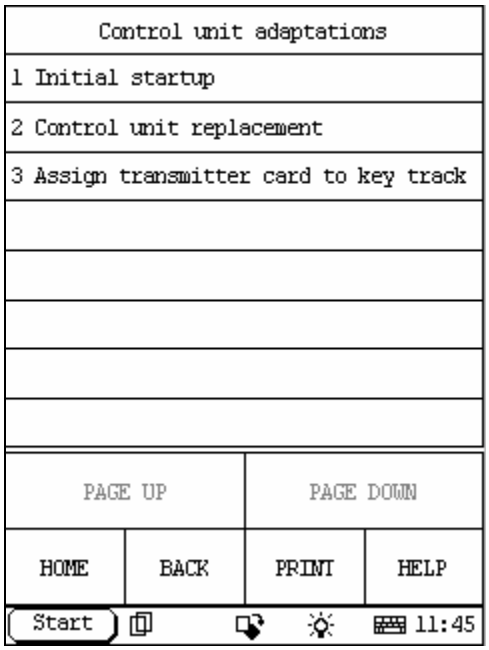

Figure140

Control Unit Adaptations

home

Warning!
Do not perform this operation discretionarily; only the professional can do the control unit adaptations.

Click [**Control Unit Adaptations**] in the function menu. The screen display will be as shown in Figure140:

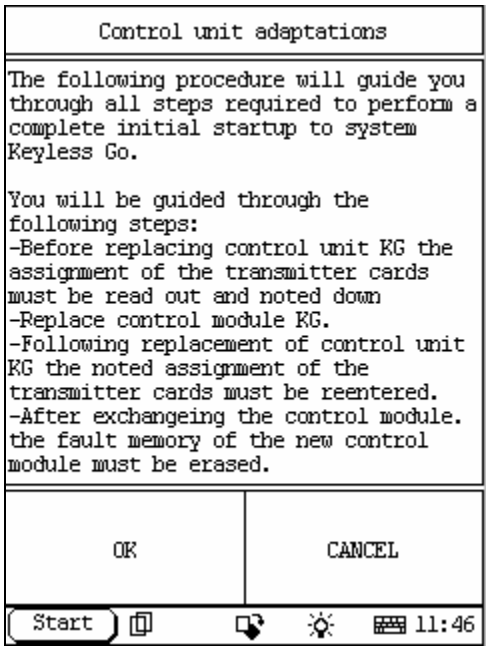

Figure141

Click [**Initial startup**] then the screen display as show in figure141:

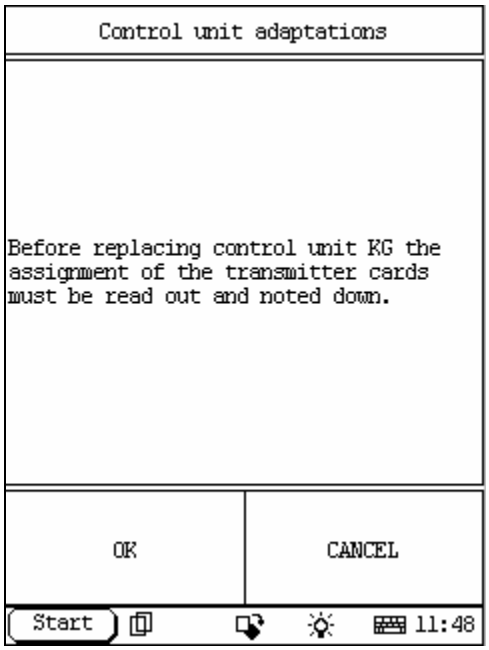

Figure142

Click [**control unit replacement**] that in figure140 then the screen display as show in figure142:

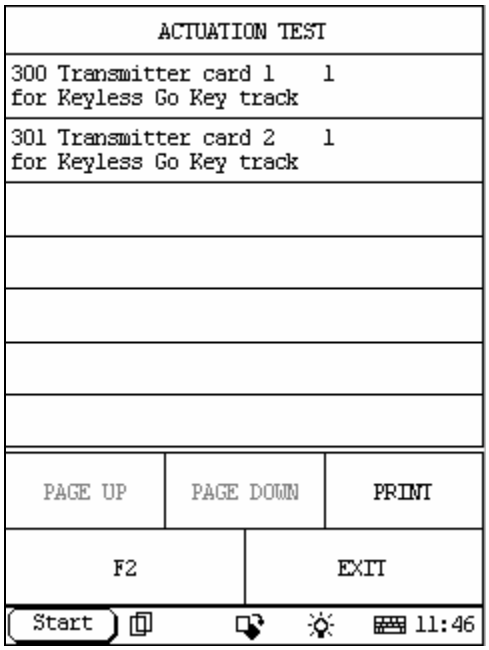

Figure143

Click [**assign transmitter to key track**] then the screen display as show in figure143:

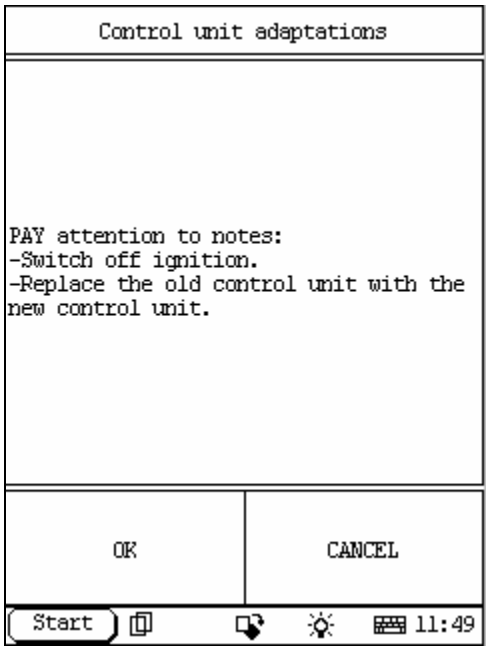

Figure144

We introduce the process by the first item. Click [**300 Transmitter card 2 1for keyless go key track**], then the screen display as show in figure144:

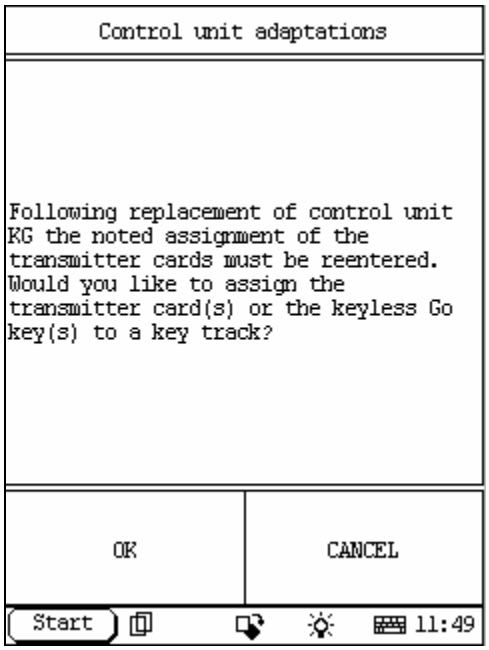

Figure145

Click [**ok**] then the screen display as show in figure145:

Figure146

Click [**ok**] then the screen display as show in figure146:

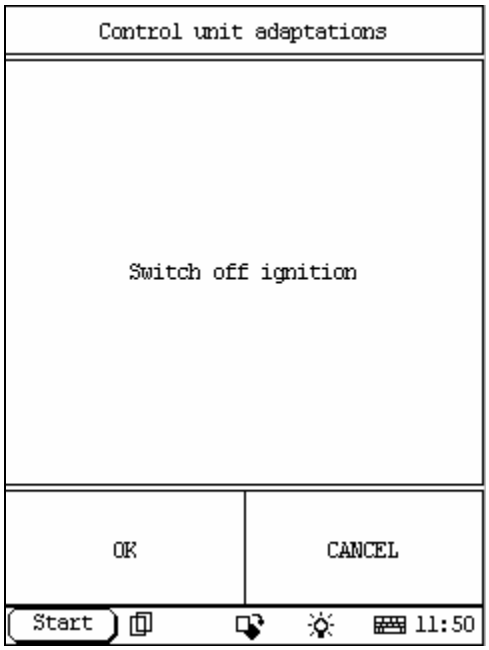

Figure147

Click [**ok**] then the screen display as show in figure147:

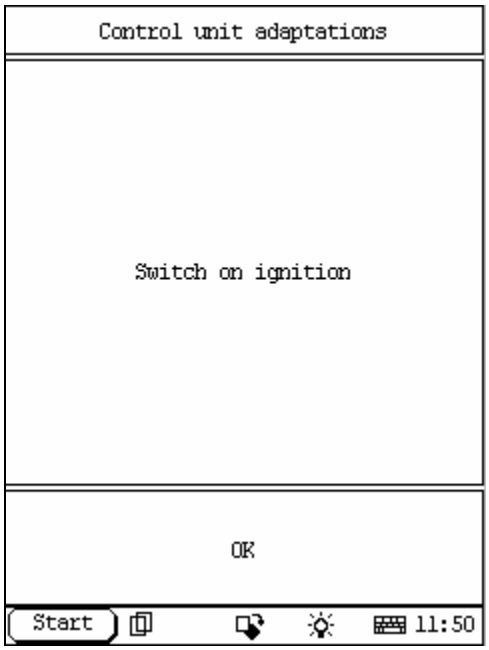

Figure148

Click [**ok**] then the screen display as show in figure148:

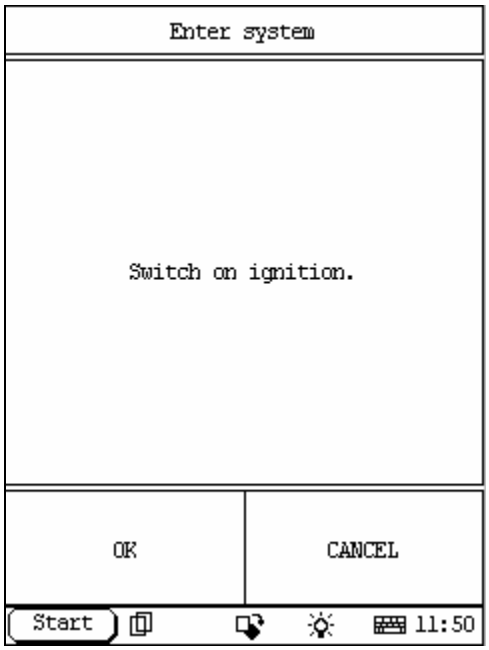

Figure149

Click [**ok**] then the screen display as show in figure149:

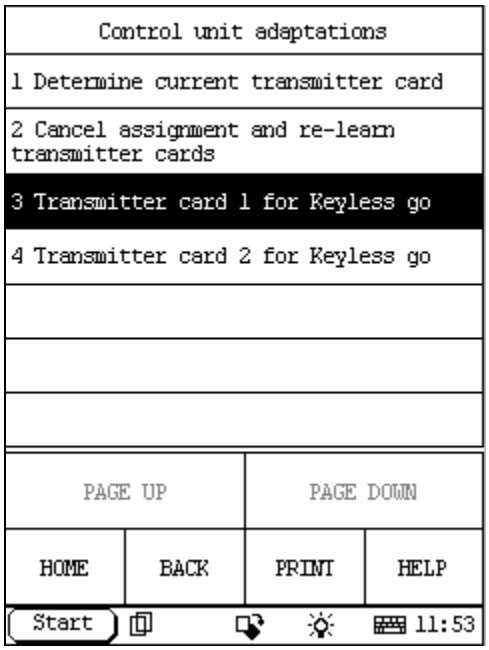

Figure150

Click [**ok**] then the screen display as show in figure150:

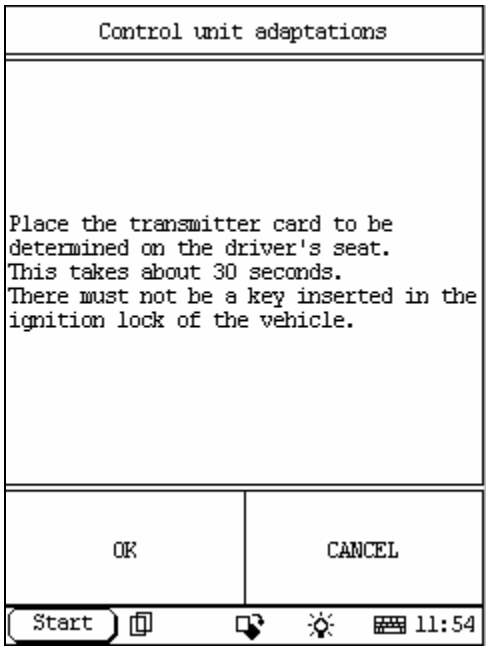

Figure151

We introduce the process by the third item. Click [**Transmitter card 1 for keyless go**], then the screen display as show in figure151:

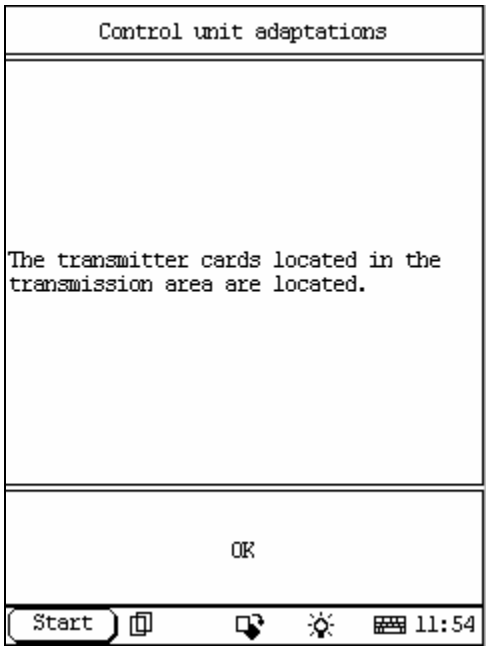

Figure152

Click [**ok**] then the screen display as show in figure152:

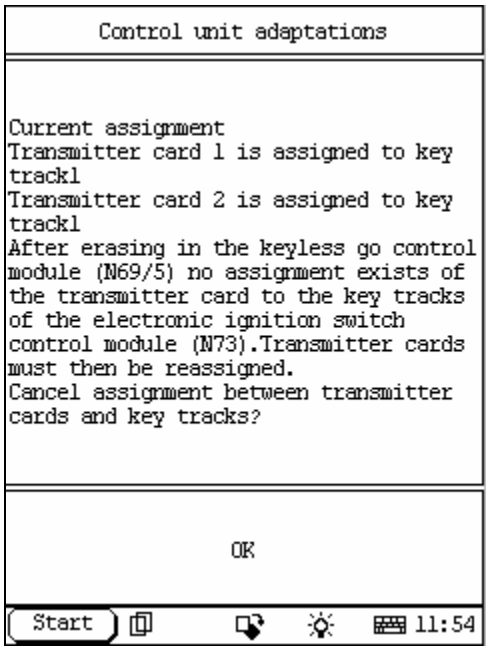

Figure153

Click [**ok**] then the screen display as show in figure153:

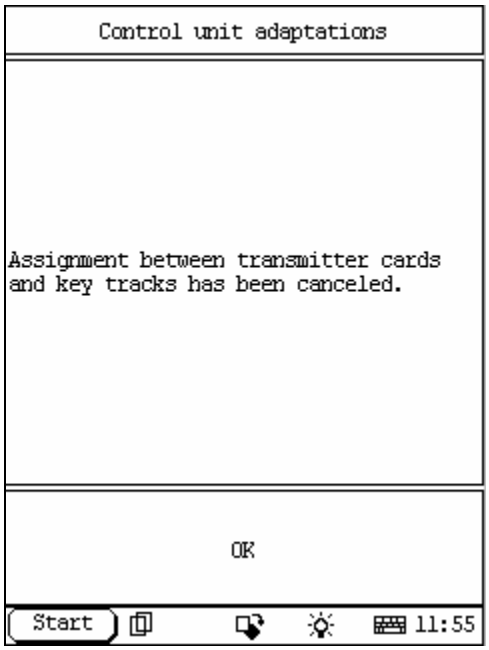

Figure154

Click [**ok**] then the screen display as show in figure154:

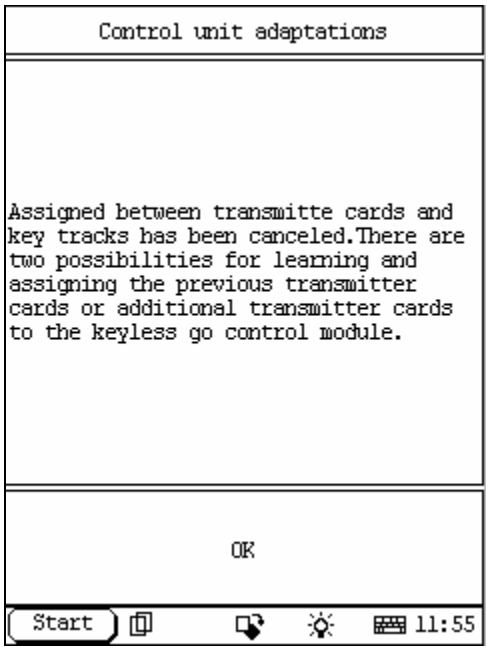

Figure155

Click [**ok**] then the screen display as show in figure155:

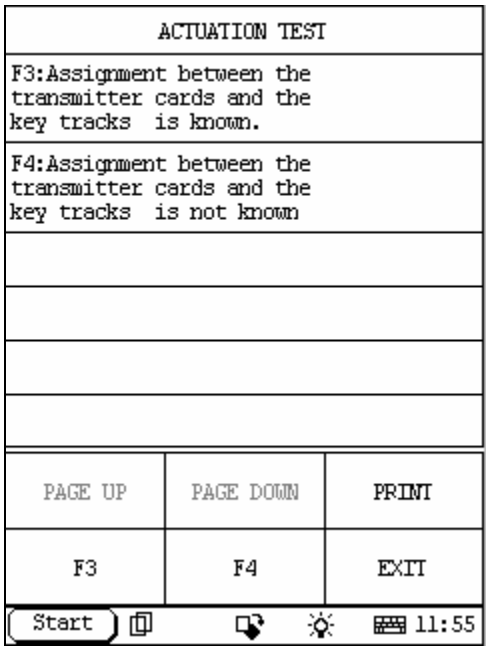

Figure156

Click [**ok**] then the screen display as show in figure156:
You can carry out [**F3**] or [**F4**] in here.

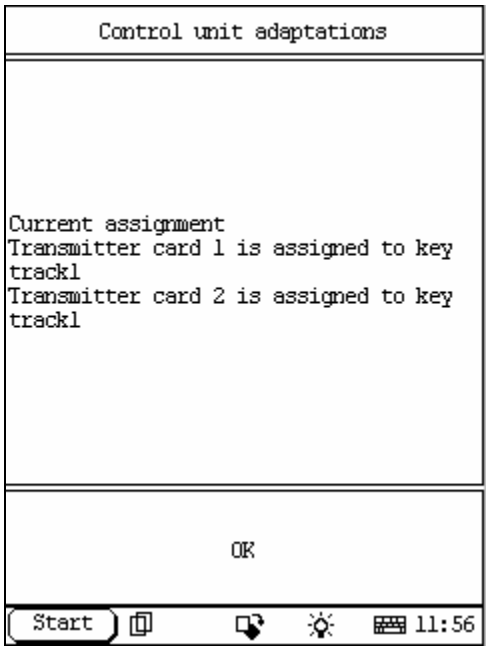

Figure157

We introduce the process by the F3 button. Click [**F3**], then the screen display as show in figure157:

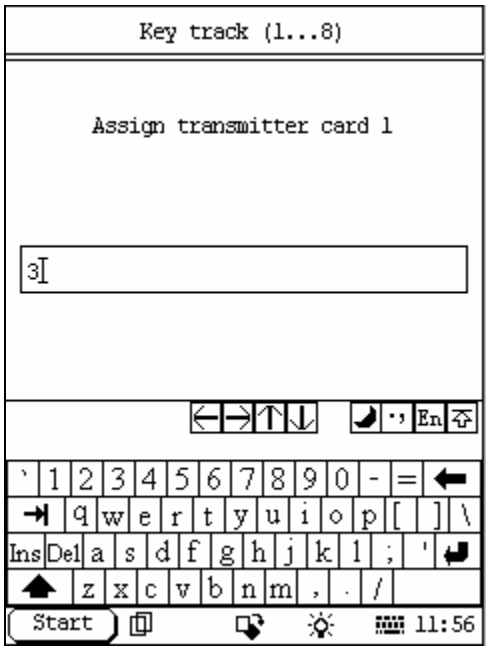

Figure158

Click [**ok**] then the screen display as show in figure158:

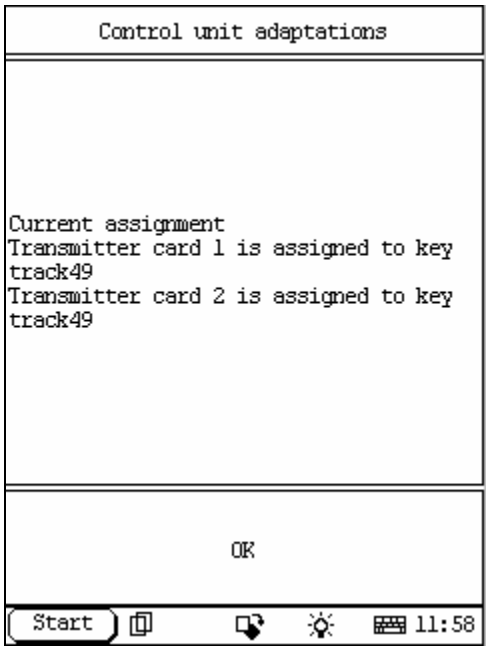

Figure159

Input the right key track and close the keyboard, click [**ok**], then the screen display as show in figure159:

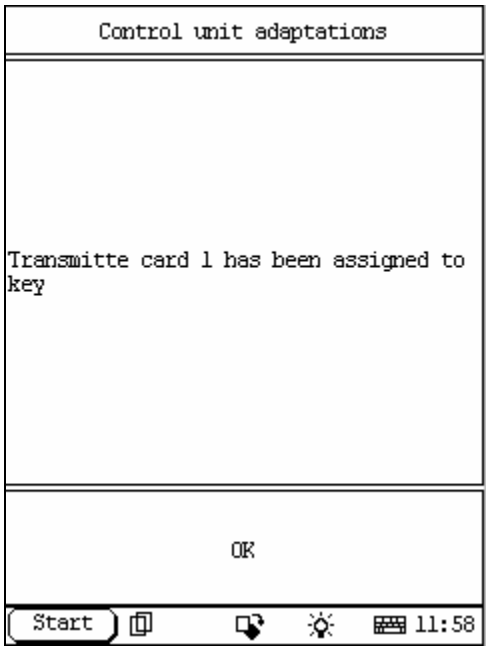

Figure160

Click [**ok**] then the screen display as show in figure160:

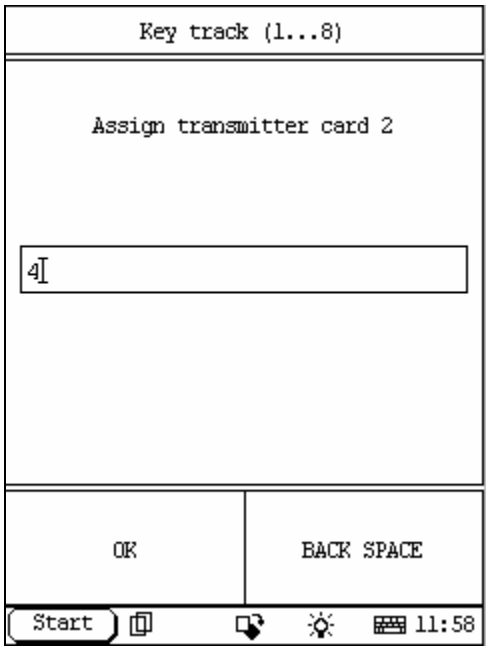

Figure161

Click [**ok**] then the screen display as show in figure161:

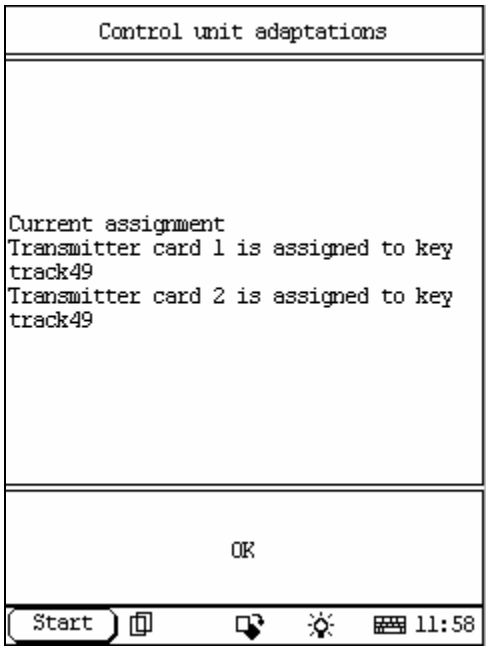

Figure162

Input the right key track and close the keyboard, click [**ok**], then the screen display as show in figure162:
Click [**ok**] then finish.

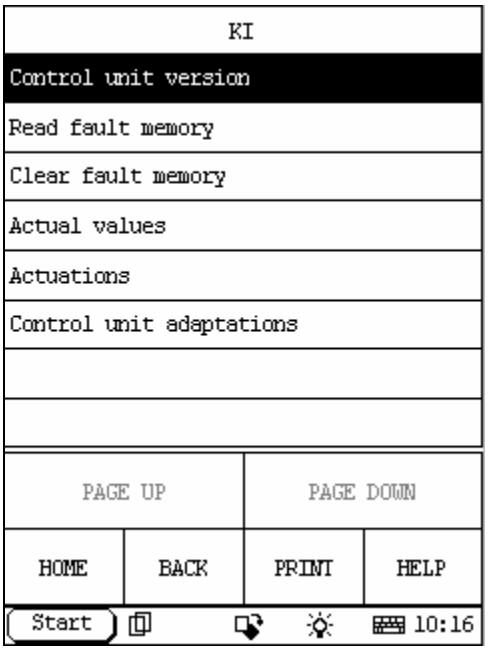

Figure163

EIS SYSTEM

home

In EIS system following functions can be selected for running:

- Control unit version
- Read fault memory
- Clear fault memory
- Actual values
- Actuations
- Control unit adaptations

Click corresponding item to perform the function test.

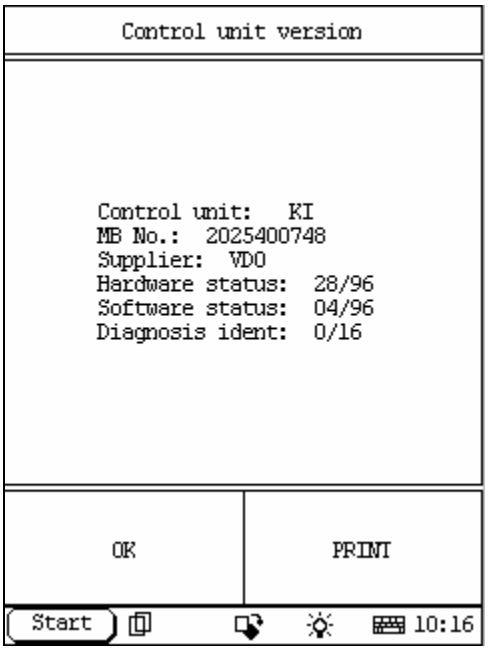

Figure164

Control Unit Version

home

Click [**Control unit version**] that in the function menu. The screen will display the information about the control unit version of the test system, as shown in Figure164:

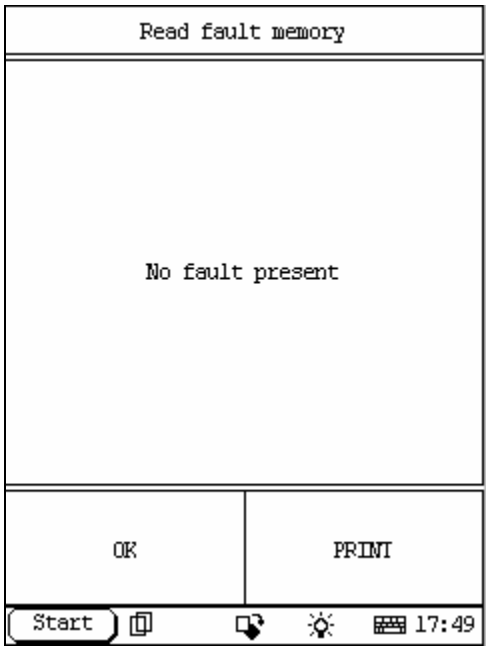

Figure165

Read Fault Memory

home

Click [**READ FAULT MEMORY**] in the function menu. X-431 starts to scan the fault code. The screen will display the result after the scanning is finished. Figure165 shows an example.

Note:

- ***The first part of the information is the fault code; the second part is description of the fault code; the third part is the status of the fault code (there may be no third part for some fault code).***
- ***If there is no fault code in the tested system, the screen will display message "No fault present".***
- ***After the test result is displayed, click [PRINT] to print out the test result.***

Click [ok] to return to the function menu

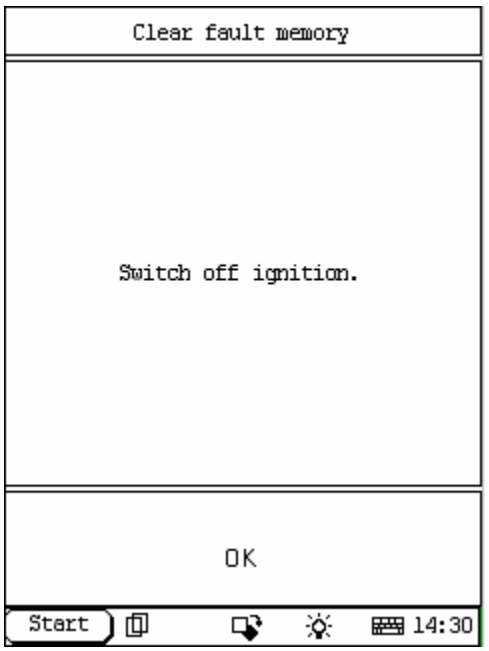

Figure166

Clear Fault Memory

home

Click [**Clear fault memory**] that in the function menu. The screen will prompt the user to switch off the ignition, as shown in Figure166:

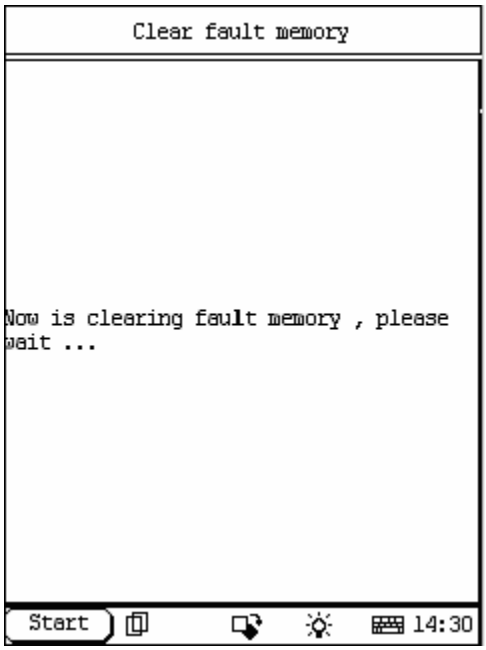

Figure167

After the ignition is turned off, click [**OK**] to clear the fault memory. The screen will display the massage as shown in Figure167:

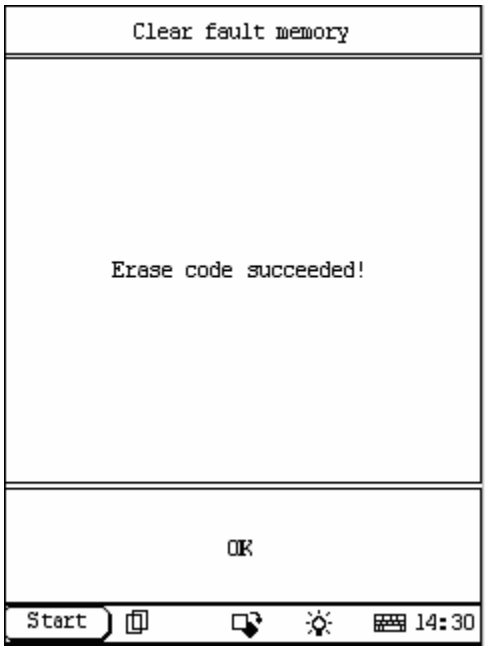

Figure168

After the fault code is cleared, the screen will show the related message. Click [**OK**] to return to the function menu.

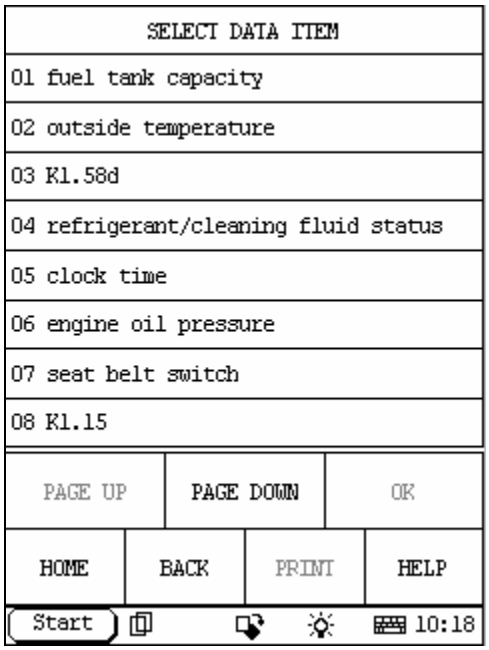

Figure169

Read Data Stream

home

Click [**Actual values**] that in the function menu. The screen will display the list of data streams, as shown in Figure 169:

There is more than one page for the list. Click [**PAGE UP**] or [**PAGE DOWN**] to turn the page. Figure169 shows the first page.

Select the corresponding item and click [**ok**] the screen will display the real-time values.

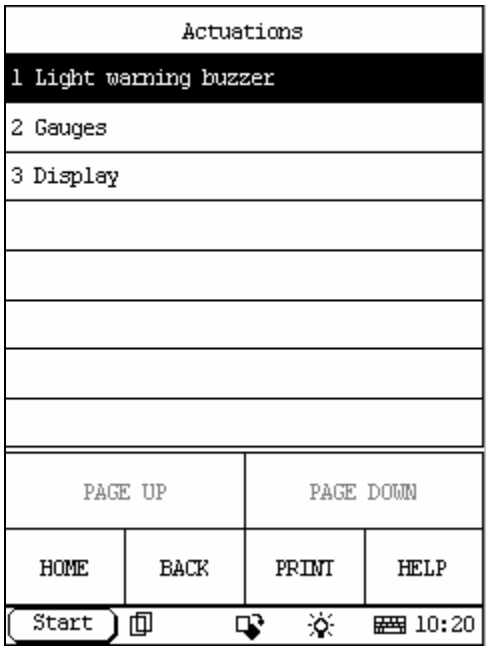

Figure170

Actuations

home

Click [**Actuations**] in the function menu. The screen will display a list of actuations, as shown in Figure170:

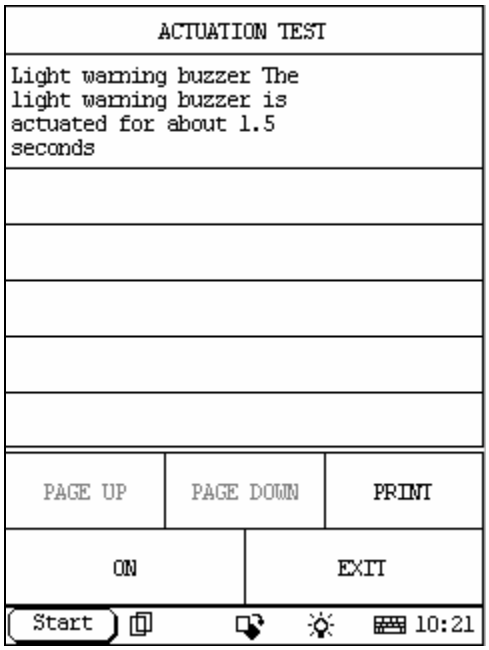

Figure171

Click [**Light warning buzzer**] then the screen will display as shown in Figure171:
Click [**on**] you can test the light warning buzzer.

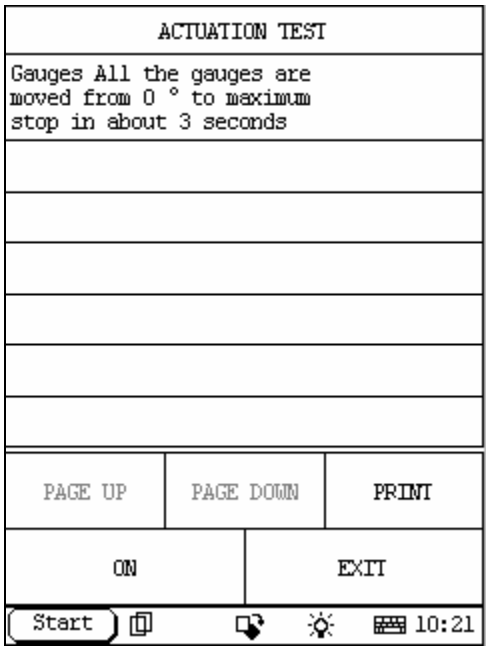

Figure172

Click [**gauges**] that in figure170 then the screen will display as shown in Figure172
Click [**on**] you can test the gauges.

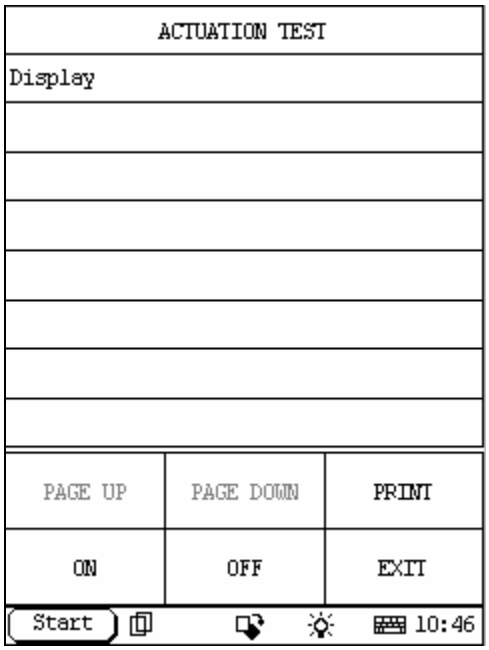

Figure173

Click [**Display**] that in figure170 then the screen will display as shown in Figure173: Click [**on**] or [**off**] you can test the display.

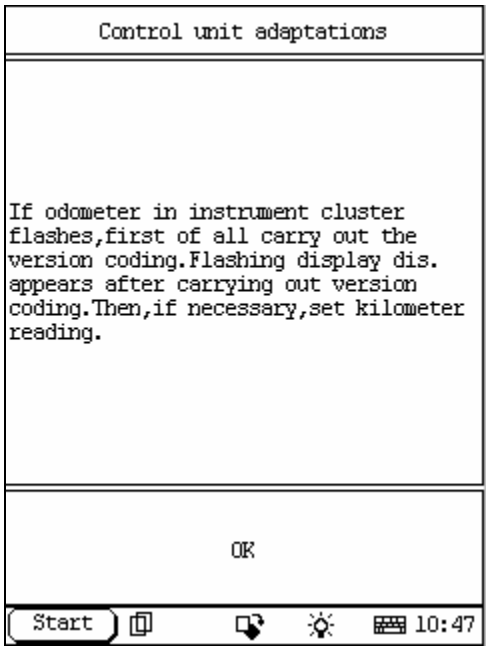

Figure174

Control Unit Adaptations

home

Warning!
Do not perform this operation discretionarily; only the professional can do the control unit adaptations.

Click [**Control Unit Adaptations**] in the function menu. The screen display will be as shown in Figure174:

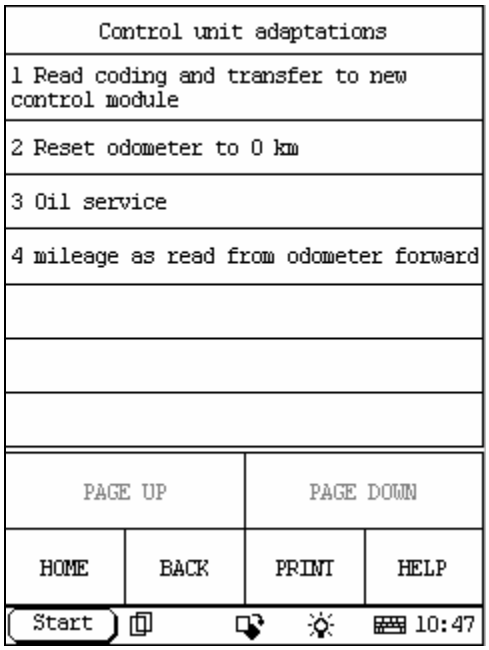

Figure175

Click [**ok**] then the screen display as show in figure175:

Figure176

Click [**1 Read coding and transfer to new module**] then the screen display as show in figure176:

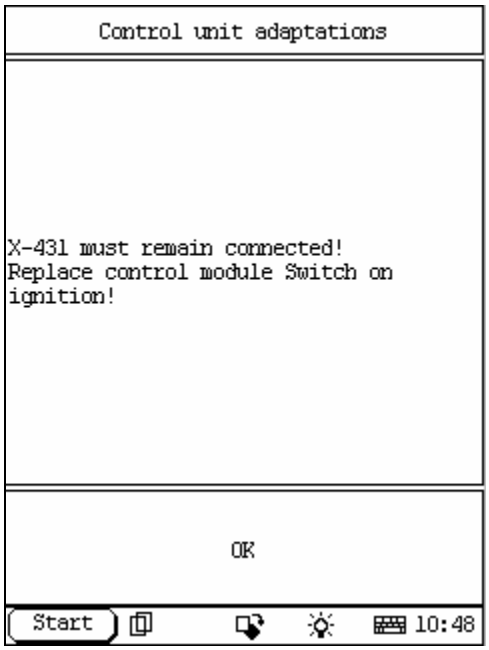

Figure177

Click [**ok**] then the screen display as show in figure177:

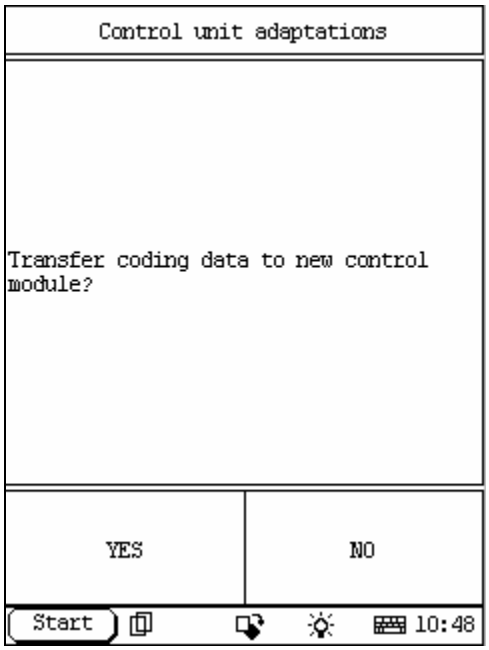

Figure178

Click [**ok**] then the screen display as show in figure178:

Click [**yes**], coding data will be transferred.

Click [**no**] will return.

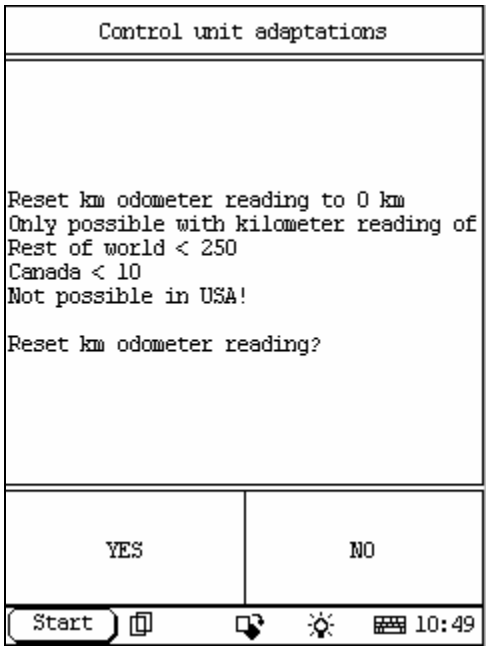

Figure179

Click [**2 reset odometer to 0 km**] that in figure175 then the screen display as show in figure179:

Click [**yes**] km odometer will be reset.

Click [**no**] will return

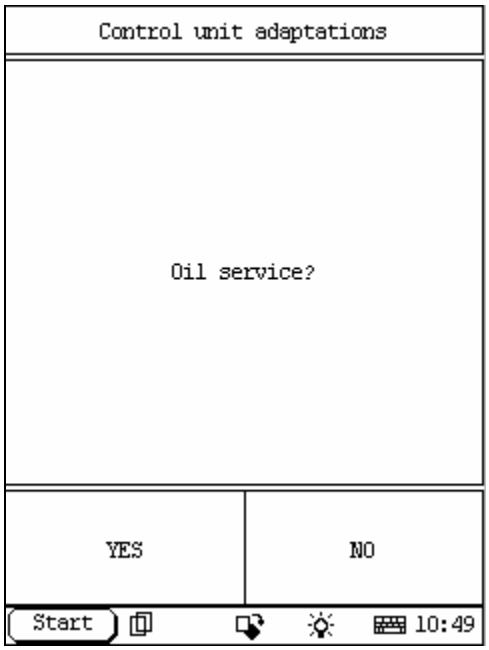

Figure180

Click [**Oil service**] that in figure175 then the screen display as show in figure180:

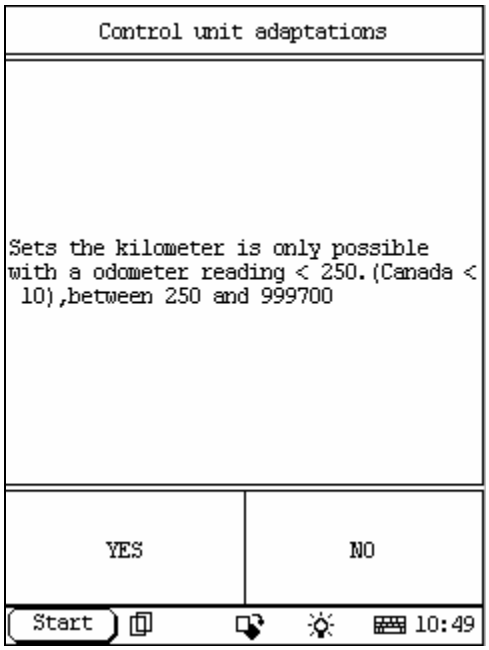

Figure181

Click [**Mileage as read from odometer forward**] then the screen display as show in figure181:

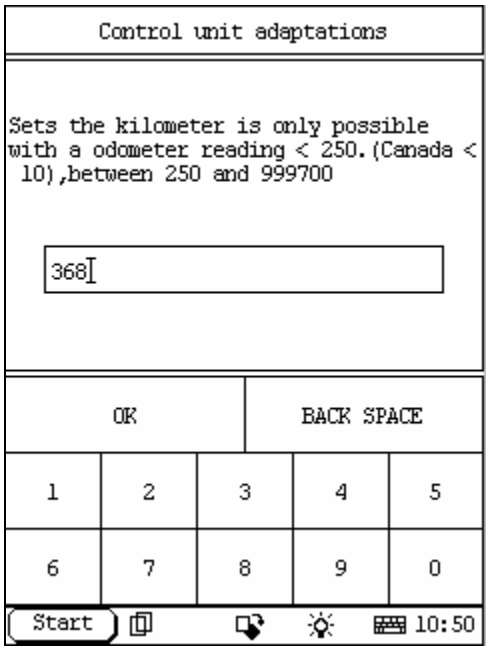

Figure182

Click [**yes**] then the screen display as show in figure182:

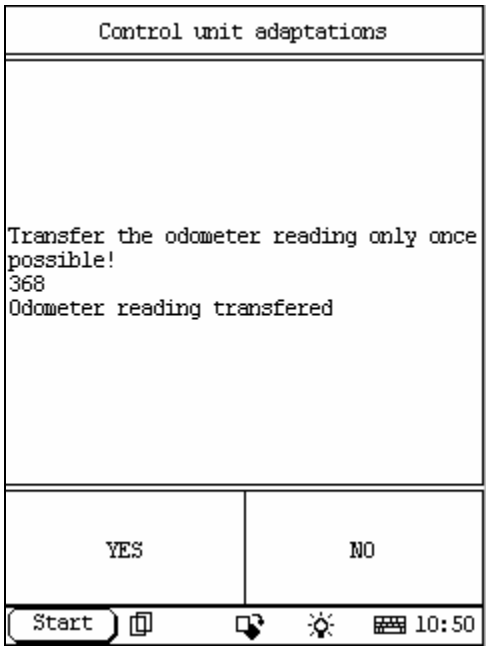

Figure183

Input the right number then click [**ok**], the screen display as show in figure:

Click [**yes**] completely.

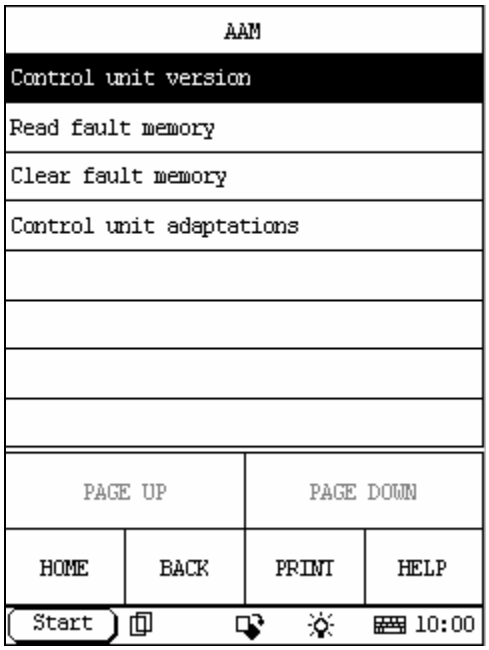

Figure184

AAM SYSTEM

home

In AAM system following functions can be selected for running:

- Control unit version
- Read fault memory
- Clear fault memory
- Control unit adaptations

Click corresponding item to perform the function test.

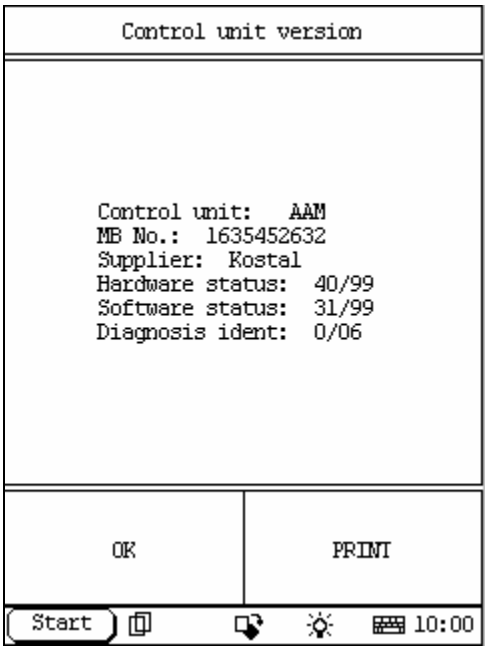

Figure185

Control Unit Version

home

Click [**Control unit version**] that in the function menu. The screen will display the information about the control unit version of the test system, as shown in Figure185:

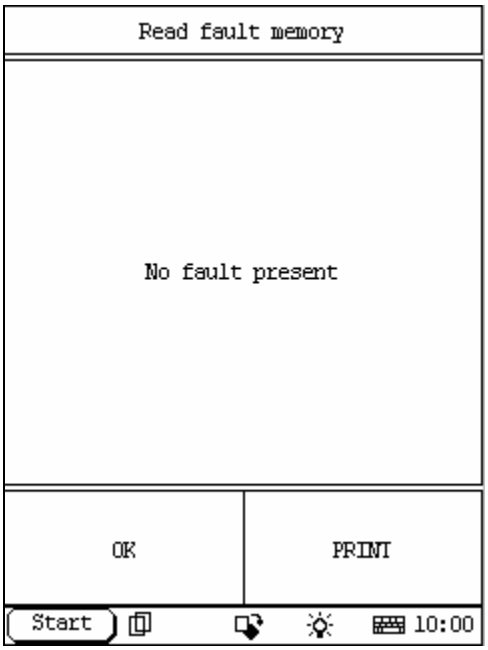

Figure186

Read Fault Memory

home

Click [**READ FAULT MEMORY**] in the function menu. X-431 starts to scan the fault code. The screen will display the result after the scanning is finished. Figure 186 shows an example.

Note:

- ***The first part of the information is the fault code; the second part is description of the fault code; the third part is the status of the fault code (there may be no third part for some fault code).***
- ***If there is no fault code in the tested system, the screen will display message "No fault present".***
- ***After the test result is displayed, click [PRINT] to print out the test result.***

Click [ok] to return to the function menu

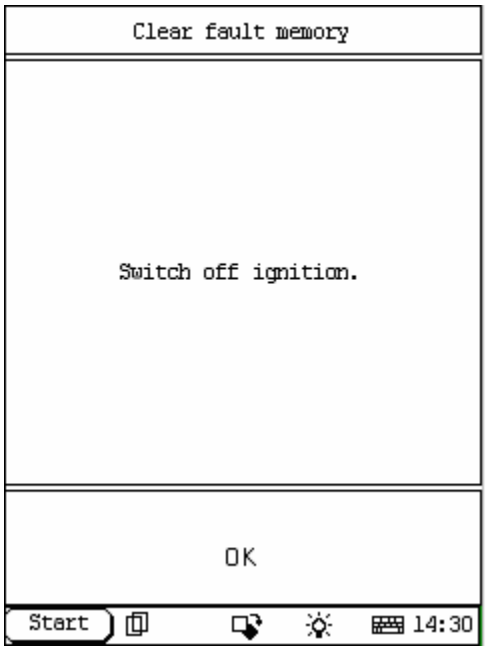

Figure187

Clear Fault Memory

Click [Clear fault memory] that in the function menu. The screen will prompt the user to switch off the ignition, as shown in Figure187:

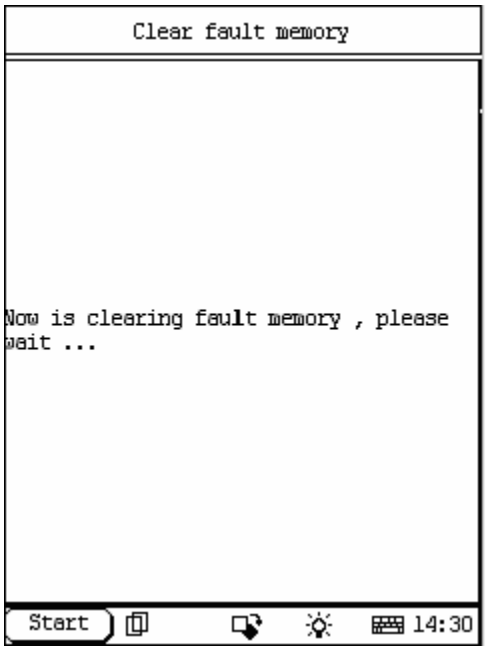

Figure188

After the ignition is turned off, click [**OK**] to clear the fault memory. The screen will display the massage as shown in Figure188:

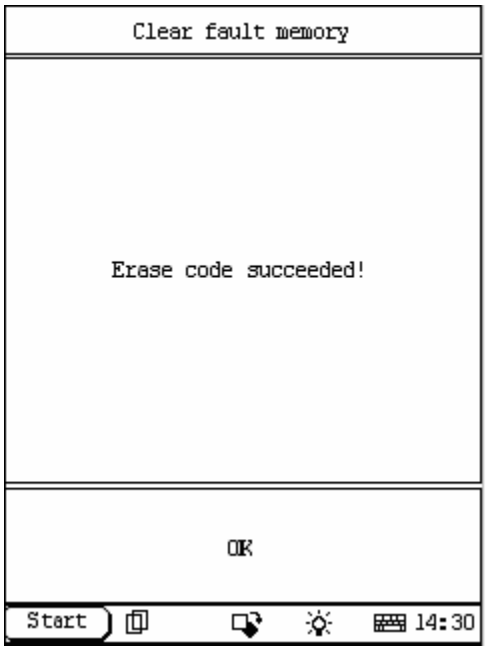

Figure189

After the fault code is cleared, the screen will show the related message. Click [**OK**] to return to the function menu.

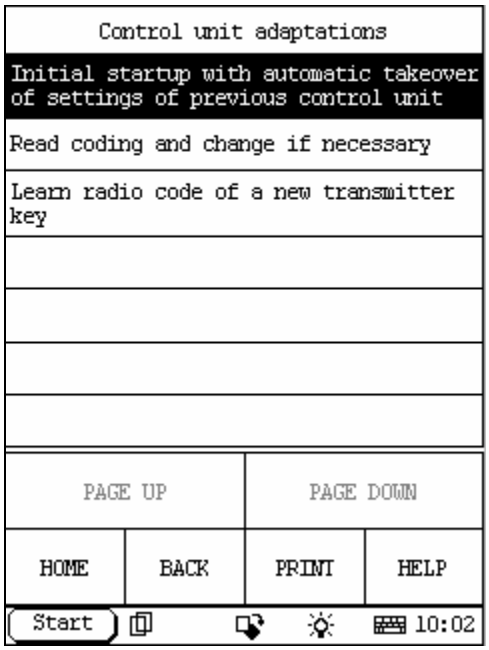

Figure190

Control Unit Adaptations

home

Warning!
Do not perform this operation discretionarily; only the professional can do the control unit adaptations.

Click [**Control Unit Adaptations**] in the function menu. The screen display will be as shown in Figure190:

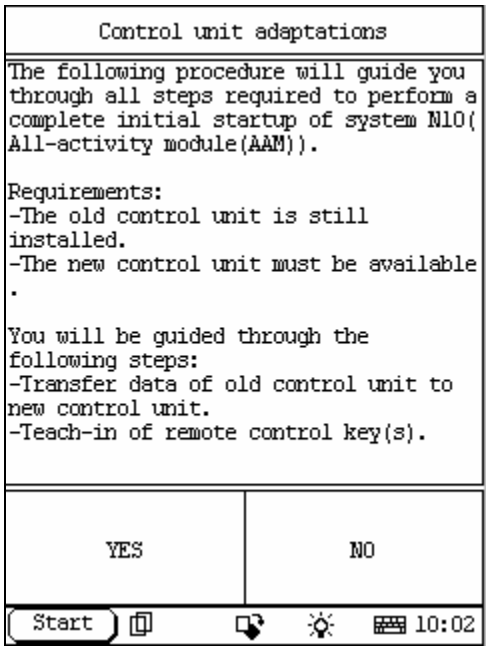

Figure191

Click [**Initial startup with automatic takeover of settings of previous control unit**] then the screen display as show in figure191:

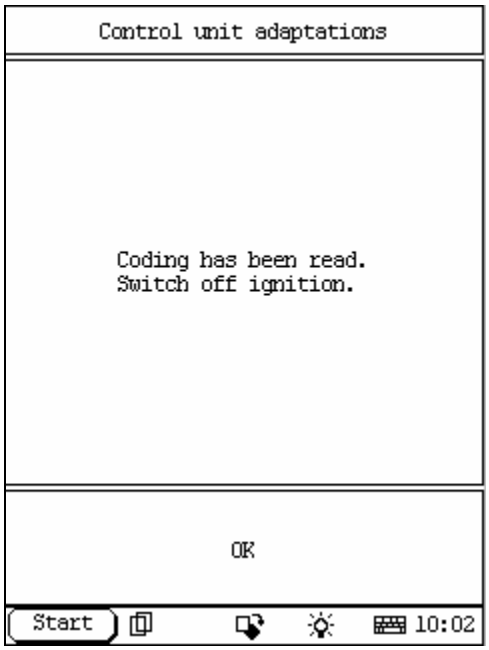

Figure192

Click [**yes**] then the screen display as show in figure192:

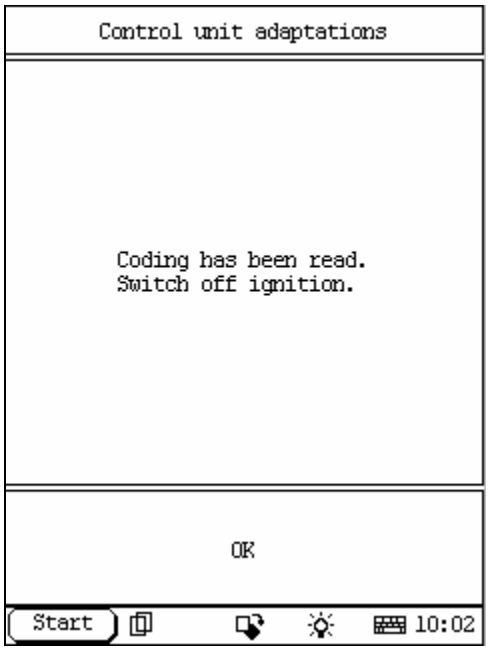

Figure193

Click [**ok**] then the screen display as show in figure193:

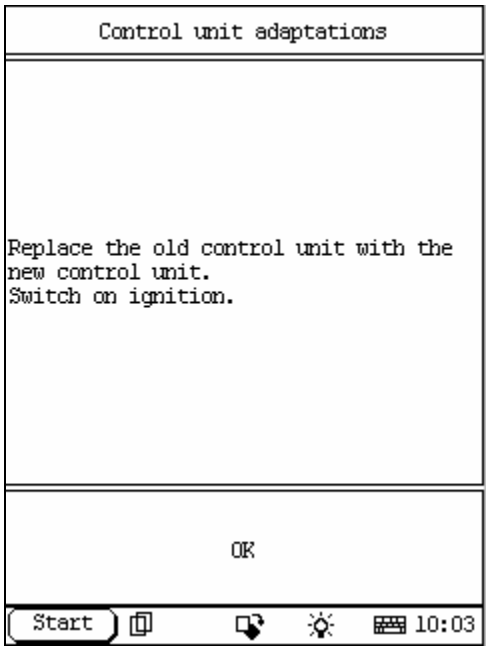

Figure194

Click [**ok**] then the screen display as show in figure194:

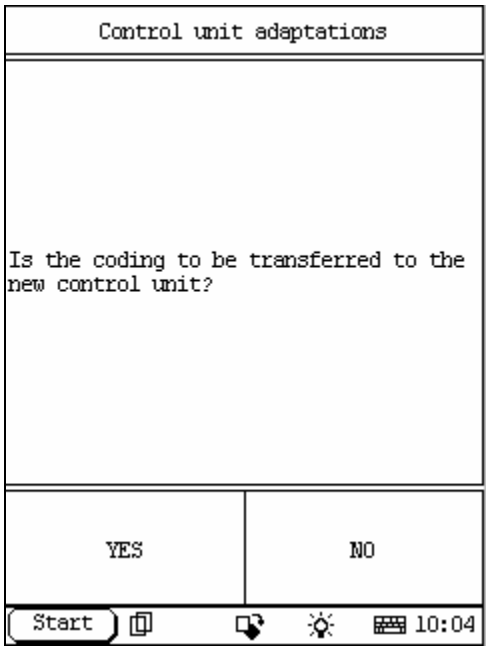

Figure195

Click [**ok**] then the screen display as show in figure195:

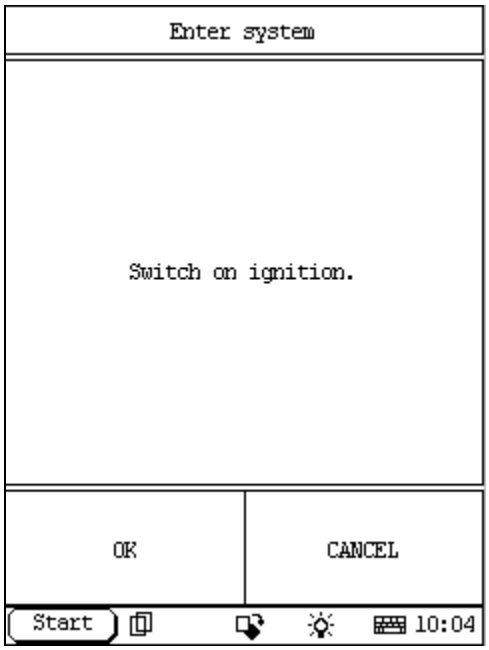

Figure196

Click [**yes**] then the screen display as show in figure196:

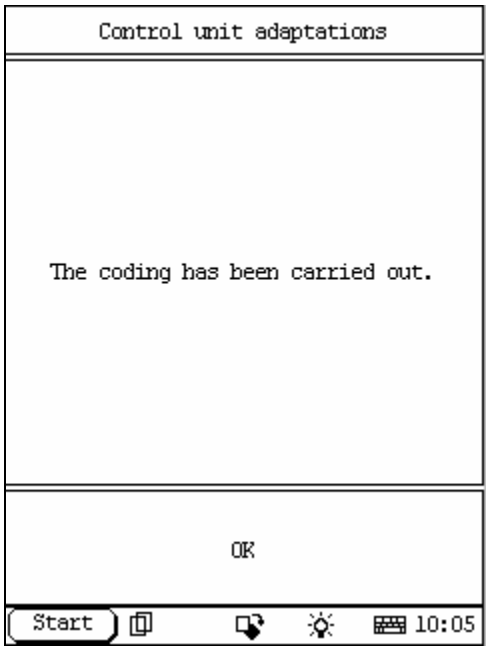

Figure197

Click [**ok**] then the screen display as show in figure197:

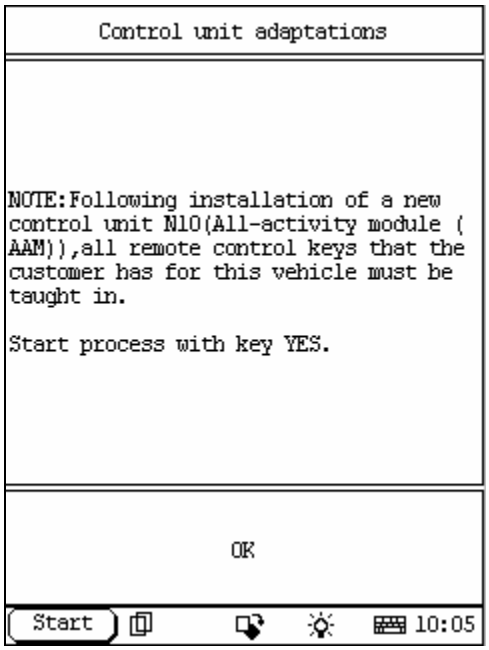

Figure198

Click [**ok**] then the screen display as show in figure198:

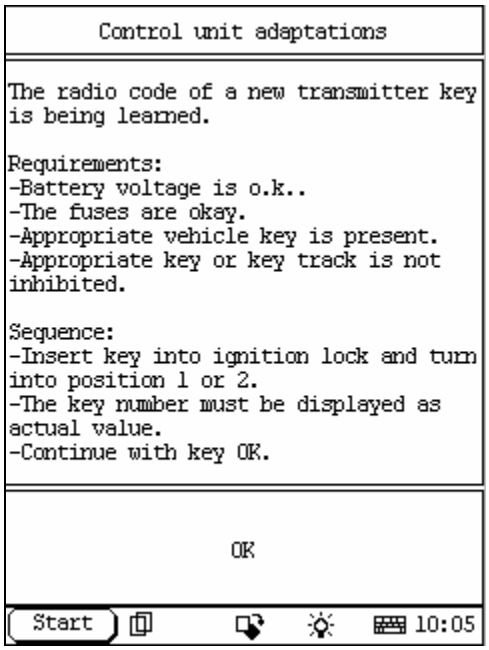

Figure199

Click [**ok**] then the screen display as show in figure199:

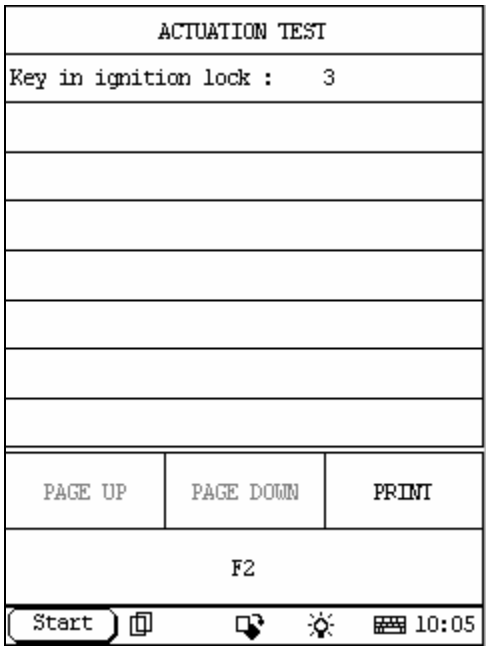

Figure200

Click [**ok**] then the screen display as show in figure200:

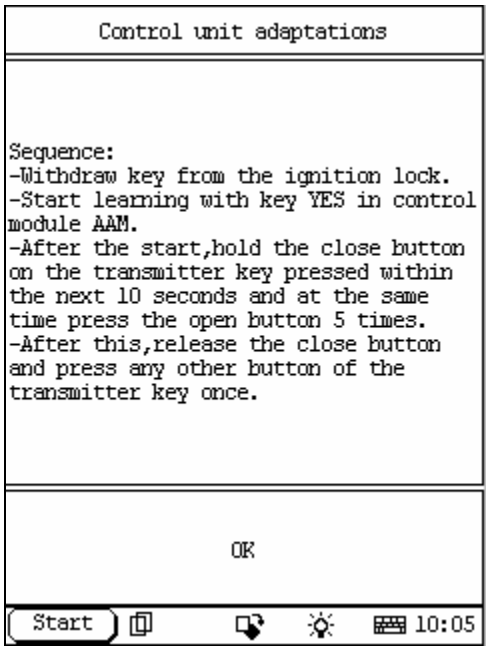

Figure201

Click [**F2**] then the screen display as show in figure201:

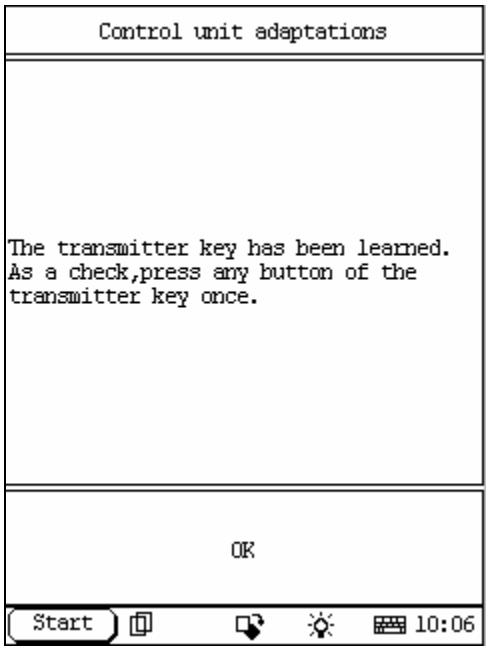

Figure202

Click [**ok**] then the screen display as show in figure202:

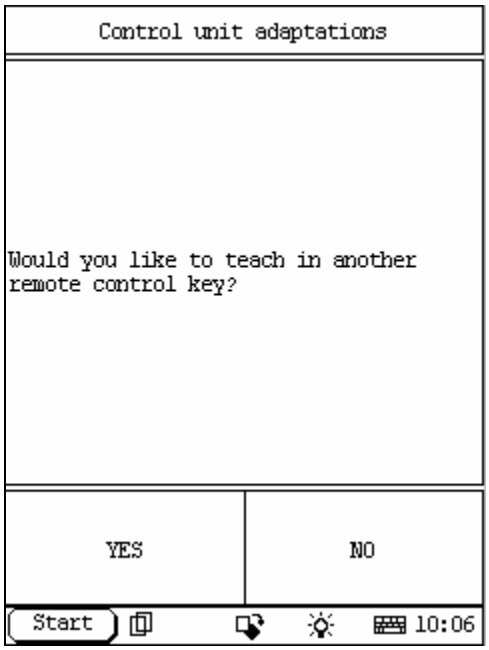

Figure203

Click [**ok**] then the screen display as show in figure203:

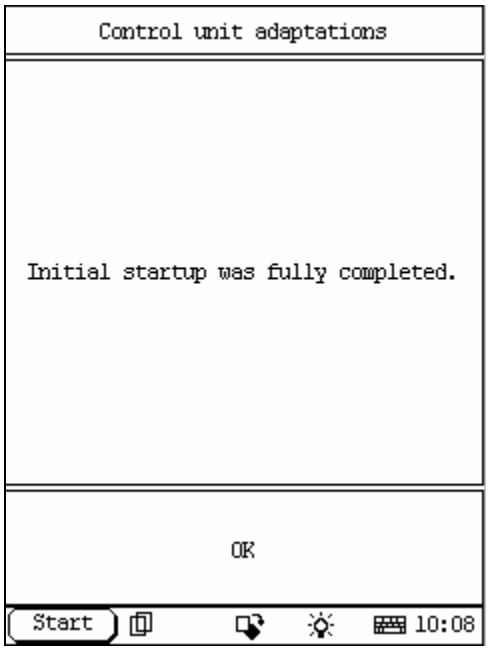

Figure204

Click [**no**] then the screen display as show in figure204:
Click [**yes**] will teach in another remote key.
Click [**ok**] complete

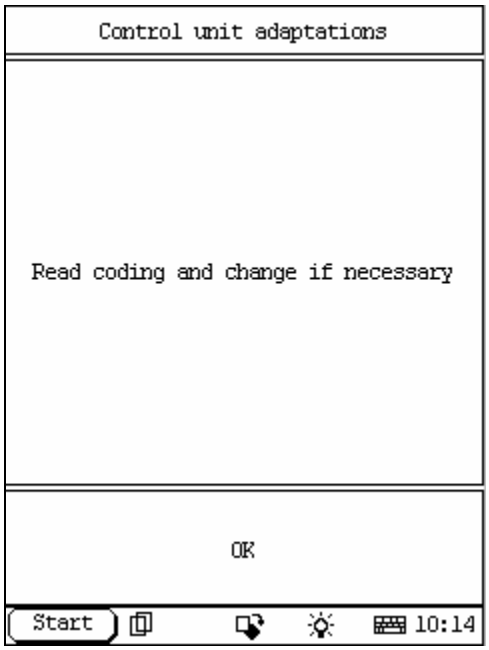

Figure205

Click [**Read coding and change if necessary**] that in figure190 then the screen display as show in figure205:

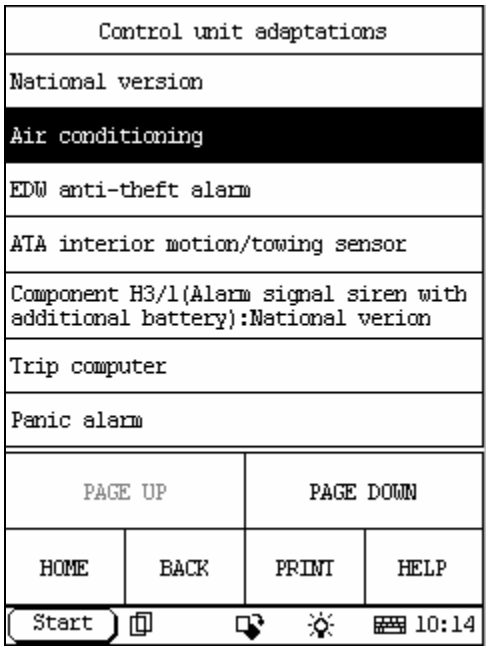

Figure206

Click [**ok**] then the screen display as show in figure206:

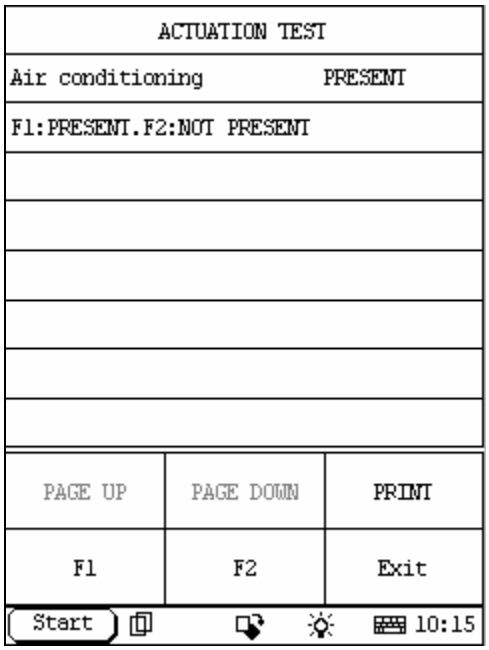

Figure207

We introduce the process by the second item. Click [**Air conditioning**], then the screen display as show in figure207:

You can click [**F1**] or [**F2**] to carry out testing.

Click [**Exit**] to return.

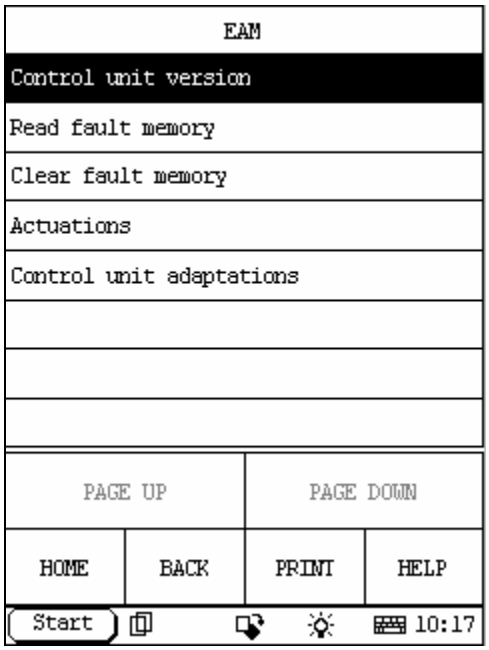

Figure208

EAM SYSTEM

home

In EAM system following functions can be selected for running:

- Control unit version
- Read fault memory
- Clear fault memory
- Actuations
- Control unit adaptations

Click corresponding item to perform the function test.

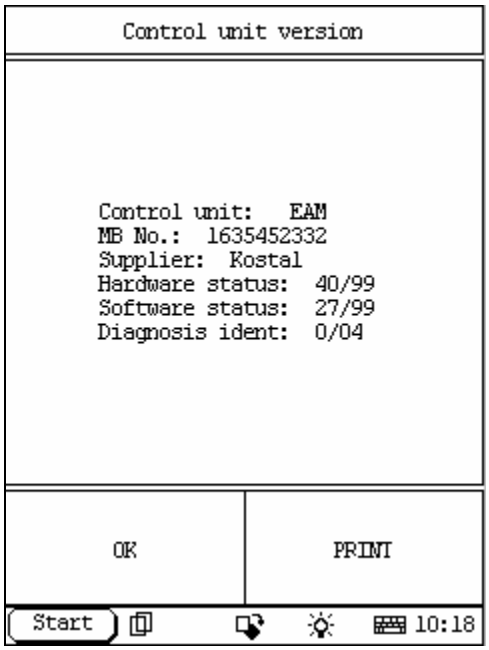

Figure209

Control Unit Version

home

Click [**Control unit version**] that in the function menu. The screen will display the information about the control unit version of the test system, as shown in Figure209:

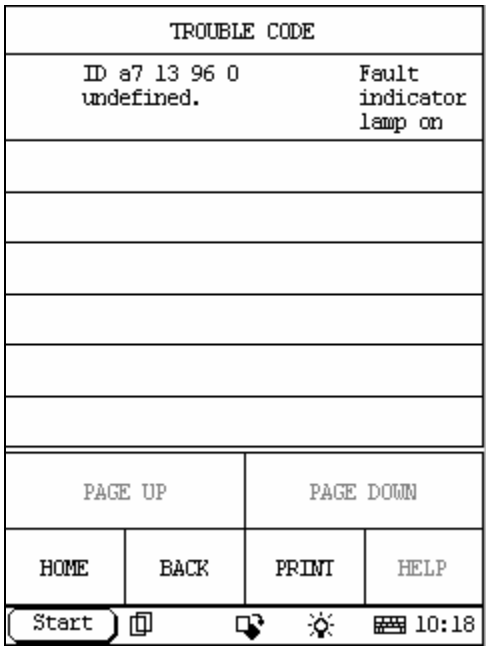

Figure210

Read Fault Memory

home

Click [**READ FAULT MEMORY**] in the function menu. X-431 starts to scan the fault code. The screen will display the result after the scanning is finished. Figure 210 shows an example.

Note:

- ***The first part of the information is the fault code; the second part is description of the fault code; the third part is the status of the fault code (there may be no third part for some fault code).***
- ***If there is no fault code in the tested system, the screen will display message "No fault present".***
- ***After the test result is displayed, click [PRINT] to print out the test result.***

Click [ok] to return to the function menu

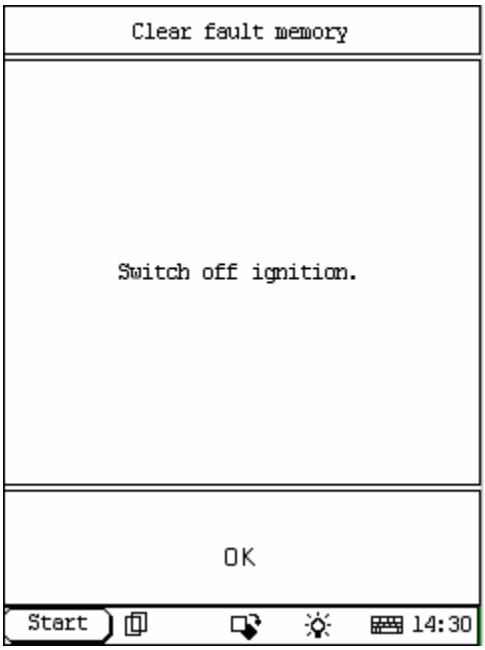

Figure211

Clear Fault Memory

home

Click [**Clear fault memory**] that in the function menu. The screen will prompt the user to switch off the ignition, as shown in Figure211:

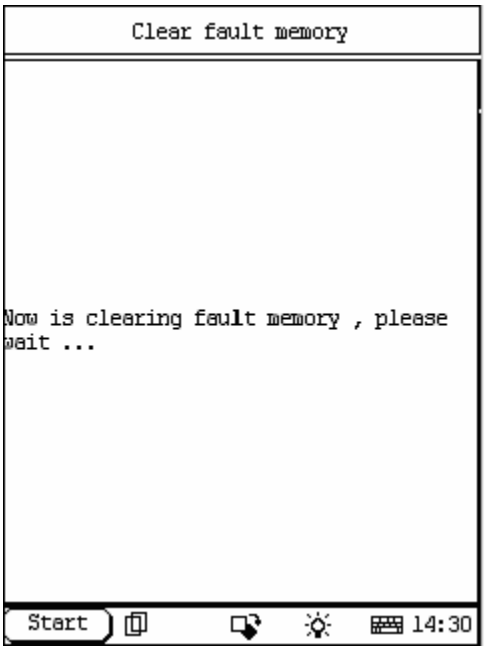

Figure212

After the ignition is turned off, click [**OK**] to clear the fault memory. The screen will display the massage as shown in Figure212:

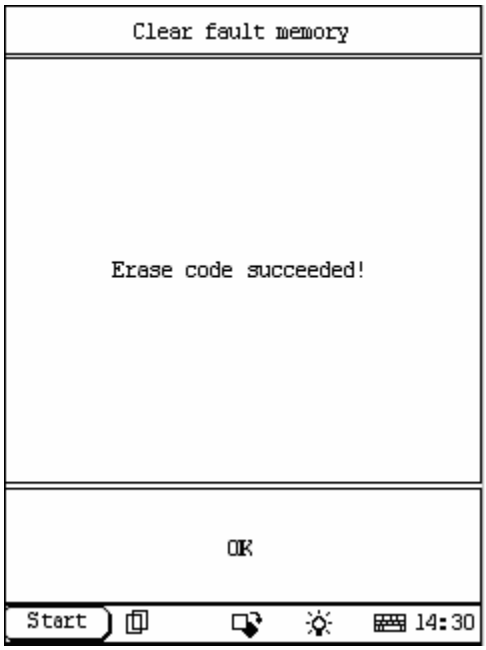

Figure213

After the fault code is cleared, the screen will show the related message. Click [**OK**] to return to the function menu.

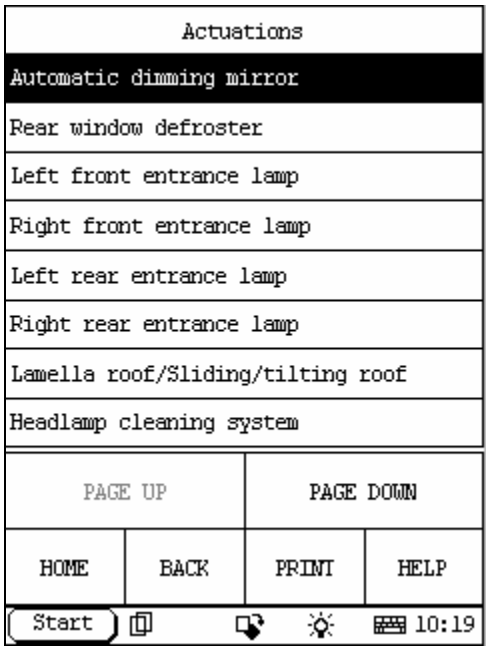

Figure214

Actuations

home

Click [**Actuations**] in the function menu. The screen will display a list of actuations, as shown in Figure214:

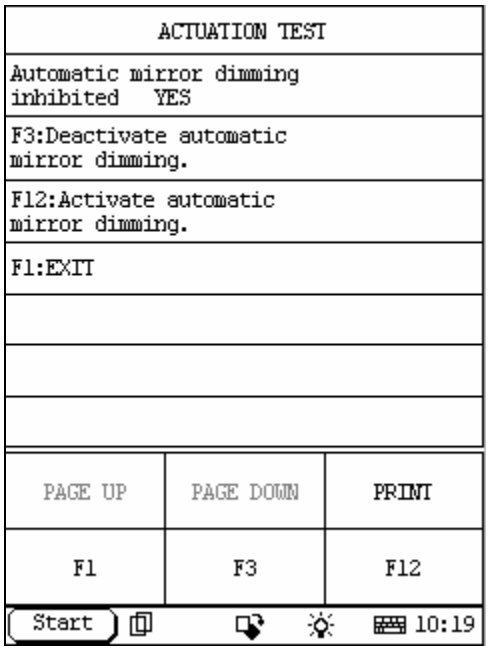

Figure215

Select the actuations item, carry out testing according the hint the screen display. For the [**automatic dimming mirror**] example as show in figure215:

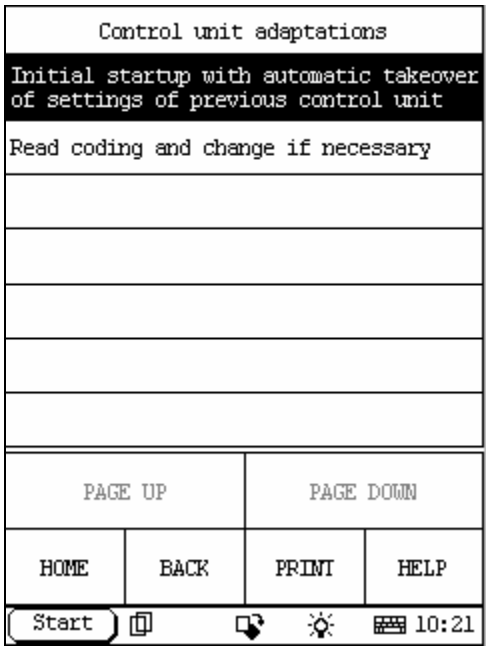

Figure216

Control Unit Adaptations

home

Warning!
Do not perform this operation discretionarily; only the professional can do the control unit adaptations.

Click [**Control Unit Adaptations**] in the function menu. The screen display will be as shown in Figure216:

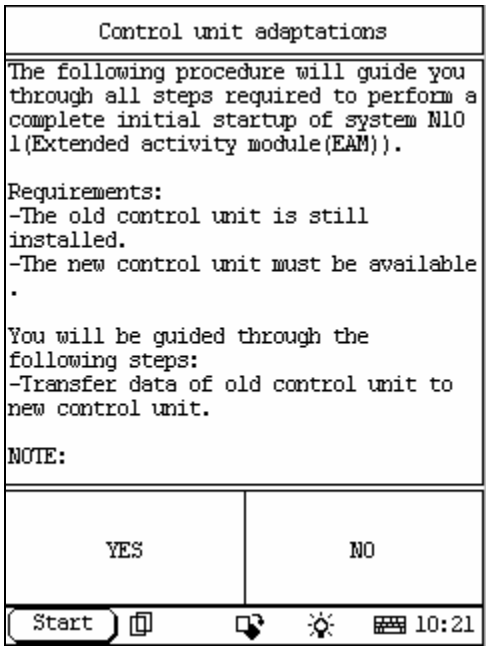

Figure217

Click [**Initial startup with automatic takeover of settings of previous control unit**] then the screen display as show in figure217:

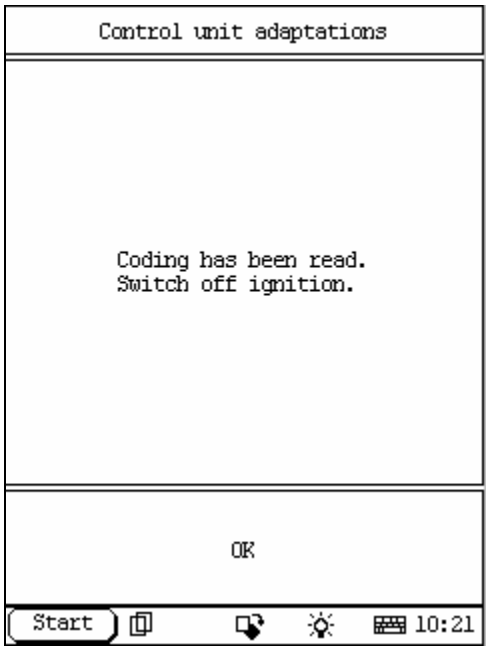

Figure218

Click [yes] then the screen display as show in figure218:

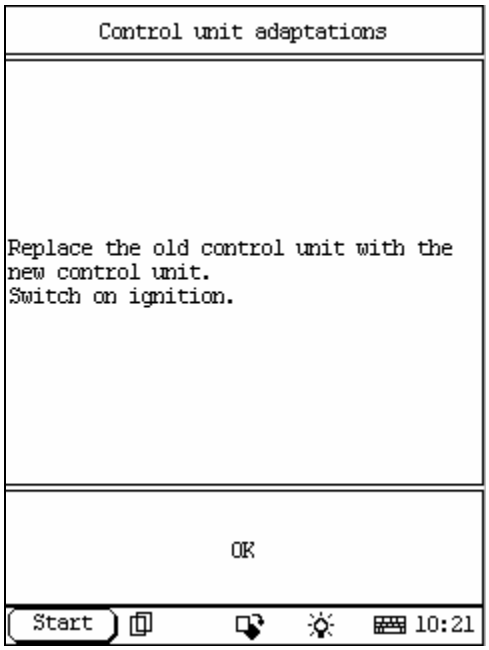

Figure219

Click [**ok**] then the screen display as show in figure219:

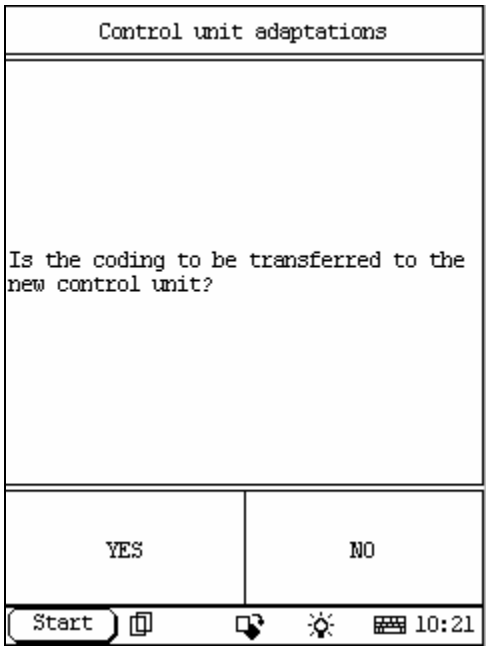

Figure220

Click [**ok**] then the screen display as show in figure220:

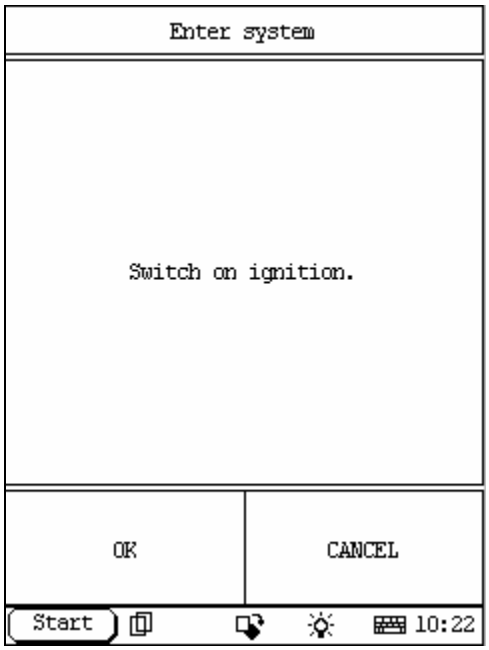

Figure221

Click [**yes**] then the screen display as show in figure221:
Click [**no**] then return.

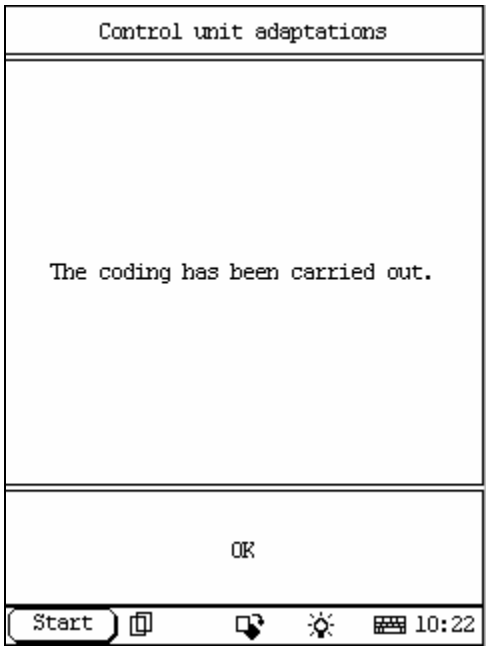

Figure222

Click [**yes**] then the screen display as show in figure222:
Click [**cancel**] will exit.

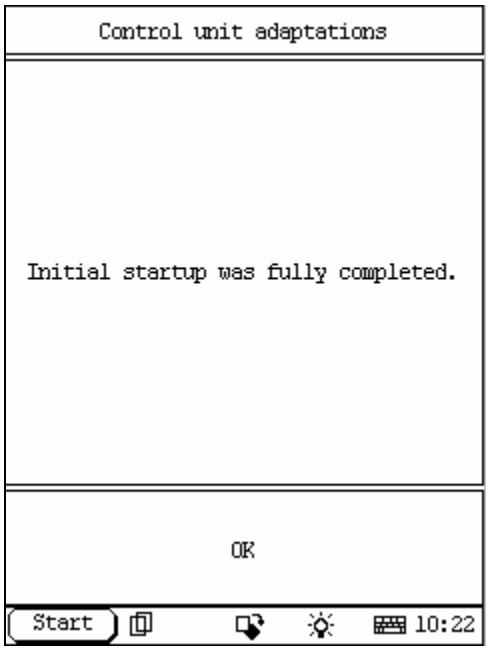

Figure223

Click [**ok**] then the screen display as show in figure223:

Click [**ok**] in here will complete.

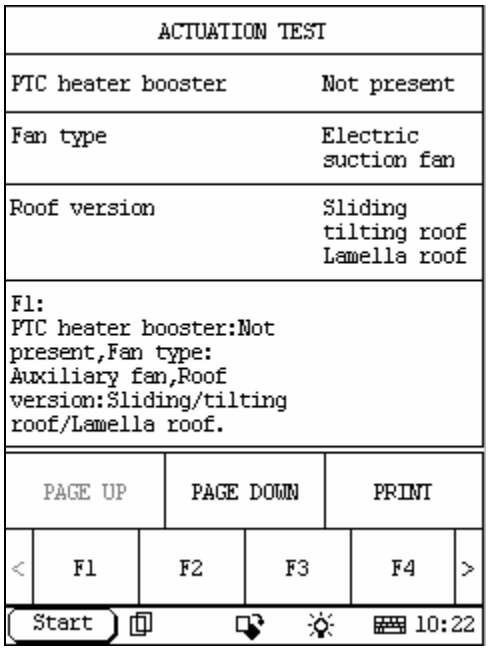

Figure224

Click [**Read coding and change if necessary**] that in figure216 then the screen display as show in figure224:

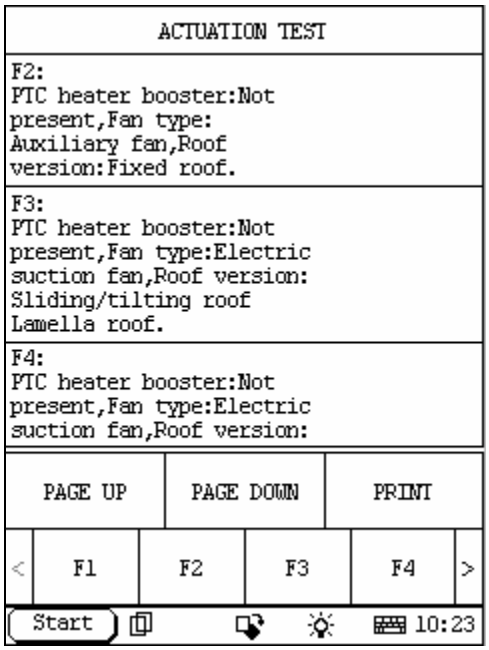

Figure225

Click [**PAGE DOWN**] to display more hint, carry out testing according the hint the screen display. As show in figure225:

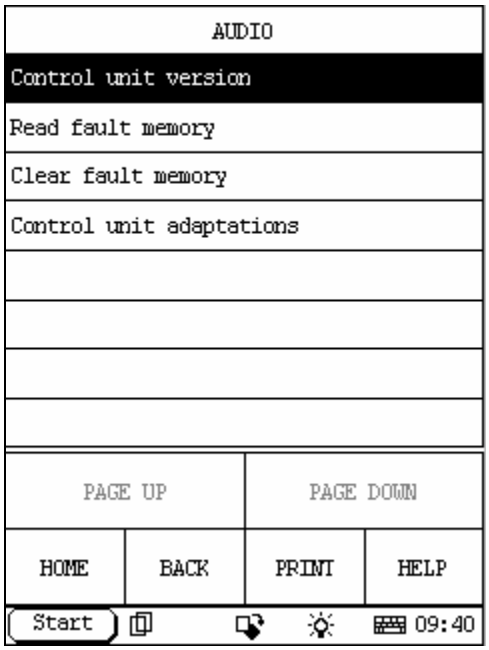

Figure226

D2B SYSTEM

home

In D2B system following functions can be selected for running:

- Control unitversion
- Read fault memory
- Clear fault memory
- Control unit adaptations

Click corresponding item to perform the function test.

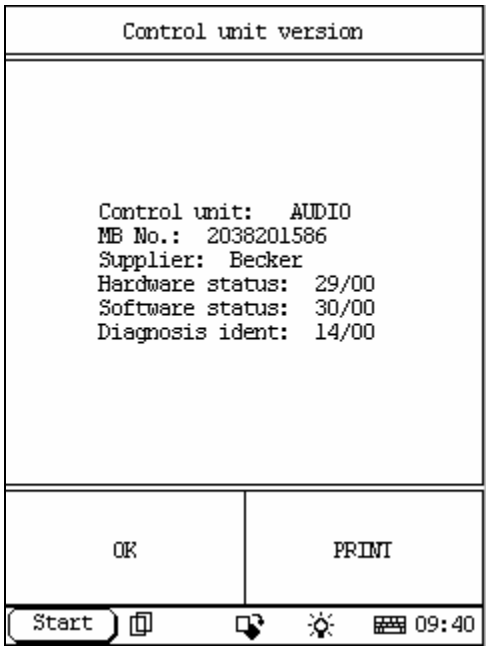

Figure227

Control Unit Version

home

Click [**Control unit version**] in the function menuThe screen will display the information about the control unit version of the test system, as shown in Figure227:

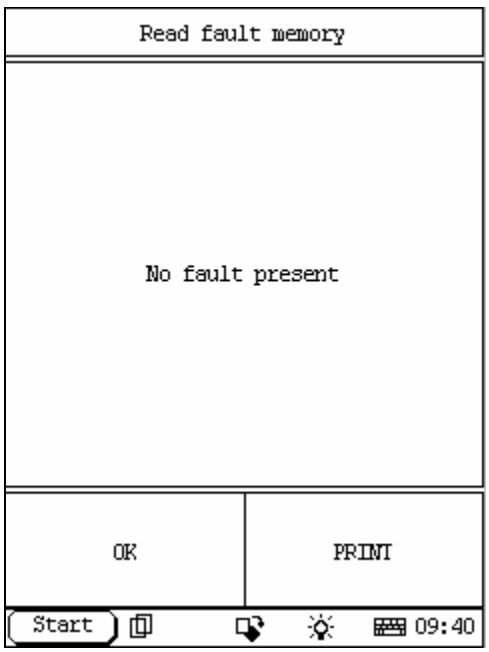

Figure228

Read Fault Memory

home

Click [**READ FAULT MEMORY**] in the function menu. X-431 starts to scan the fault code. The screen will display the result after the scanning is finished. Figure 228 shows an example.

Note:

- ***The first part of the information is the fault code; the second part is description of the fault code; the third part is the status of the fault code (there may be no third part for some fault code).***
- ***If there is no fault code in the tested system, the screen will display message "No fault present".***
- ***After the test result is displayed, click [PRINT] to print out the test result.***

Click [ok] to return to the function menu

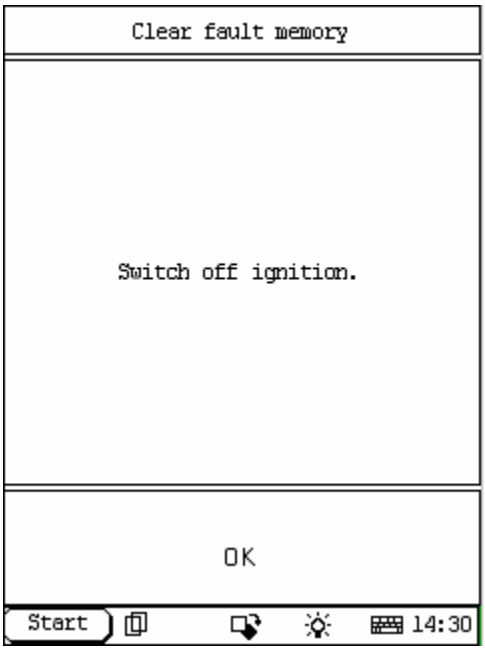

Figure229

Clear Fault Memory

home

Click [**Clear fault memory**] that in the function menu. The screen will prompt the user to switch off the ignition, as shown in Figure229:

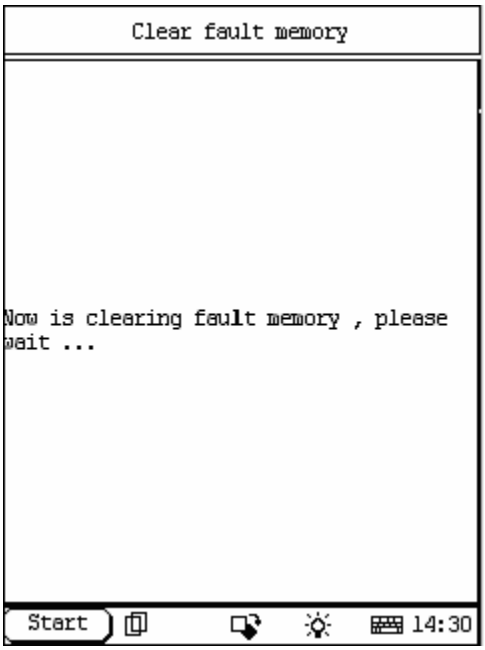

Figure230

After the ignition is turned off, click [**OK**] to clear the fault memory. The screen will display the massage as shown in Figure230:

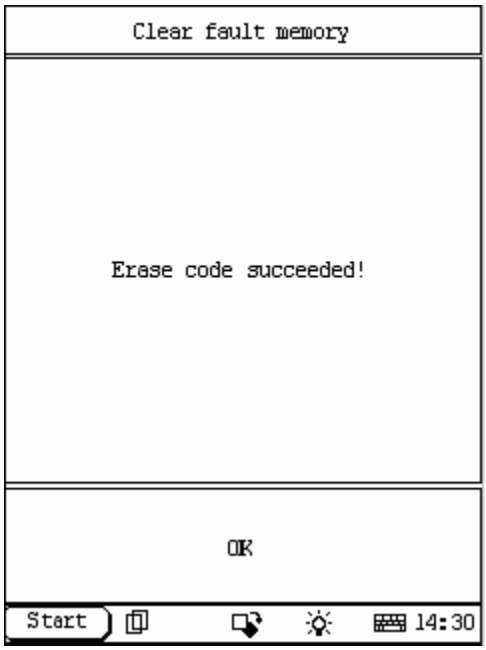

Figure231

After the fault code is cleared, the screen will show the related message. Click [**OK**] to return to the function menu.

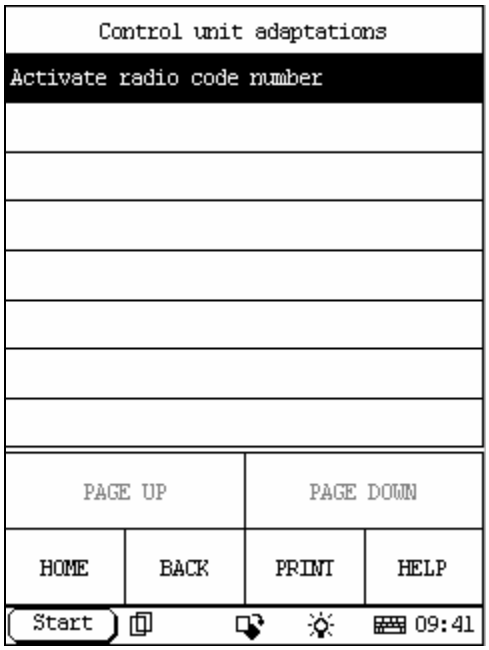

Figure232

Control Unit Adaptations

home

Warning!
Do not perform this operation discretionarily; only the professional can do the control unit adaptations.

Click [**Control Unit Adaptations**] in the function menu. The screen display will be as shown in Figure232:

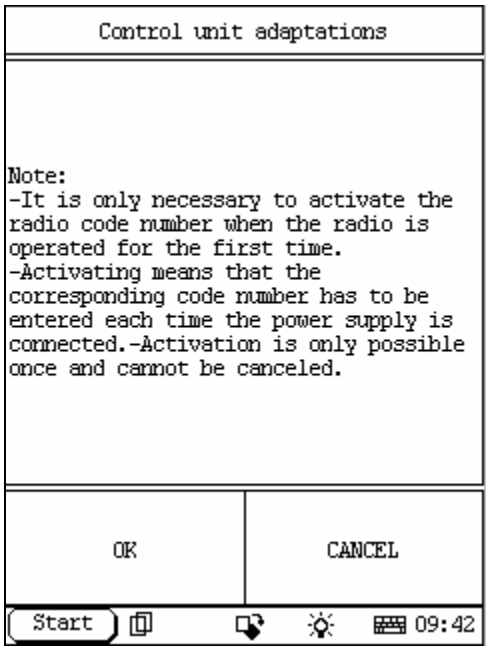

Figure233

Click [**Activate radio code number**] then the screen display as show in figure233:

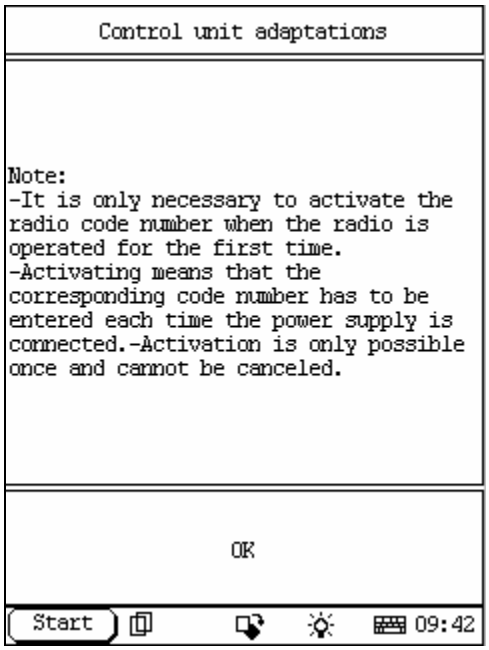

Figure234

Click [**ok**] then the screen display as show in figure:

Click [**ok**] in here to complete

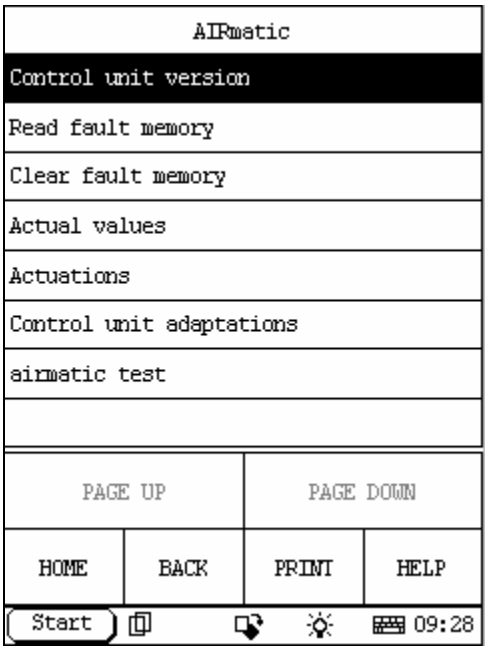

Figure235

ABC SYSTEM

home

In ABC system following functions can be selected for running:

- Control unit version
- Read fault memory
- Clear fault memory
- Actual values
- Actuations
- Control unit adaptations
- Airmatic test

Click corresponding item to perform the function test

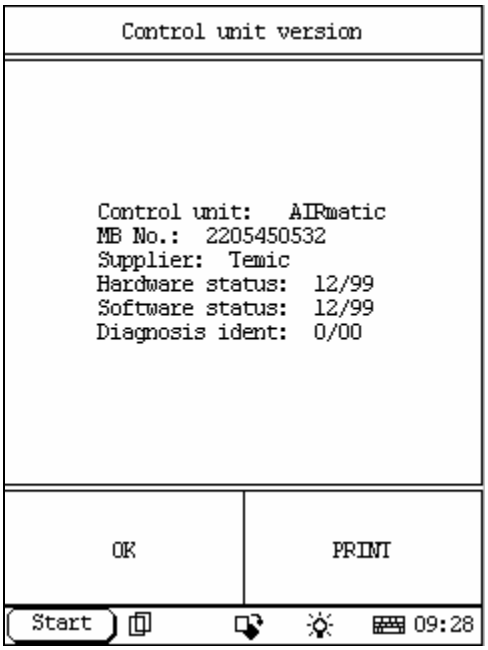

Figure236

Control Unit Version

home

Click [**Control unit version**] in the function menu.The screen will display the information about the control unit version of the test system, as shown in Figure236:

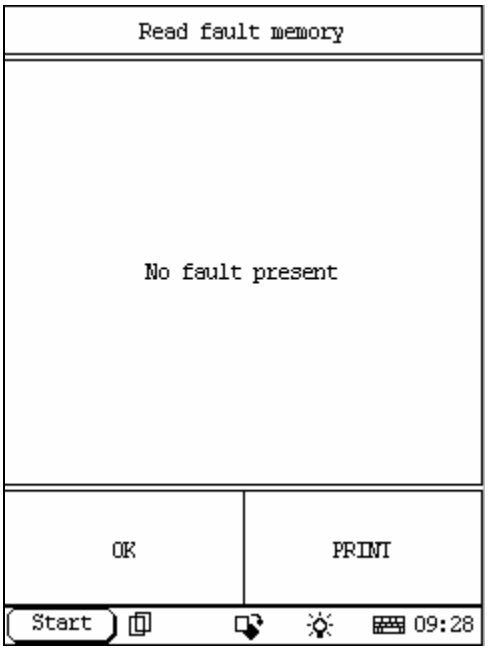

Figure237

Read Fault Memory

home

Click [**READ FAULT MEMORY**] in the function menu. X-431 starts to scan the fault code. The screen will display the result after the scanning is finished. Figure237 shows an example.

Note:

- ***The first part of the information is the fault code; the second part is description of the fault code; the third part is the status of the fault code (there may be no third part for some fault code).***
- ***If there is no fault code in the tested system, the screen will display message "No fault present".***
- ***After the test result is displayed, click [PRINT] to print out the test result.***

Click [ok] to return to the function menu

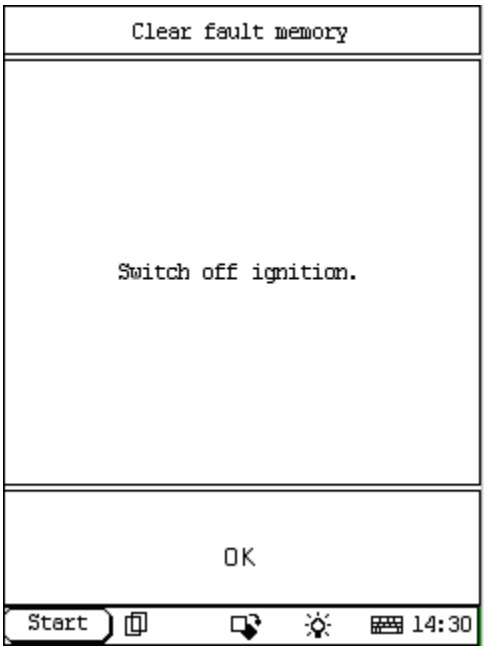

Figure238

Clear Fault Memory

home

Click [**Clear fault memory**] that in the function menu. The screen will prompt the user to switch off the ignition, as shown in Figure238：

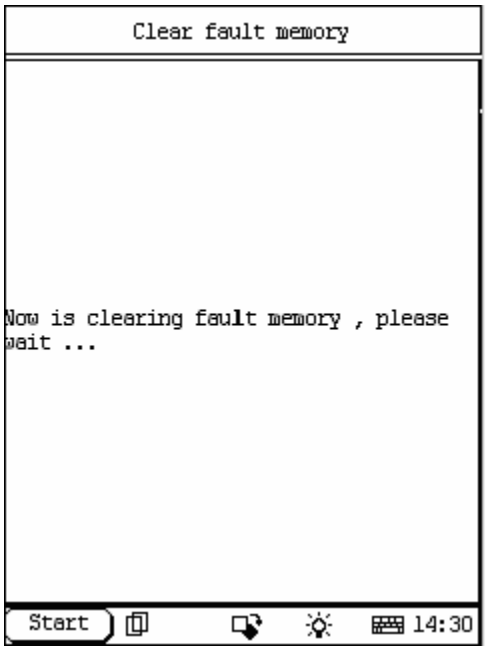

Figure239

After the ignition is turned off, click [**OK**] to clear the fault memory. The screen will display the massage as shown in Figure239：

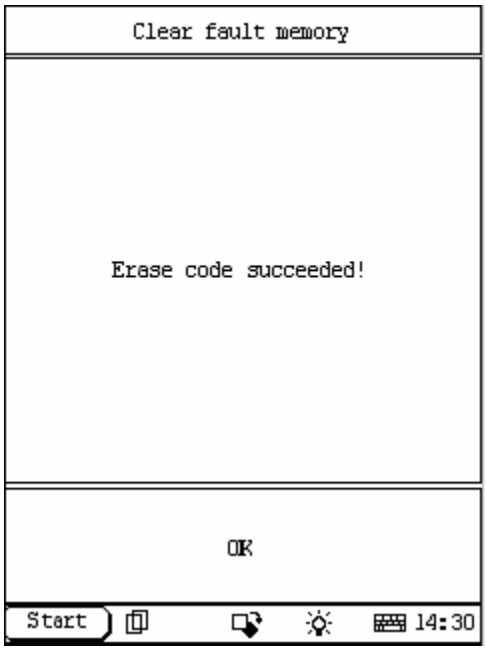

Figure240

After the fault code is cleared, the screen will show the related message. Click [**OK**] to return to the function menu.

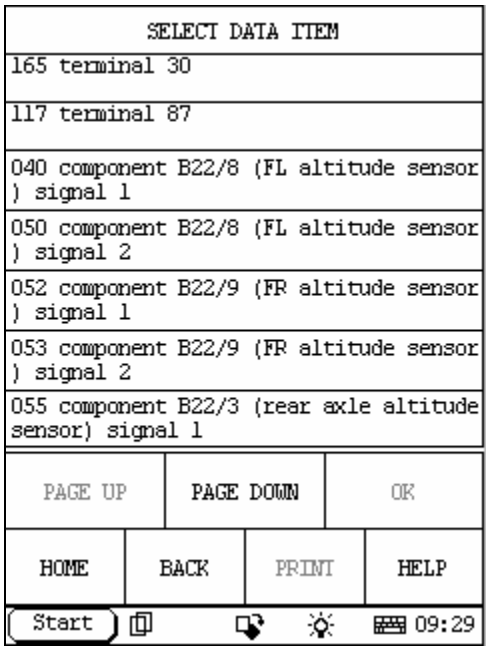

Figure241

Read Data Stream

home

Click [**Actual values**] that in the function menu. The screen will display the list of data streams, as shown in Figure 31

There is more than one page for the list. Click [**PAGE UP**] or [**PAGE DOWN**] to turn the page. Figure 241 shows the first page

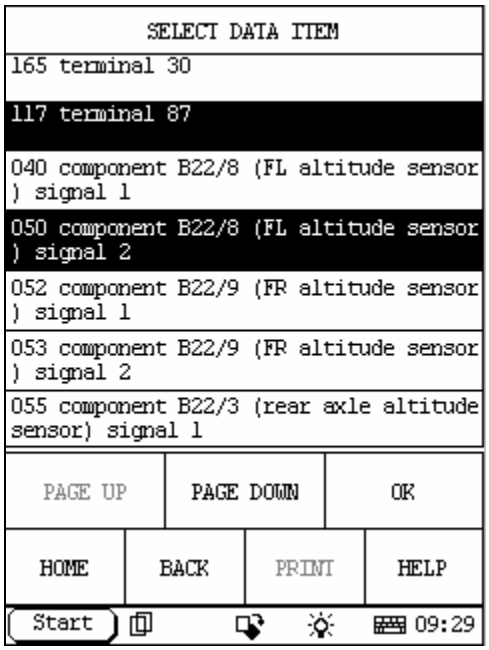

Figure242

Select the corresponding item and click [ok] then the screen will display the real-time values.

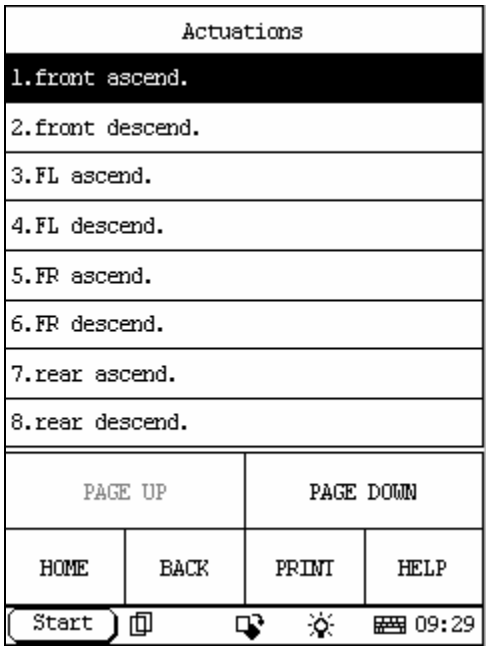

Figure243

Actuations

home

Click [**Actuations**] in the function menu. The screen will display a list of actuations, as shown in Figure243:

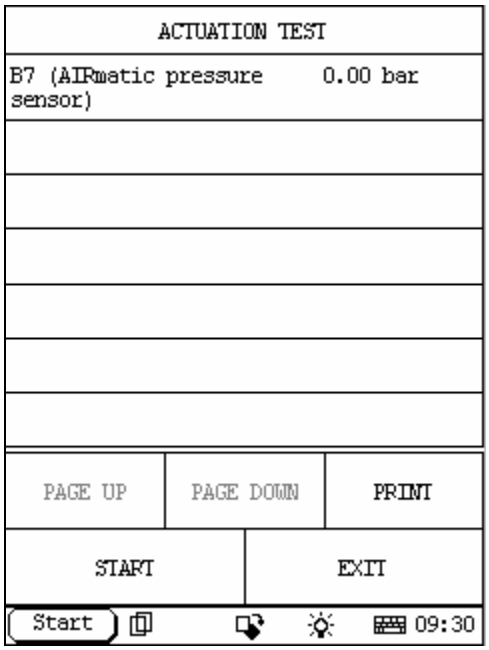

Figure244

Select the actuations item, for example [**1.front ascend**] then the screen display as show in figure:

Click [**START**] then start testing.

Click [**EXIT**] then return.

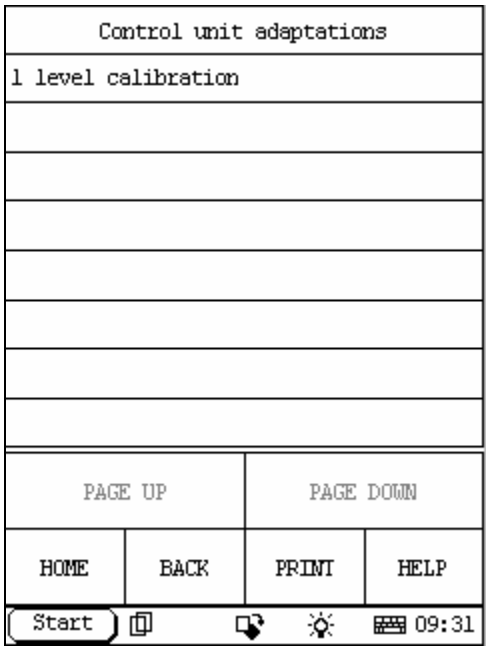

Figure245

Control Unit Adaptations

home

Warning!
Do not perform this operation discretionarily; only the professional can do the control unit adaptations.

Click [**Control Unit Adaptations**] in the function menu. The screen display will be as shown in Figure245:

Figure246

Click [**1.Level calibration**] then the screen display as show in figure246:

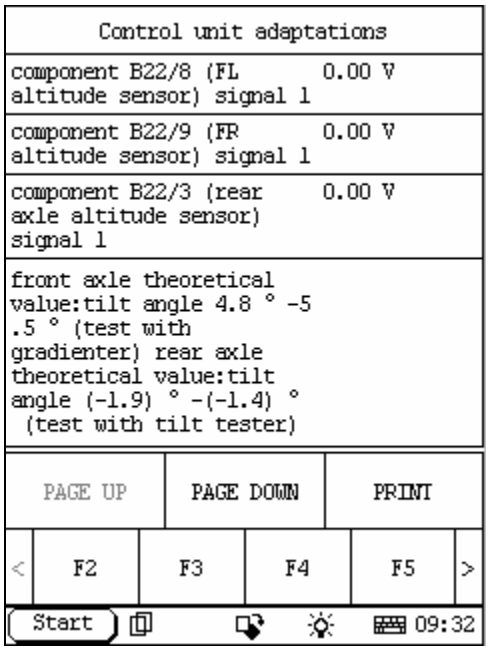

Figure247

Click [**ok**] then the screen display as show in figure247:

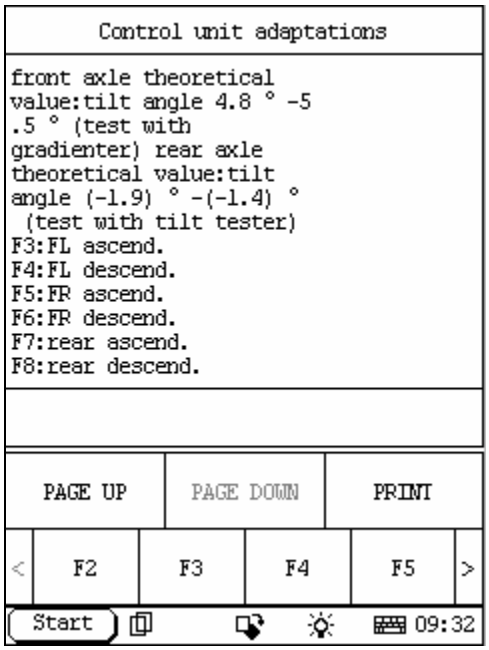

Figure248

Click [**PADE DOWN**] then the screen display as show in figure248:

You can see more hint. Carry out testing according the hint the screen display.

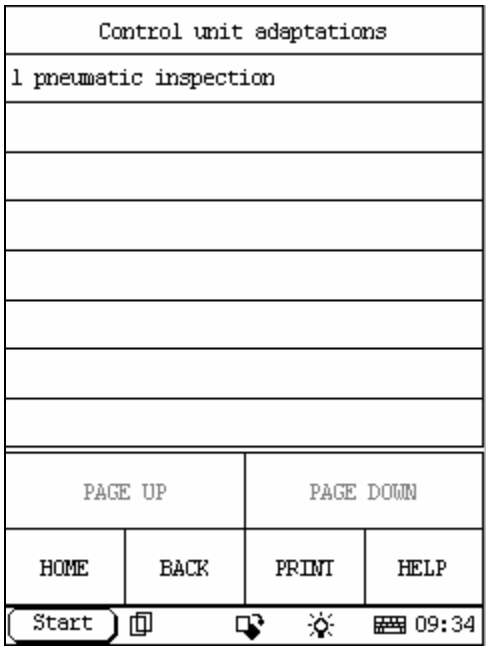

Figure249

For example, click [**F2**] then the screen display as show in figure249:

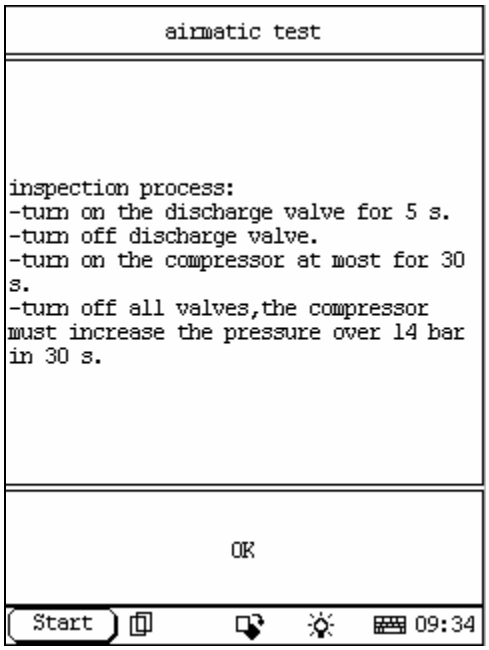

Figure250

Airmatic test home

Click [Airmatic test] that in the function menu. The screen will display a list of actuations, as shown in Figure250:

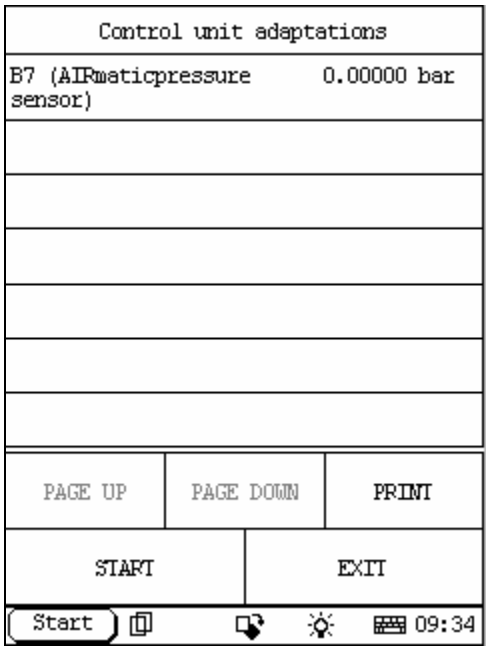

Figure251

Click [**ok**] then the screen display as show in figure251:

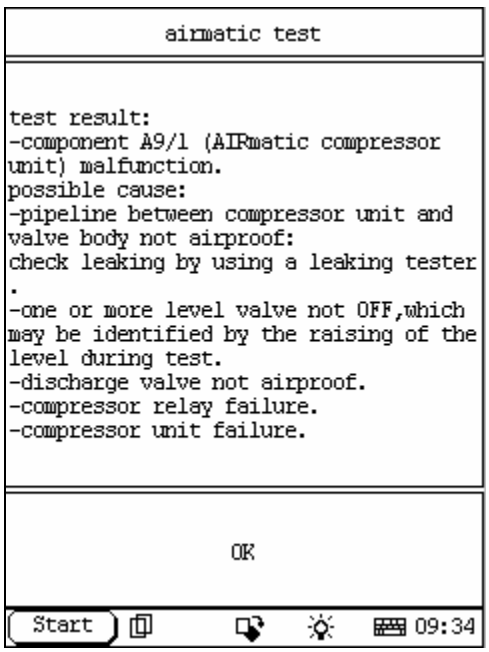

Figure252

Click [**START**], then the screen will display the test result as show in figure252:

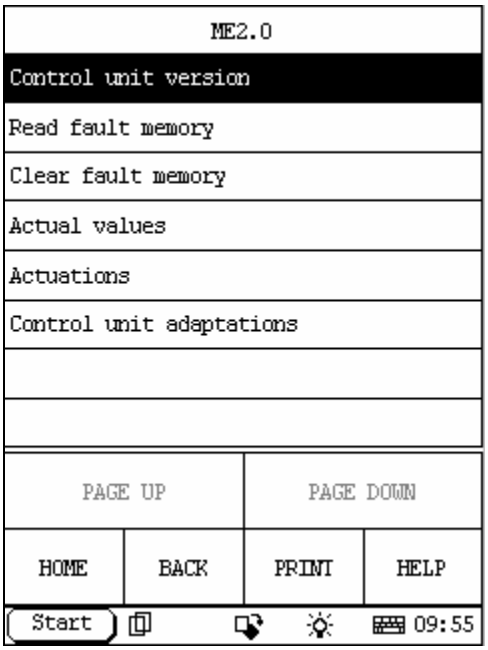

Figure253

ME2.0 SYSTEM

home

In ME2.0 system following functions can be selected for running:

- Control unit version
- Read fault memory
- Clear fault memory
- Actual values
- Actuations
- Control unit adaptations

Click corresponding item to perform the function test

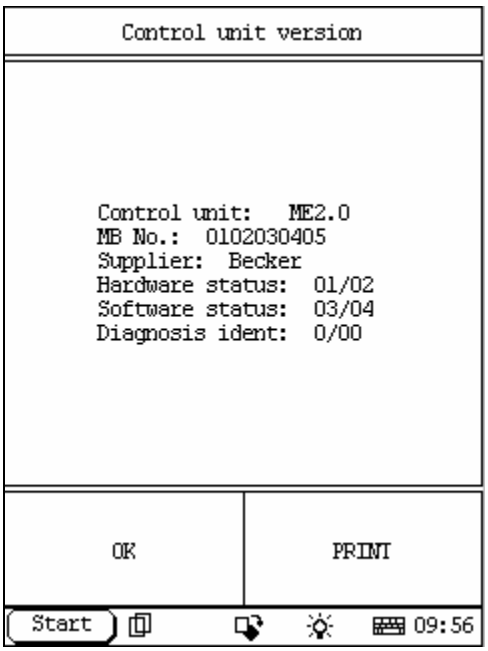

Figure254

Control Unit Version

home

Click [**Control unit version**] in the function menu.The screen will display the information about the control unit version of the test system, as shown in Figure254:

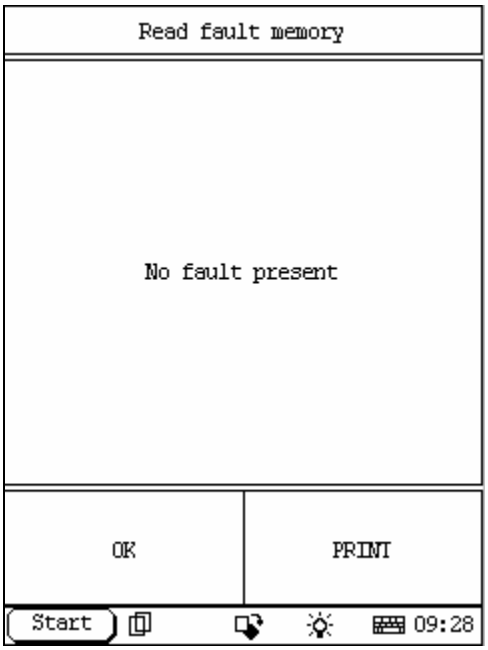

Figure255

Read Fault Memory

home

Click [**READ FAULT MEMORY**] in the function menu. X-431 starts to scan the fault code. The screen will display the result after the scanning is finished. Figure255 shows an example.

Note:

- ***The first part of the information is the fault code; the second part is description of the fault code; the third part is the status of the fault code (there may be no third part for some fault code).***
- ***If there is no fault code in the tested system, the screen will display message "No fault present".***
- ***After the test result is displayed, click [PRINT] to print out the test result.***

Click [ok] to return to the function menu

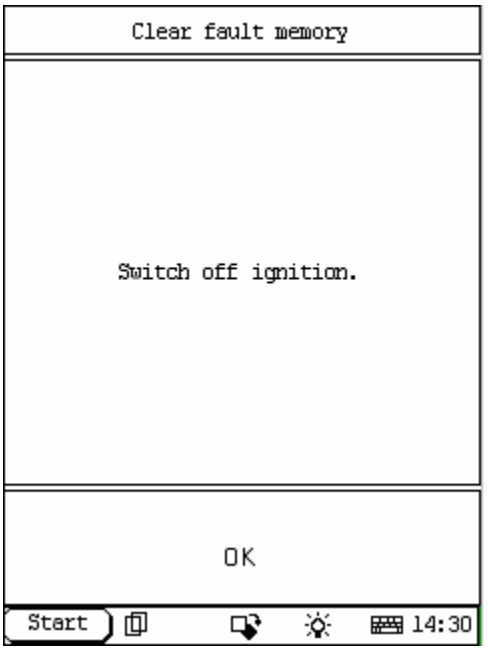

Figure256

Clear Fault Memory

home

Click [**Clear fault memory**] that in the function menu. The screen will prompt the user to switch off the ignition, as shown in Figure256：

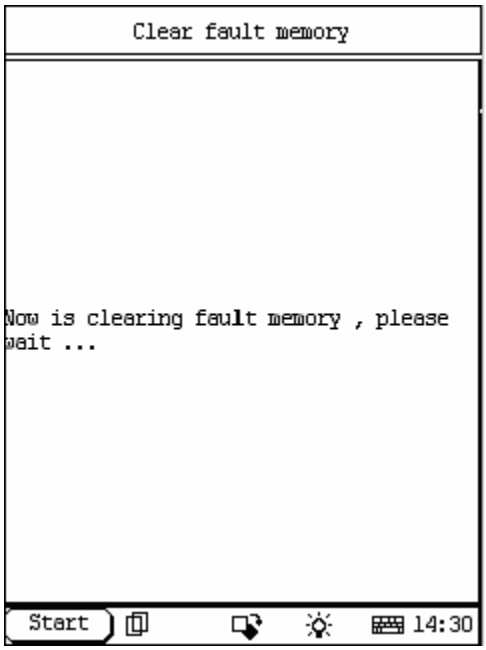

Figure257

After the ignition is turned off, click [**OK**] to clear the fault memory. The screen will display the massage as shown in Figure257：

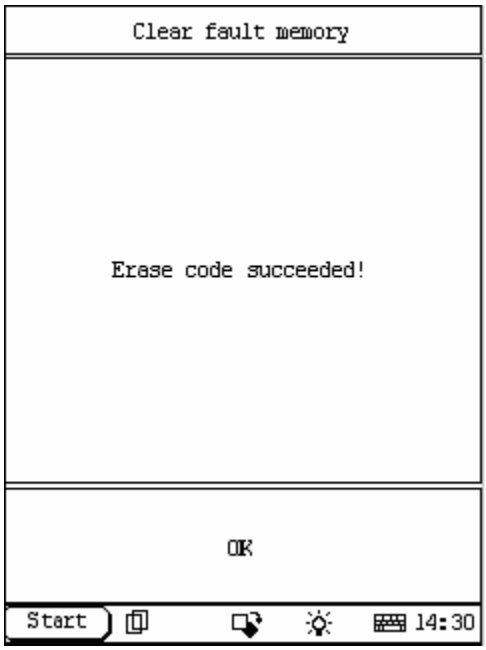

Figure258

After the fault code is cleared, the screen will show the related message. Click [**OK**] to return to the function menu.

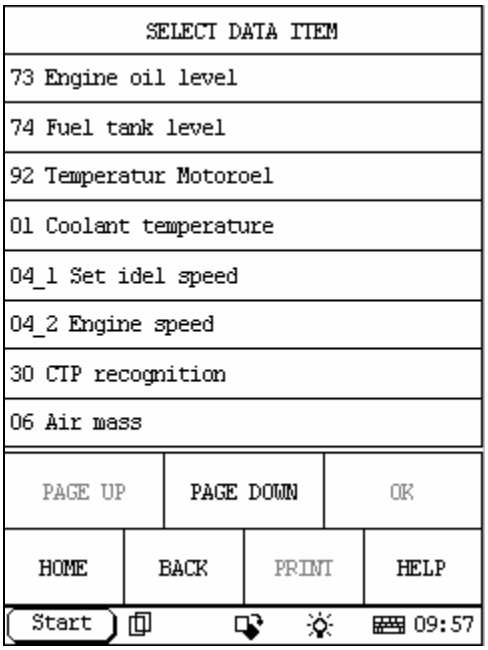

Figure259

Read Data Stream

home

Click [**Actual values**] that in the function menu. The screen will display the list of data streams, as shown in Figure 31

There is more than one page for the list. Click [**PAGE UP**] or [**PAGE DOWN**] to turn the page. Figure 259 shows the first page

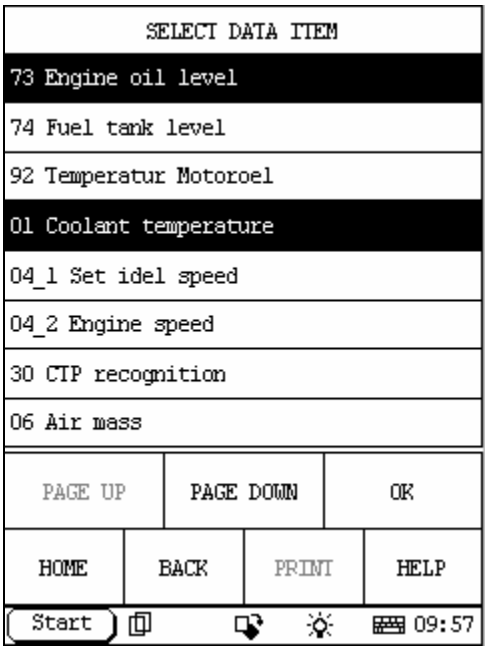

Figure260

Select the corresponding item.

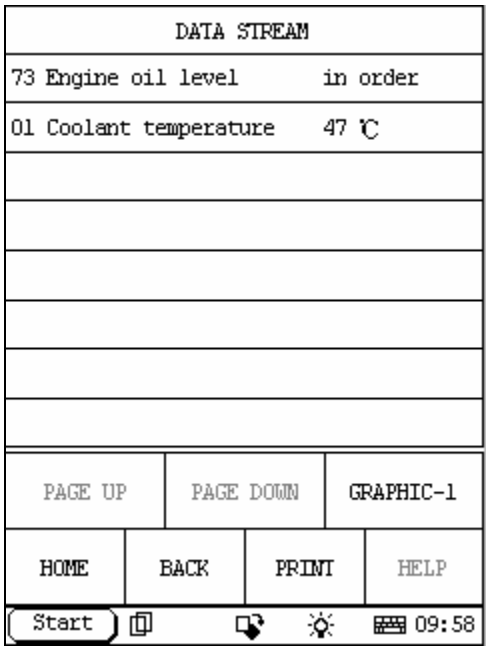

Figure261

Click [**ok**] then the screen will display the real-time values.

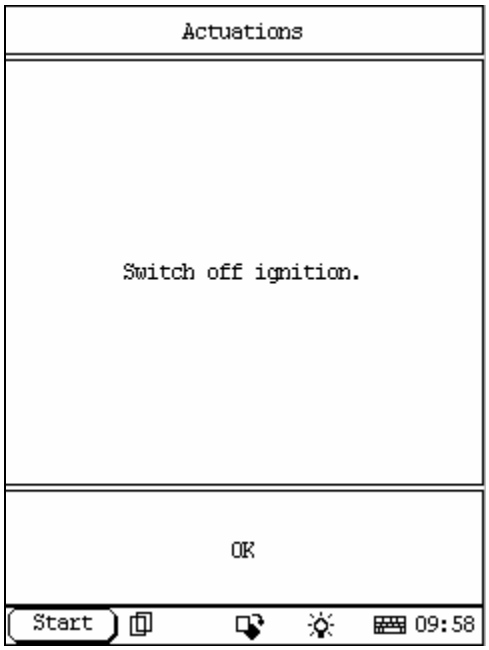

Figure262

Actuations

home

Click [**Actuations**] in the function menu. The screen will display as shown in Figure262:

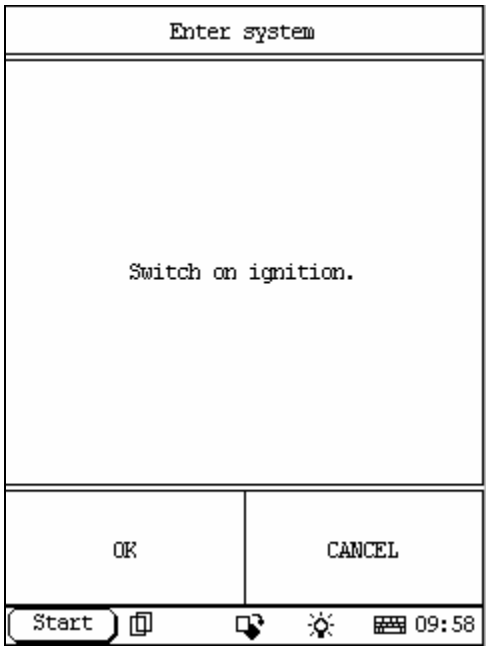

Figure263

Click [**ok**] then the screen display as show in figure263:

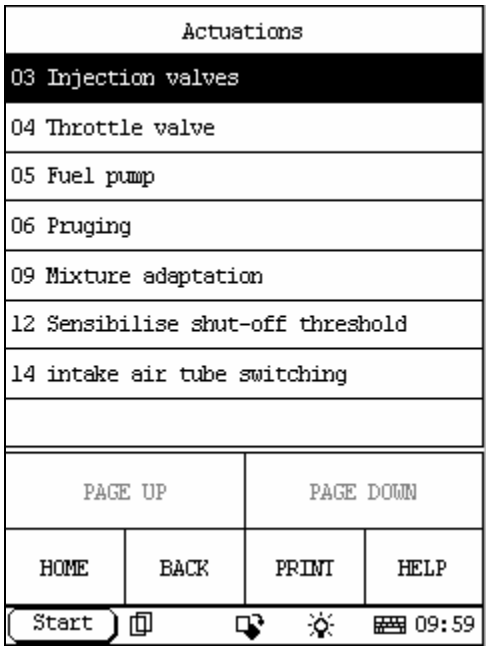

Figure264

Click [**ok**] then the screen will display a list of actuations as show in figure264:

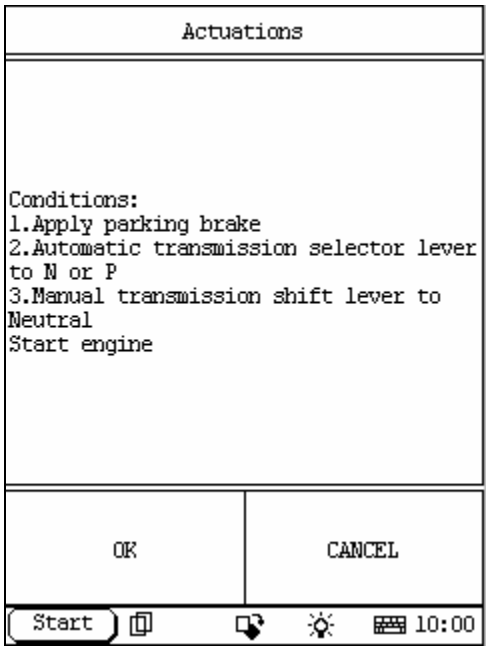

Figure265

Select the actuations item, for example [**04 Throttle valves**] then the screen display as show in figure265:

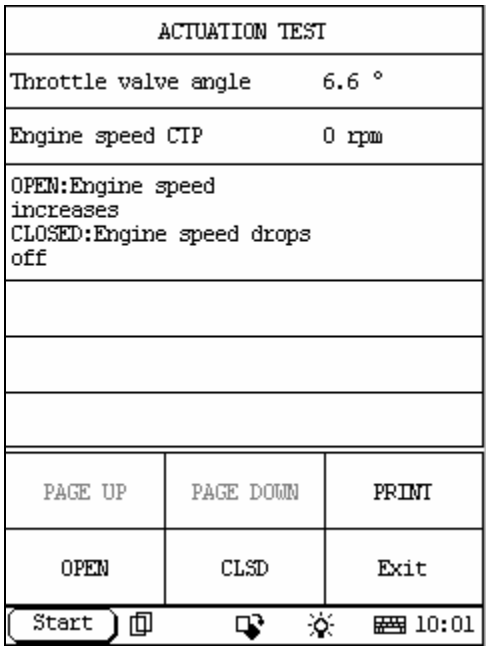

Figure266

Click [**ok**] then the screen will display a list of actuations as show in figure266:
Click [**OPEN**] or [**CLSD**] start testing.

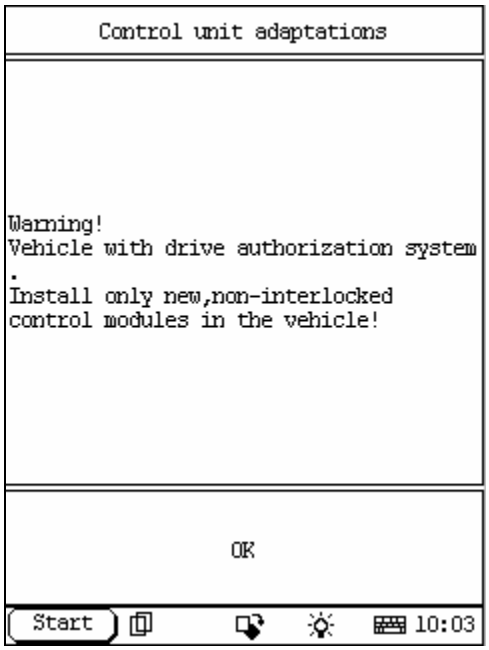

Figure267

Control Unit Adaptations

home

Warning!
Do not perform this operation discretionarily; only the professional can do the control unit adaptations.

Click [**Control Unit Adaptations**] in the function menu. The screen display will be as shown in Figure267:

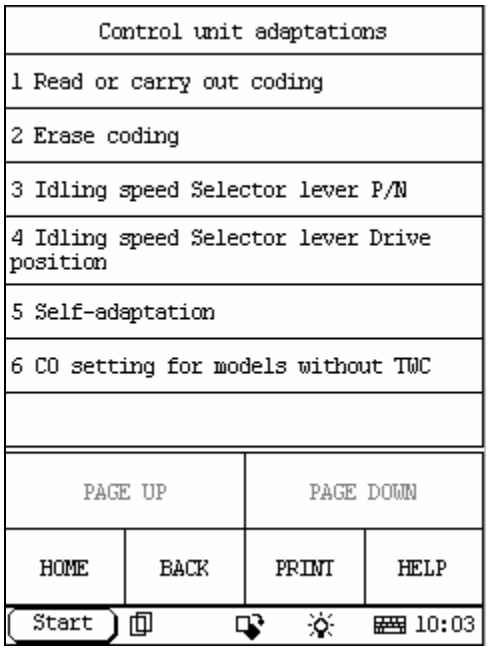

Figure268

Click [**ok**] then the screen display as show in figure268:

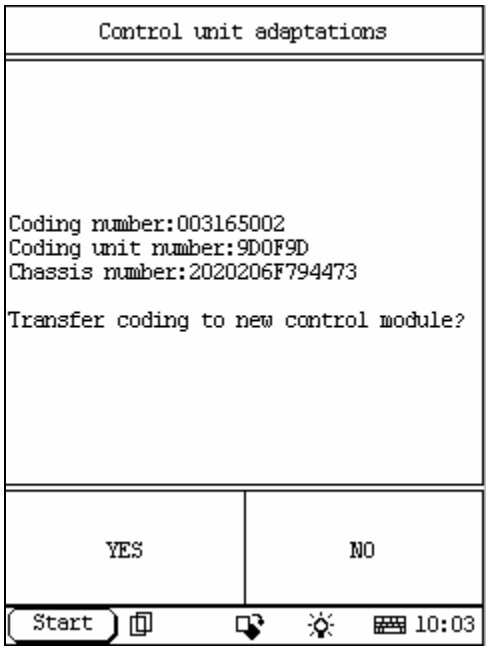

Figure269

Click [**1 Read or carry out coding**] then the screen display as show in figure269:

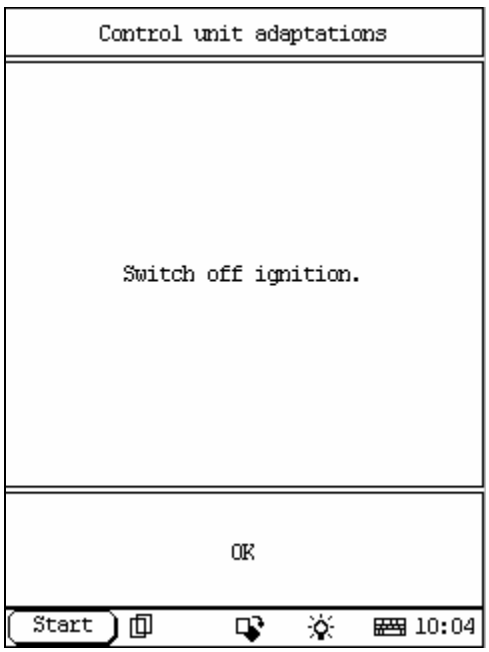

Figure270

Click [**YES**] then the screen display as show in figure270:

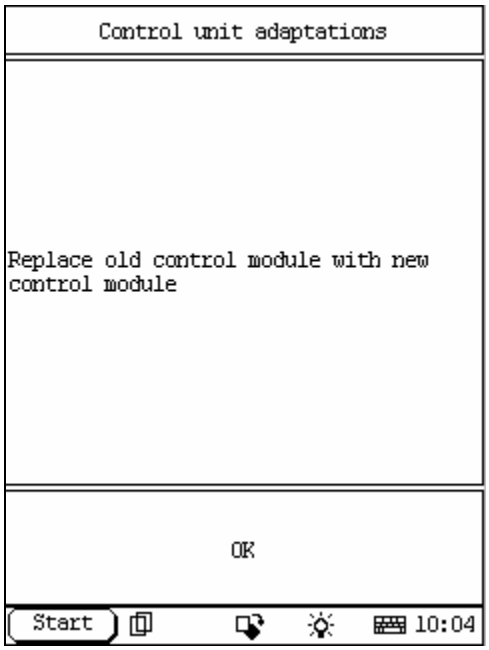

Figure271

Click [**ok**] then the screen display as show in figure271:

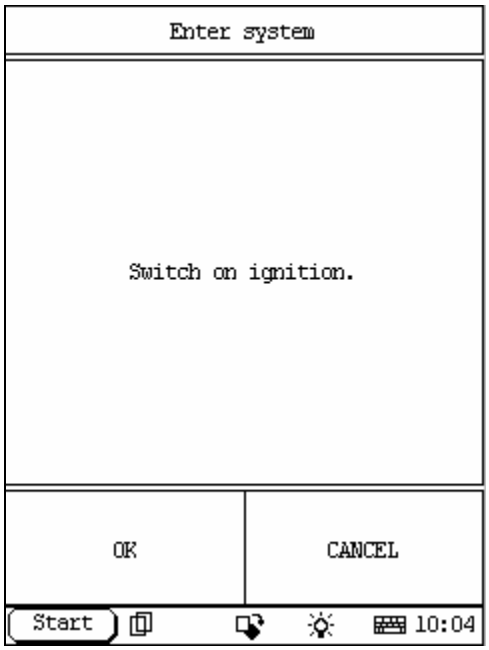

Figure272

Click [**ok**] then the screen display as show in figure272:

Figure273

Click [**ok**] then the screen display as show in figure273:

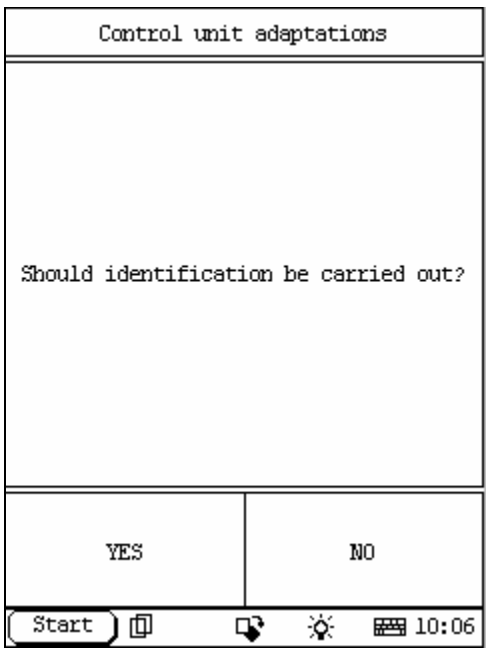

Figure274

Click [**ok**] then the screen display as show in figure274:

Figure275

Click [**YES**] then the screen will display corresponding hint Figure263 show a case. Click [**OK**] then return.

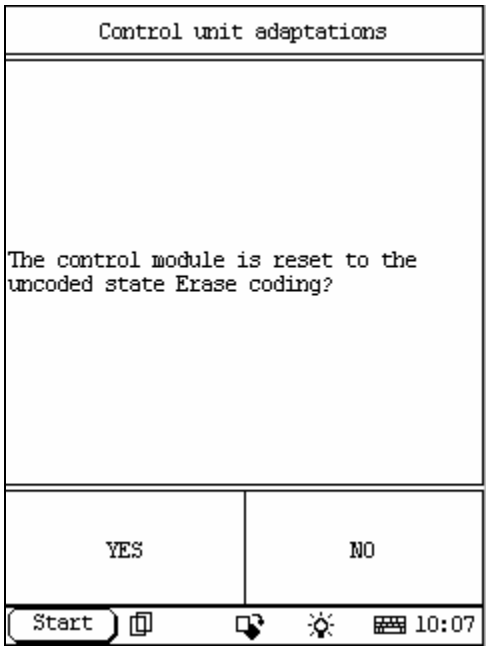

Figure276

Click [**2 Erase coding**] that in figure268 then the screen display as show in figure276:

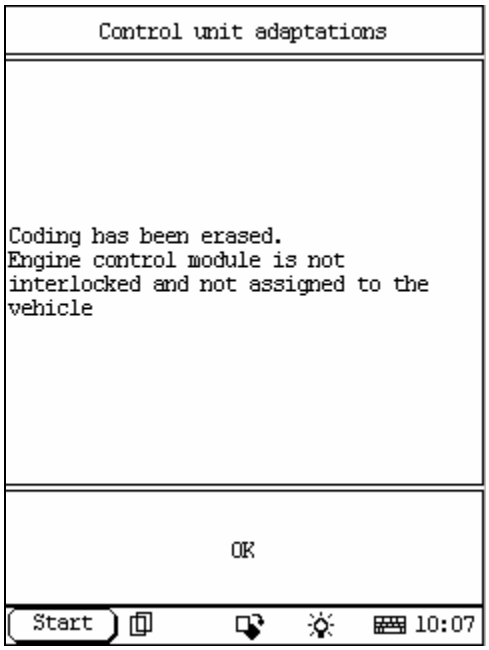

Figure277

Click [**YES**] then the screen display as show in figure277:

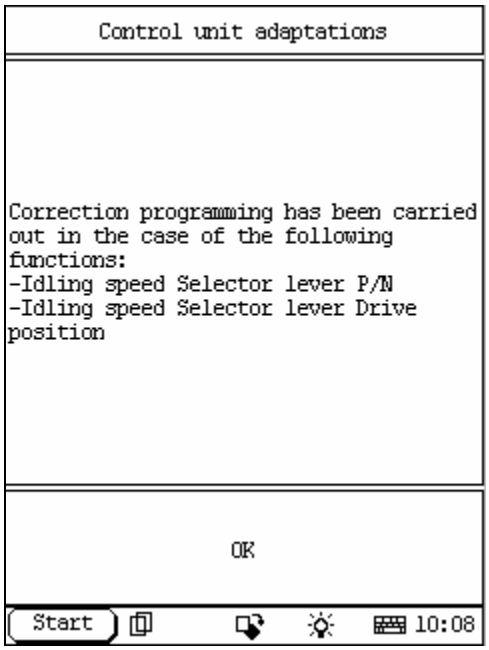

Figure278

Click [3 **Idling speed selector lever P/N**] that in figure268 then the screen display as show in figure278:

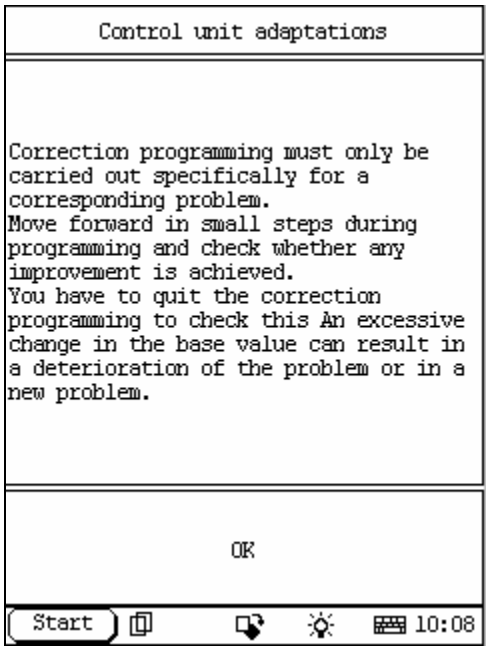

Figure279

Click [**OK**] then the screen display as show in figure279:

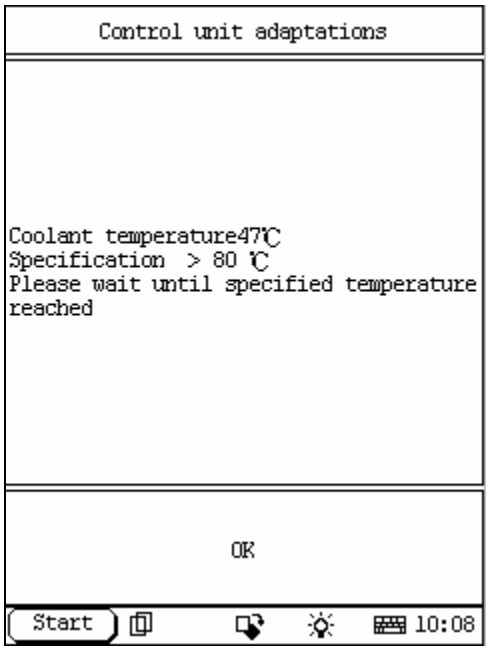

Figure280

Click [**OK**] then the screen display as show in figure280:

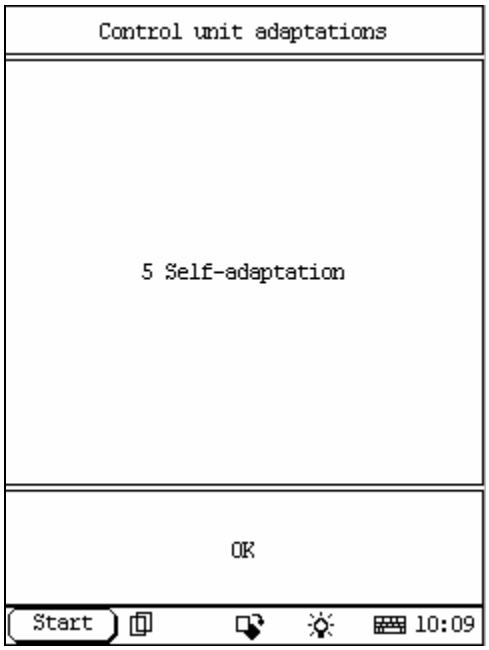

Figure281

Click [**5 Self-adaptation**] that in figure268 then the screen display as show in figure281:

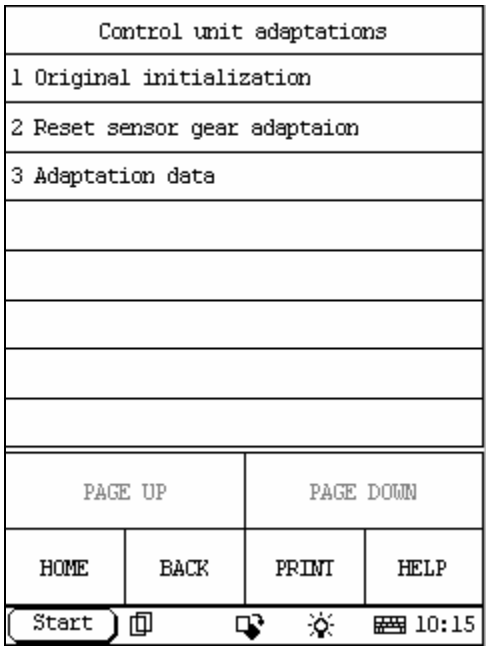

Figure282

Click [**OK**] then the screen display as show in figure282:

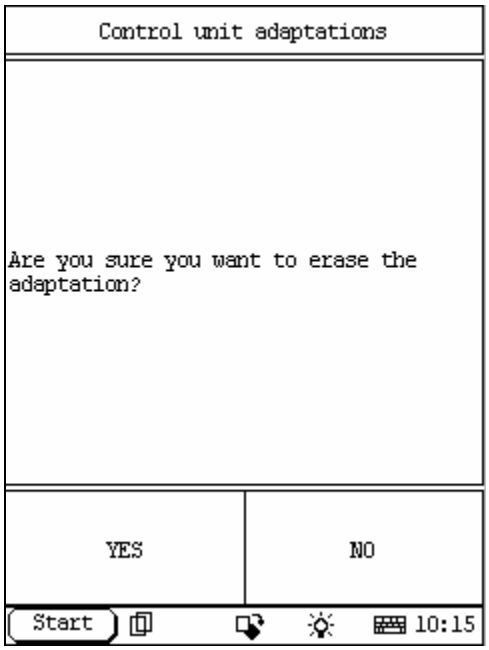

Figure283

Click [**Original initialization**] then the screen display as show in figure283:

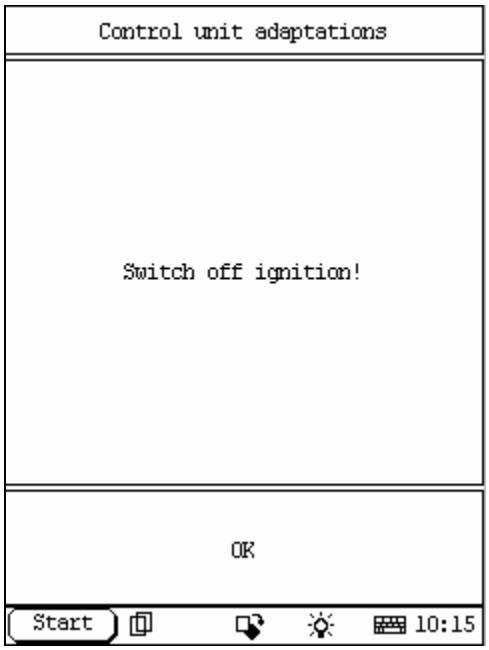

Figure284

Click [**YES**] then the screen display as show in figure284:

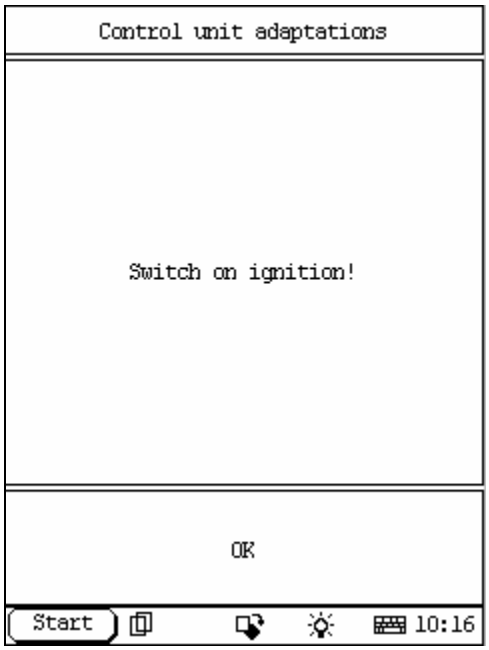

Figure285

Click [**OK**] then the screen display as show in figure285:

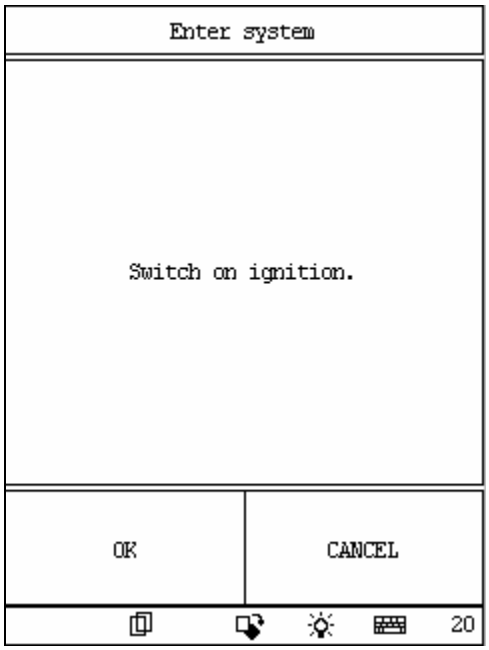

Figure286

Click [**OK**] then the screen display as show in figure286:

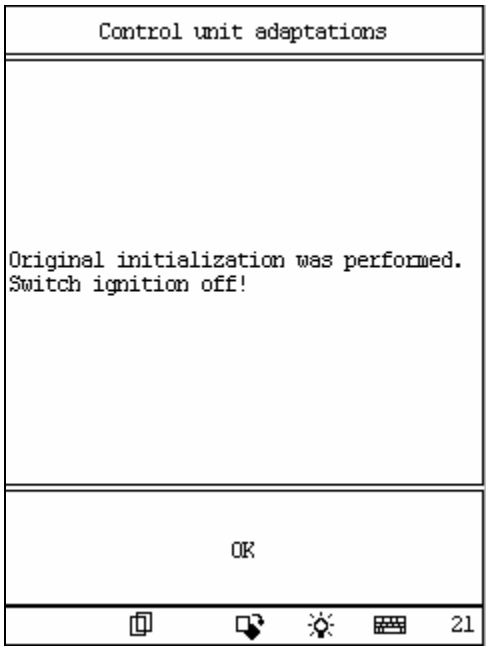

Figure287

Click [**OK**] then the screen display as show in figure287:

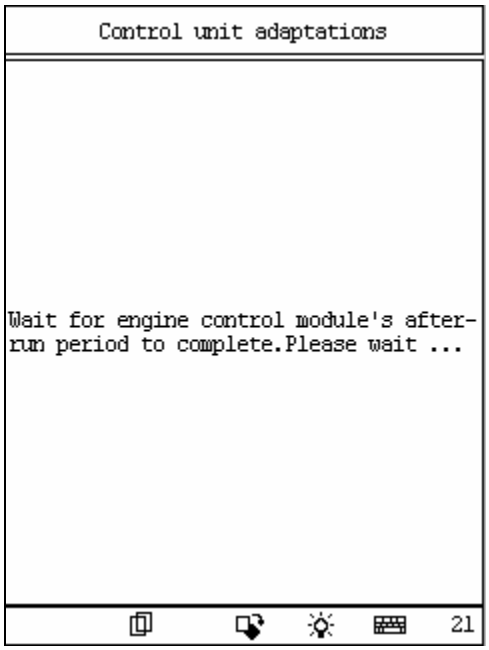

Figure288

Click [2 **Reset sensor gear adaptation**] that in figure282 then the screen display as show in figure288:

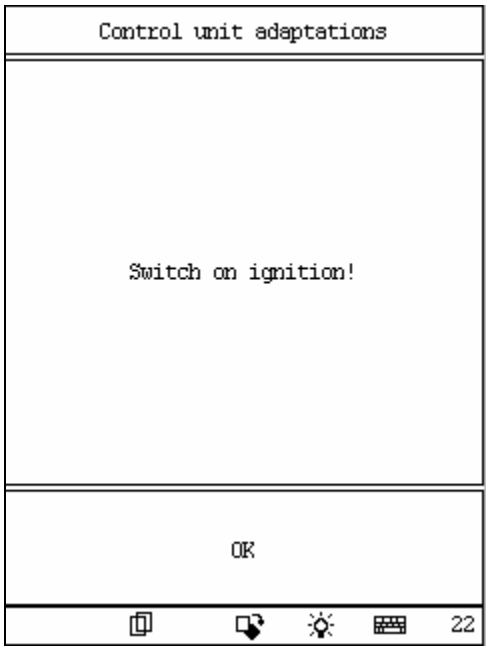

Figure289

after several seconds, the screen display as show in figure289:

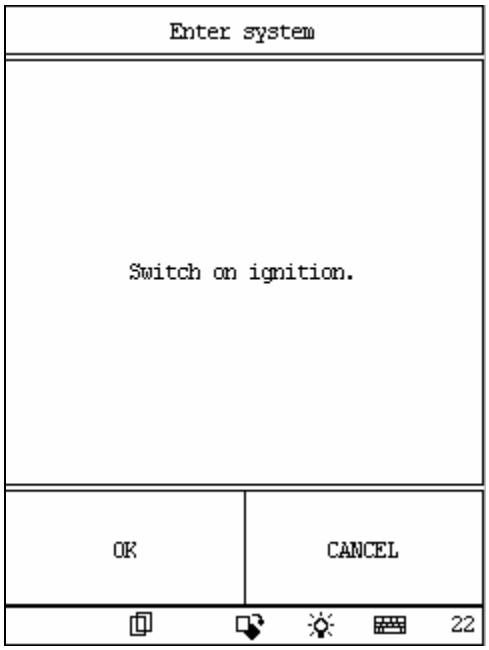

Figure290

Click [**OK**] then the screen display as show in figure290:

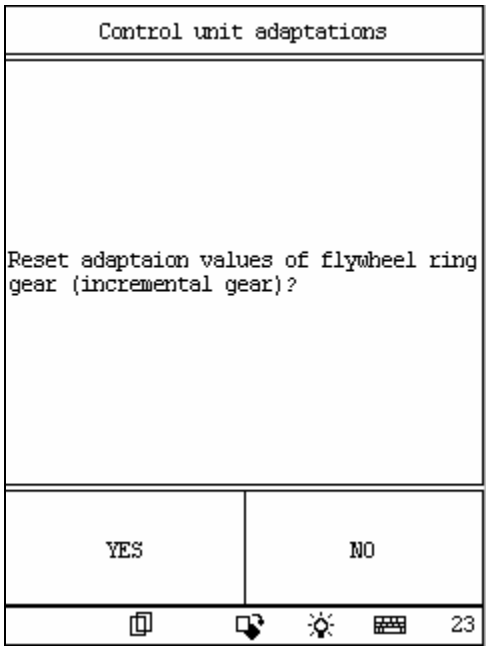

Figure291

Click [**OK**] then the screen display as show in figure291:

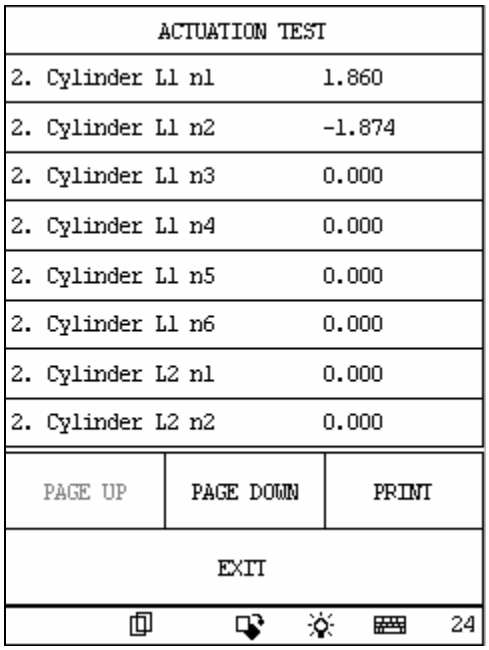

Figure292

Click [**3 Adaptation data**] that in figure282 then the screen display as show in figure292:

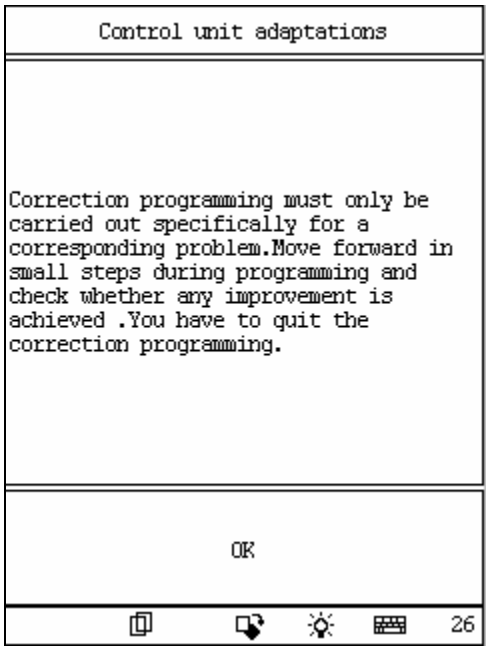

Figure293

Click [**6 CO setting for module without TWC**] that in figure268 then the screen display as show in figure293:

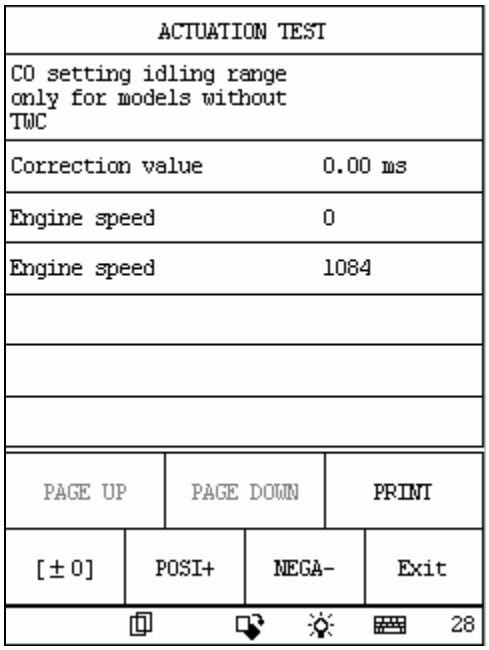

Figure294

Click [**OK**] then the screen display as show in figure294:

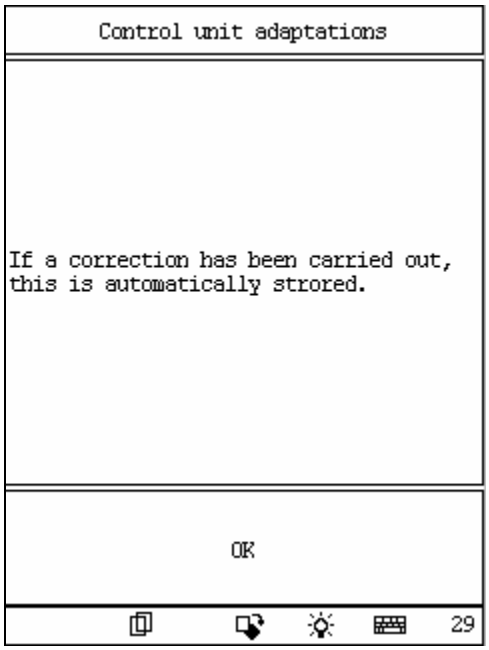

Figure295

Click [**EXIT**] then the screen display as show in figure295:

Click [OK] will finish.