Carman Scan Lite User Manual

CARMAN SCAN *Lite*

OPERATION MANUAL

CAUTION : Any changes or modifications in construction of this device which is not expressly approved by the party Responsible for compliance could void the user's authority to operate the equipment.

NOTE : This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. The limits are designed to provide reasonable protection against harmful interference when the equipment is operated in commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

TABLE of CONTENTS

SAFETY

Safety Precautions

This equipment described in this manual is intended for use only by qualified personnel. Safe and effective use of this equipment is dependent upon the operator following normally accepted safety practices and procedures in conjunction with the special requirements detailed in this manual. Specific warning and cautionary statements will be found, where applicable, throughout this manual.
Where necessary, the WARNING statements and ICON will be described in this guide.

WARNING identifies conditions or actions which may damage CARMAN SCAN LITE or the vehicle.

IMPORTANT WARNING MESSAGES FOR SAFETY ARE AS FOLLOWS :

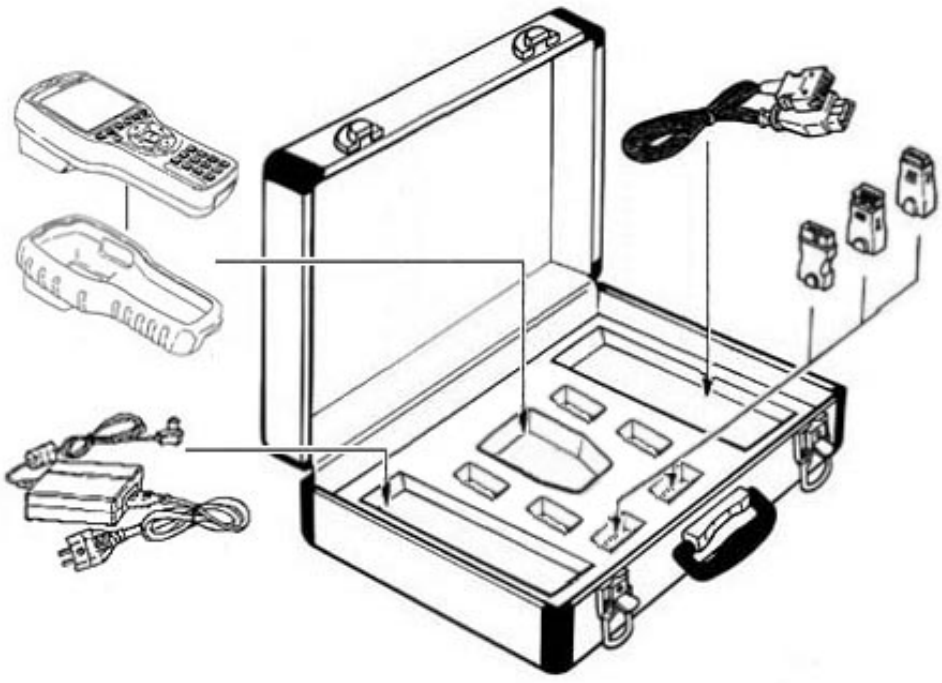
DO NOT DROP CARMAN SCAN LITE MAIN BODY. AND CARMAN SCAN LITE MUST ALWAYS BE COVERED BY THE SHROUD

DO NOT PLACE CARMAN SCAN LITE UPON DISTRIBUTOR OF VEHICLE.
STRONG ELECTRO-MAGNETIC INTERFERENCE CAN DAMAGE CARMAN SCAN LITE.

A STRONG SURGE OR ELECTRONIC SHOCK IN THE POWER SUPPLY LINE CAN DAMAGE CARMAN SCAN LITE POWER SUPPLY. DO NOT USE CARMAN SCAN LITE UNDER THESE HARSH ENVIRONMENT.

UNPACKING

The CARMAN SCAN LITE kit comprises the following standard along with the option kit where ordered. The kit contents should be checked upon receipt and damage or shortages reported to the supplier



[Figure 0.1 : CARMAN SCAN LITE KIT]

1. BASIC KIT

	PART NO.	PART NAME
1	20100-00100	CARMAN SCAN LITE MAIN BODY
2	20100-00200	DLC CABLE 16
3	20100-00300	CARRYING CASE
4	20100-00500	USB CABLE
5	20100-00600	CIGAR LIGHTER CABLE
6	20100-00700	OPERATION MANUAL
7	20100-00900	RUBBER SHROUD
8	20100-01000	S/W DOWNLOAD CD
9	20100-01100	AD/DC ADAPTOR
10	20100-01200	RECHAGERABLE BATTERY

2. TPMS(Tire Pressure Monitoring System) KIT

	PART NO.	PART NAME
1	20100-01300	TPMS EXCITER RF MODULE

3. KOREAN KIT

	PART NO.	PART NAME
1	20100-10100	HYUNDAI 12 PIN ADAPTOR
2	20100-10201	KIA 6+1 PIN ADAPTOR
3	20100-10202	KIA 20 PIN ADAPTOR
4	20100-10300	DAEWOO 12 PIN ADATOR
5	20100-10401	SSANGYOUNG 14 PIN ADATOR
6	20100-10402	SSANGYOUNG 20 PIN ADATOR

5. JAPANESE KIT

	PART NO.	PART NAME
1	20100-20101	TOYOTA/LEXUS 17R PIN ADAPTOR
2	20100-20102	TOYOTA/LEXUS 17C PIN ADAPTOR
3	20100-20200	NISSAN/INFINIT 14 PIN ADATOR
4	20100-20300	MITUBISHI 12 PIN ADATOR
5	20100-20301	MITUBISHI 12+16 PIN ADATOR
6	20100-20400	HONDA/ACURA 3 PIN ADATOR
7	20100-20401	HONDA/ACURA 5 PIN ADATOR
8	20100-20501	MAZADA 17 PIN ADATOR
9	20100-20502	MAZADA 6+1 PIN ADATOR
10	20100-20600	SUBARU 9 PIN ADAPTOR

6. EUROPEAN I KIT

	PART NO.	PART NAME
1	20100-30100	AUDI/VW 2+2 PIN ADAPTOR
2	20100-30200	BMW 20 PIN ADAPTOR
3	20100-30301	BENZ 38 PIN ADAPTOR
4	20100-30302	BENZ 3 PIN ADAPTOR
5	20100-30400	OPEL 10 PIN ADAPTOR

7. EUROPEAN II KIT

	PART NO.	PART NAME
1	20100-40100	PSA 2 PIN ADAPTOR
2	20100-40101	PSA 30 PIN ADAPTOR
3	20100-40200	RENAULT 12 PIN ADAPTOR

8. OTHER KIT

	PART NO.	PART NAME
1	20100-50100	HOLDEN 6 PIN ADAPTOR
2	20100-50200	FORD 20 PIN ADAPTOR

ICON

OPERATION LEVEL ICON
: LEVEL 1 OPERATION(INIT LEVEL)
: LEVEL 1 OPERATION(MENU LEVEL)
: LEVEL 1 OPERATION(MODE LEVEL)

MESSAGE RELATED ICON
: PROCESS / RESULT MESSAGE
: ERROR MESSAGE
: WARNING MESSAGE

APPLICATION HELP ICON
: SCREEN EXPLANATION
: OPERATION GUIDE
: HELP / TIPS
: NOTE

I. GENERAL INFORMATION

1. General Features

CARMAN SCAN LITE offers the following functionality:

On board diagnostic communication
TPMS diagnostic communication
Special vehicle test emulation

This combination provides for easy and comprehensive diagnosis of the electronically controlled systems used on all vehicle range.

CARMAN SCAN LITE feature include :

Diagnostic communication with KOREAN vehicle
Diagnostic communication with JAPANESE vehicle
Diagnostic communication with EUROPEAN vehicle

OBD-II communication protocol support
CAN communication protocol support

High resolution LCD display
Soft touch key

Large data storage area for TSB and Software.

Shock protecting rubber shroud

PC communication facility
PC software download with USB

2. SPECIFICATION

CASING	Dark gray color High strength ABS material
LCD SPEC.	320 by 240 resolution LEDBacklight type Standard character output :40 columns 12 Lines
KEYPAD	Power ON /OFF Key, Soft Function 6 Keys, Arrow 4 Keys, Fixed Functional 4 Keys NUBER 0~9 KEY(10) Type : Soft Touch Keypad
MEMORY CAPACITY	Internal Memory : 128 Mbytes Built-in memory
OPERATION VOLTAGE	7 – 36 VDC INPUT
OPERATING TEMPERATURE	0°C -50°C
DLC COMMUNI-CATION PART	ALL Korean Vehicle OBD-II(ISO 9141-2) OBD-II(SAE-J1850) KWP-2000 CAN SAE J1587
DIMENSION	Width : 125mm Length : 223mm Depth : 68/43mm (neck part)
POWER CONSUMPTION	3.6 Watts
FREQUENCY	125KHZ, 315MHZ(AM/FM)

3. RECHARGERABLE BATTERY

3-1. USING THE BATTERY PACK

The battery pack has following characteristics.

- The battery gradually loses its power over time without ever being used.
- Periodic full discharge/charge : Frequent recharging of the battery pack can reduce the duration of the battery pack.
- The battery pack must be fully charged before the first time use.

Warning

- Use only a battery pack recommended by NEXTECH.
Using a battery pack of a different type may result in explosion.

- Keep metallic objects, such as keys and clips, away from the battery pack.
Objects that conduct electricity can short-circuit the battery pack and result in fire and/or injuries.

- Keep the battery pack away from heat.
There is a risk of explosion or fire.

- Do not short-circuit battery terminals.
There is a risk of explosion.

- Do not subject the battery pack to temperatures above 140 degrees F(60 degrees C)
There is a risk of explosion or fire.

- Keep the battery pack away from children and/or pet.
There is a risk of fire or damage to the battery pack.

3-2. REPLACING THE BATTERY PACK

Turn the TPMS EXCITER over so that battery case faces up and then take volt off as shown the [figure I.1].

[figure I.1]

Take the battery case off and the replace the battery pack as shown the [figure I.2].

[figure I.2]

Warning

- If the backup battery is incorrectly replace, there is danger of explosion.
- The lithium battery contains lithium and can explode if it is not properly handled or disposed of.
- Replace only with a battery of the type recommended by NEXTECH.

4. CARMAN SCAN LITE Parts Description

(1) CARMAN SCAN LITE MAIN BODY

(Part No : 20100-00100)

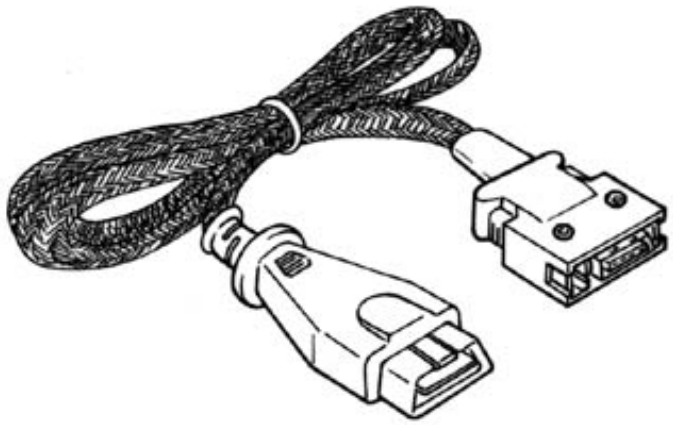
The CARMAN SCAN LITE main body is illustrated in figure I.1.

[Figure I.1 : CARMAN SCAN LITE MAIN BODY]

(2) DLC CABLE 16

(Part no : 20100-00200)

The cable is illustrated in figure I.2 and is used to connect the main body to the diagnosis terminal of vehicles with 16 pin connector vehicles.

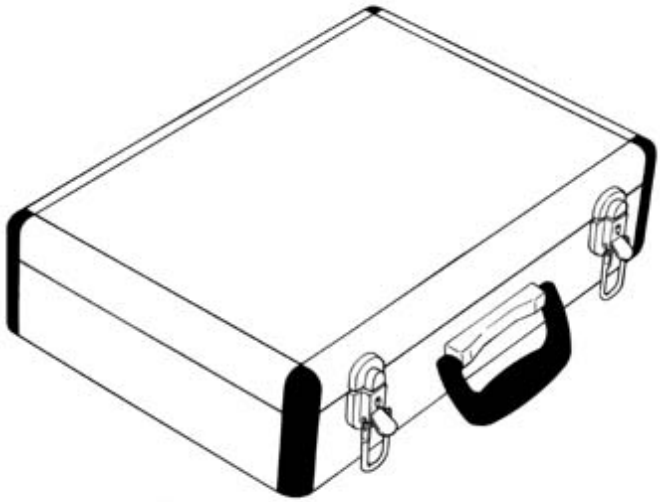


[Figure I.2 : DLC CABLE 16]

(3) CARRYING CASE

(Part no : 20100-00300)

The carrying case illustrated in figure I.3 provides for easy transportation of CARMAN SCAN LITE and protection for the unit when not in use.

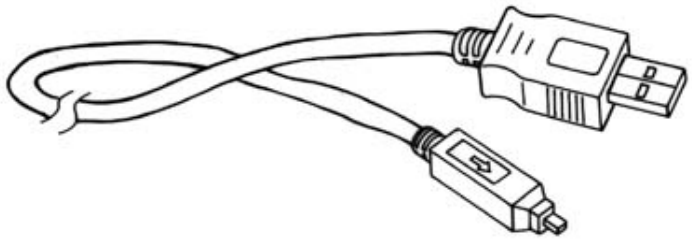


[Figure I.3 : CARRYING CASE]

(4) USB CABLE

(Part no : 20100-00500)

The cable is illustrated in figure 1.4 and interfaces between the CARMAN SCAN LITE main body and PC when S/W download.

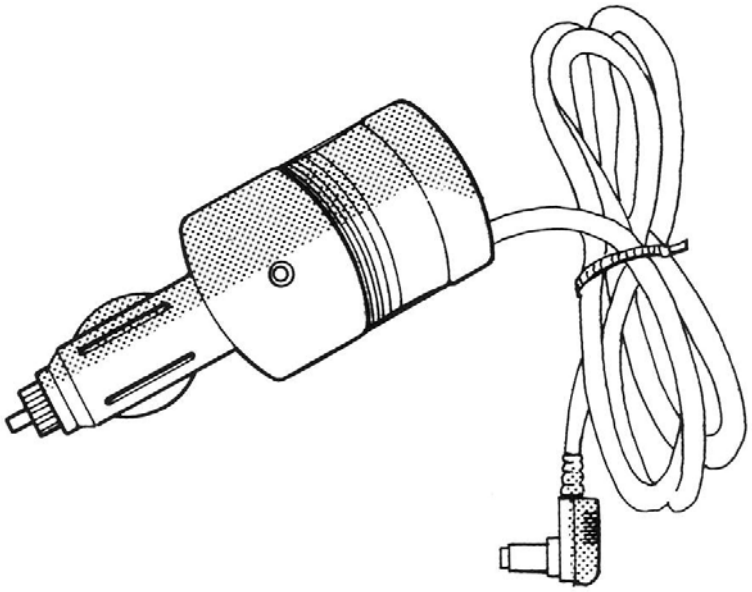


[Figure I.4 : USB CABLE]

(5) CIGAR LIGHTER POWER CABLE

(Part no : 20100-00600)

The cable is illustrated in figure 1.5 and is used to provide the CARMAN SCAN LITE main body with power from the vehicle cigar lighter socket.

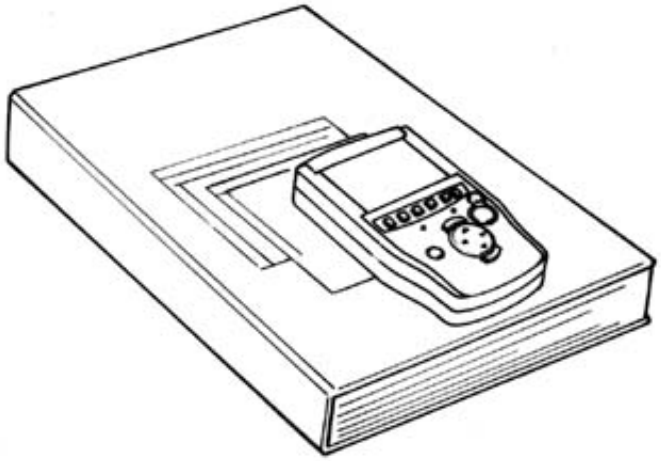


[Figure 1.5 : POWER EXTENSION CABLE]

(6) OPERATION MANUAL

(Part no : 20100-00700)

The guide, illustrated in figure 1.6 provides CARMAN SCAN LITE user Instruction.

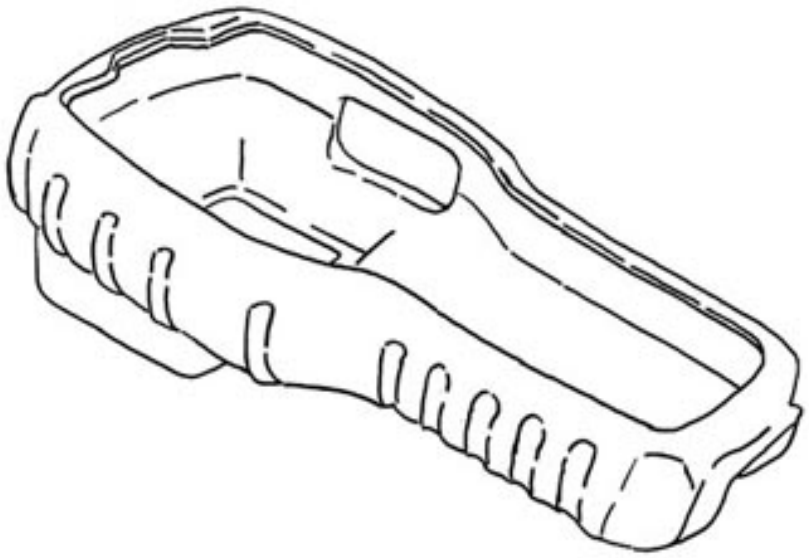


[Figure I.6 : OPERATION MANUAL]

(7) RUBBER SHROUD

(Part NO : 20100-00900)

The rubber shroud is used to protect the main body from damage when in use.

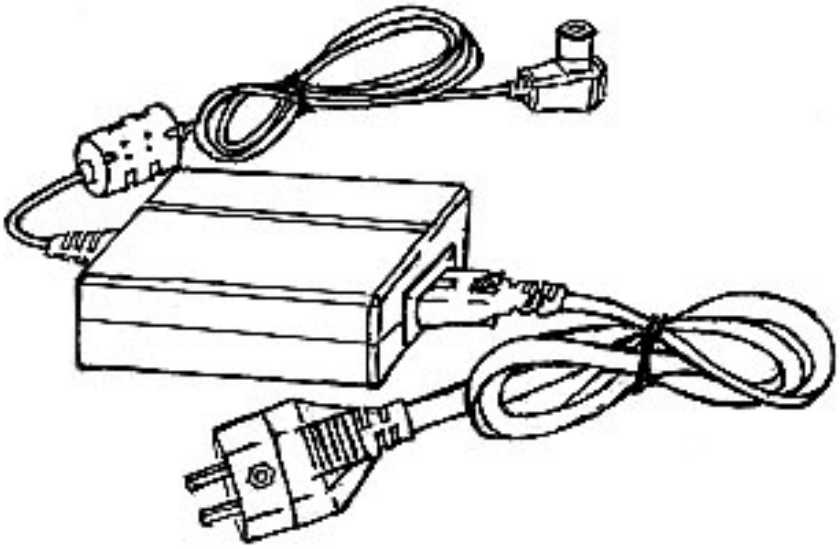


[Figure I.7 : RUBBER SHROUD]

(8) AC/DC ADAPTOR

(Part no : 20100-01100)

The electric power can be supplied to the CARMAN SCAN LITE with the AC/DC ADAPTOR.



[Figure I.8 : AC/DC ADAPTOR]

(9) ADAPTORS -1

(Part NO : 20100-XXXXX)

The adaptors are interfaces between the CARMAN SCAN LITE main body and DLC CABLE 16 when testing the OBD-1 types vehicles.

NO	PART NO.	PART NAME	FIGURE
1	20100-10100	HYUNDAI 12PIN ADAPTOR	
2	20100-10201	KIA 6+1PIN ADAPTOR	
3	20100-10202	KIA 20 PIN ADAPTOR	
4	20100-10300	DAEWOO 12 PIN ADAPTOR	
5	20100-10401	SSANGYOUNG 14 PIN ADAPTOR	
6	20100-10402	SSANGYOUNG 20 PIN ADAPTOR	
7	20100-20101	TOYOTA/LEXUS 17R PIN ADAPTOR	

(9) ADAPTORS -2

(Part NO : 20100-XXXXX)

The adaptors are interfaces between the CARMAN SCAN LITE main body and DLC CABLE 16 when testing the OBD-1 types vehicles.

NO	PART NO.	PART NAME	FIGURE
8	20100-20102	TOYOTA/LEXUS 17C PIN ADAPTOR	
9	20100-20200	NISSAN / INFINIT 14PIN ADAPTOR	
10	20100-20300	MITUBISHI 12 PIN ADAPTOR	
11	20100-20301	MITUBISHI 12+16 PIN ADAPTOR	
12	20100-20400	HONDA / ACURA 3 PIN ADAPTOR	
13	20100-20401	HONDA / ACURA 5 PIN ADAPTOR	
14	20100-20501	MAZDA 17 PIN ADAPTOR	
15	20100-20502	MAZDA 6+1 PIN ADAPTOR	
16	20100-20600	SUBARU 9 PIN ADAPTOR	
17	20100-30100	AUDI / VW 2+2 PIN ADAPTOR	

(9) ADAPTORS -3

(Part NO : 20100-XXXXX)

The adaptors are interfaces between the CARMAN SCAN LITE main body and DLC CABLE 16 when testing the OBD-1 types vehicles.

NO	PART NO.	PART NAME	FIGURE
18	20100-30200	BMW 20 PIN ADAPTOR	
19	20100-30301	BENZ 38 PIN ADAPTOR	
20	20100-30302	BENZ 3 PIN ADAPTOR	
21	20100-30400	OPEL 10 PIN ADAPTOR	
22	20100-40100	PSA 2 PIN ADAPTOR	
23	20100-40101	PSA 30 PIN ADAPTOR	
24	20100-40200	RENAULT 12 PIN ADAPTOR	
25	20100-50100	HOLDEN 6 PIN ADAPTOR	
26	20100-50200	FORD 20 PIN ADAPTOR	

II. VEHICLE DIAGNOSIS

1. CONNECTION METHOD

1) HYUNDAI VEHICLE

For vehicles with 16 pin Data Link Connector power is supplied from the DLC terminal through the DLC CABLE. An additional power supply is not needed. For these vehicles, connection of the DLC CABLE 16 to CARMAN SCAN LITE and the vehicle data link terminals is all that is required.

However, only the latest generation of vehicles (97 and on) use the 16-pin Data Link Connector. For earlier models, a separate power supply by means of the cigar lighter cable will be required.

For earlier vehicles (pre 97), diagnostic connector can be found at the relay box which is located at knee bolster or fuse box located at the out side of driver's side.

For current vehicles (97 and on), Diagnostic connector can be found underneath the driver's side knee bolster.

Once the power supply has been connected, the DLC CABLE 16 should be connected to CARMAN SCAN LITE data link terminal and the DLC CABLE ADAPTER 16-12 connected to the vehicle data link terminal and the DLC CABLE 16.

2) KIA VEHICLE

For vehicles with 20 pin Data Link Connector, power is supplied from the DLC terminal through the DLC CABLE without the need for an additional power supply.

For these vehicles connection of the DLC CABLE 20 to the CARMAN SCAN LITE and the vehicle data link terminals is all that is required.

However in case of 6 pin data link connector, a separate power supply by means of the cigar lighter cable will be required for earlier models.

Diagnostic connector for vehicle with 20 pin or 6 pin can be found in the engine bay. Some are found near engine bulkhead and some are near battery.

For current vehicles (after 2000 and on), OBD-II DLC 16 pin connector is used and can be found underneath the driver side knee bolster.

Once the power supply has been connected, the DLC CABLE 16 should be connected to CARMAN SCAN LITE data link terminal and the DLC CABLE ADAPTER connected to the vehicle data link terminal and the DLC CABLE 16.

3) TOYOTA VEHICLE

For vehicles with 16 pin Data Link Connector power is supplied from the DLC terminal through the DLC CABLE. An additional power supply is not needed. For these vehicles, connection of the DLC CABLE 16 to the CARMAN SCAN LITE and the vehicle data link terminals is all that required.

However, the latest generation of vehicles for US market(96 and on) uses the 16-pin Data Link Connector. Vehicles with Rectangular connector doesn't require additional power supply, but for semi-circular, additional power supply is required.

For earlier vehicles and Japan domestic vehicles with rectangular, diagnostic connector can be found in the engine bay, usually right side of the vehicle, seen from front of the vehicle. But some vehicles with rectangular connector, additional diagnostic connector of semi-circular connector can be found underneath the dashboard.

After 96 model year, vehicles for outside of Japanese market are usually equipped with OBD-II connector and can be found underneath the driver's side knee bolster.

Once the power supply has been connected, the DLC CABLE 16 should be connected to CARMAN SCAN LITE data link terminal and the DLC CABLE ADAPTER should be connected to the vehicle data link terminal, if required, and the DLC CABLE 16.

4) HONDA VEHICLE

For vehicles with 16 pin and 3 pin Data Link Connector, power is supplied from the DLC terminal through the DLC CABLE. An additional power supply is not needed. For these vehicles, connection of the DLC ADAPTER 16 pin to the CARMAN SCAN LITE and the vehicle data link terminals is all that required.

For earlier vehicles and Japan domestic vehicles with 3pin connector, diagnostic connector can be found in the driver or passenger side cabin underneath the knee bolster.

After 96 model year, vehicles are usually equipped with OBD-II connector and can be found underneath the driver's side knee bolster.

Once the power supply has been connected, the DLC CABLE 16 should be connected to CARMAN SCAN LITE data link terminal and the DLC CABLE ADAPTER should be connected to the vehicle data link terminal, if required, and the DLC CABLE 16.

5) NISSAN VEHICLE

For vehicles with 16 pins and 14 pins Data Link Connector power is supplied from the DLC terminal through the DLC CABLE. An additional power supply is not needed.

For earlier vehicles and Japan domestic vehicles with 14pin connector, diagnostic connector can be found in the driver's door side cabin or fuse box underneath the knee bolster.

After 96 model year, vehicles are usually equipped with OBD-II connector and can be found underneath the driver's side knee bolster.

The DLC CABLE 16 should be connected to CARMAN SCAN LITE data link terminal and the DLC CABLE ADAPTER should be connected to the vehicle data link terminal.

6) MISTUBISHI VEHICLE

For vehicles with 16 pin Data Link Connector power is supplied from the DLC terminal through the DLC CABLE. An additional power supply is not needed.

However, only the latest generation of vehicles for US market(96 and on) uses the 16-pin Data Link Connector. For earlier models, a separate power supply by means of the cigar lighter cable will be required.

For earlier vehicles and Japan domestic vehicles with 12pins connector, diagnostic connector can be found in the fuse box located at the driver's door side panel.

After 96 model year, vehicles are usually equipped with OBD-II connector and can be found underneath the driver's side knee bolster.

Once the power supply has been connected, the DLC CABLE 16 should be connected to CARMAN SCAN LITE data link terminal and the DLC CABLE ADAPTER should be connected to the vehicle data link terminal, if required, and the DLC CABLE 16.

7) MAZDA VEHICLE

For vehicles with 16 pin Data Link Connector power is supplied from the DLC terminal through the DLC CABLE. An additional power supply is not needed. For these vehicles, connection of the DLC CABLE 16 to the CARMAN SCAN LITE and the vehicle data link terminals is all that required.

However, only the latest generation of vehicles for US market(96 and on) uses the 16-pin Data Link Connector.

For earlier vehicles and Japan domestic vehicles with 17pin connector, diagnostic connector can be found in the engine bay, usually right side of the vehicle, seen from front of the vehicle.

After 96 model year, vehicles are usually equipped with ODB-II connector and can be found underneath the driver's side knee bolster.

Once the power supply has been connected, the DLC CABLE 16 should be connected to CARMAN SCAN LITE data link terminal and the DLC CABLE ADAPTER should be connected to the vehicle data link terminal, if required, and the DLC CABLE 16.

8) MERCEDES BENZ VEHICLE

It supports 4 types of diagnosis connectors in Mercedes vehicle.

BENZ 3 PIN ADAPTOR can diagnose Benz's 8 pole, 16 pole type connectors. BENZ 38 PIN ADAPTOR can diagnose Benz's 38 pin type connectors. And then if the vehicle is equipped with 16 pin OBD-II DLC, connect the DCL CABLE 16 directly to the vehicle.

You can check the methods of connecting with vehicle on the CARMAN SCAN LITE screen.

The vehicle with 16 pole, 38 pin, 16 pin type diagnosis connector doesn't require additional power supply, but for 8 pole type, additional power supply is required.

The vehicles with 8 pole, 16 pole, 38 pin diagnostic connector can be found in the engine bay.

Some vehicles are equipped with OBD-II connector and can be found underneath the driver's side or passenger side knee bolster.

Once the power supply has been connected, the DLC CABLE 16 should be connected to CARMAN SCAN LITE data link terminal and the DLC CABLE ADAPTER should be connected to the vehicle data link terminal, if required, and the DLC CABLE 16.

9) BMW VEHICLE

For vehicles with 16 pin and 20 pin Data Link Connector, power is supplied from the DLC terminal through the DLC CABLE. An additional power supply is not needed. For these vehicles, connection of the DLC ADAPTER 16 pin to the CARMAN SCAN LITE and the vehicle data link terminals is all that required.

For earlier vehicles with 20pin connector, diagnostic connector can be found in the engine bay.

After 2000, vehicles are usually equipped with OBD-II connector and can be found underneath the driver's side knee bolster.

Once the power supply has been connected, the DLC CABLE 16 should be connected to CARMAN SCAN LITE data link terminal and the DLC CABLE ADAPTER should be connected to the vehicle data link terminal, if required, and the DLC CABLE 16.

2. VEHICLES AND SYSTEM SELECTION

2-1. OPERATION FLOW

INITIAL MENU

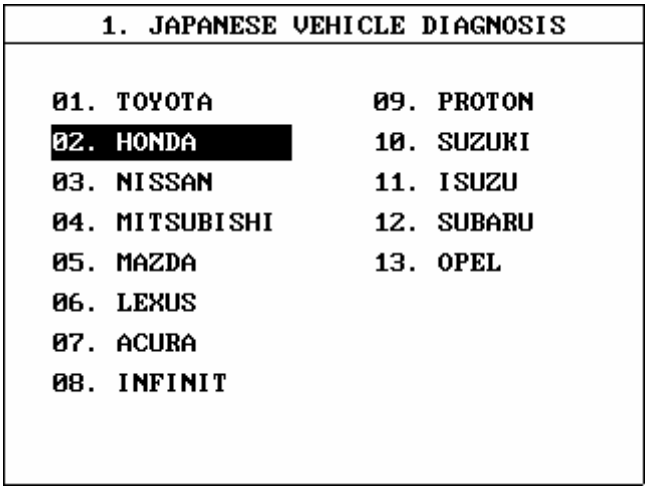
VEHICLE DIAGNOSIS

JAPAN

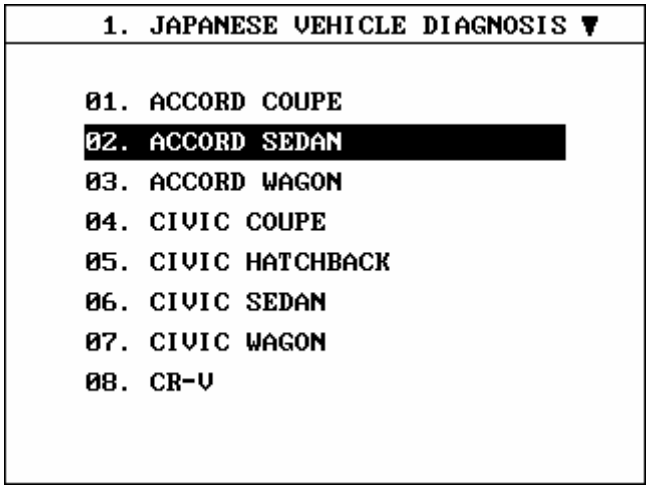
0.1 INITIAL SCREEN

0.1 VEHICLE DIAGNOSIS

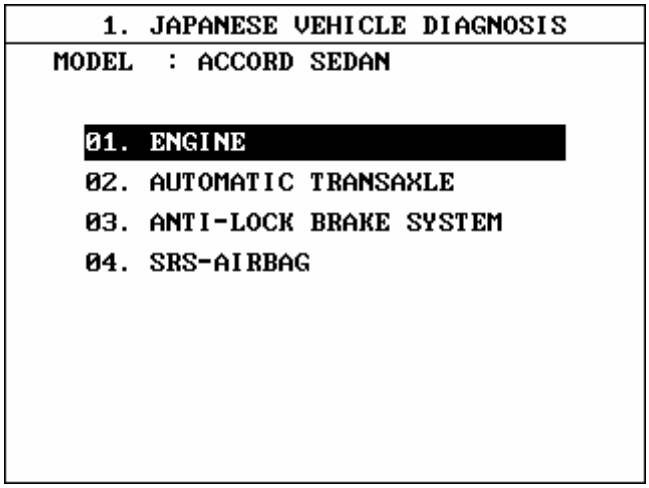
ENTER



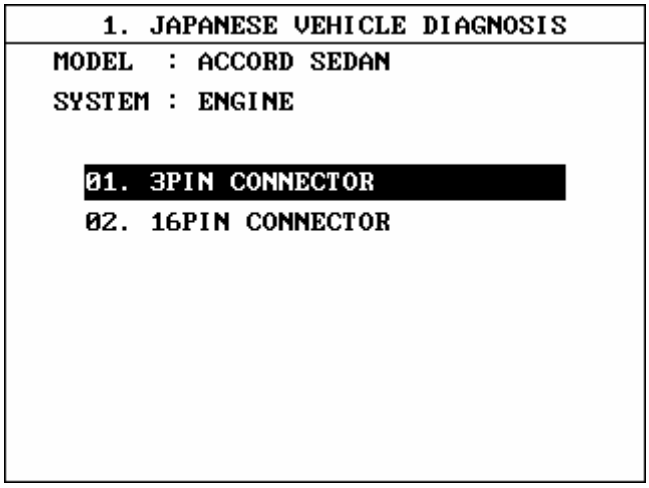
ENTER



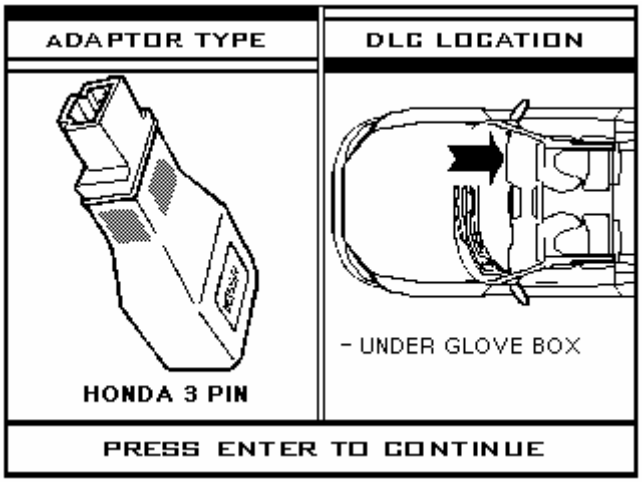
ENTER



ENTER



ENTER



[FLOW 1 : VEHICLE AND SYSTEM SELECTION SUB-MENU IN/OUT FLOW]

2-2. BASIC APPLICATION

Having connected and turned on CARMAN SCAN LITE, the vehicle and systems 1 and 2 selections must be made from the [1.0 VEHICLE DIAGNOSIS] screen.

The support functions differ from vehicle to vehicle and therefore the correct selection must be made. Selection can be made by scrolling up or down the screen and pressing ENTER.

Selection is made in the order of VEHICLE, SYSTEM 1, and SYSTEM 2.

3. DIAGNOSTIC TROUBLE CODES

3-1. OPERATION FLOW

01. INITIAL SCREEN

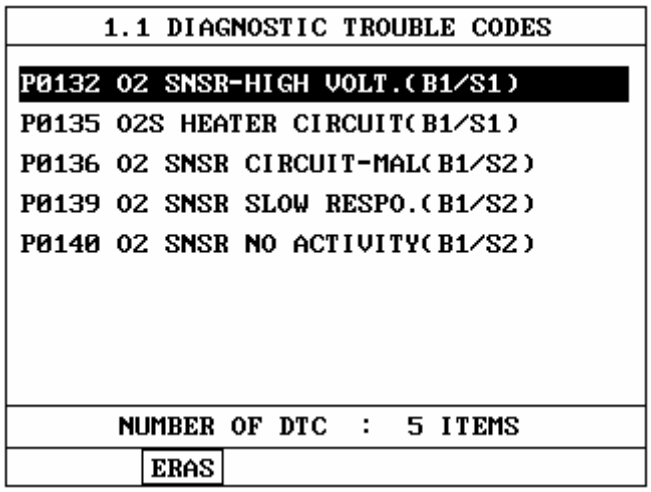
01

VEHICLE AND SYSTEM SELECTION

Refer to “Selecting Vehicle Mode”

0.1 DIAGNOSTIC TROUBLE CODES

ENTER



ERAS

1.1.2 ERASE FAULT CODE

[FLOW 2 : DIAGNOSTIC TROUBLE CODES IN/OUT FLOW]

3-2. MODE APPLICATION

At this level, diagnostic trouble codes (DTC) are displayed for the selected ECM

Whenever the screen is opened or refreshed, the cursor moves to the beginning of the display and an audible warning will be given along with the number and description of the component from which the code has been generated.

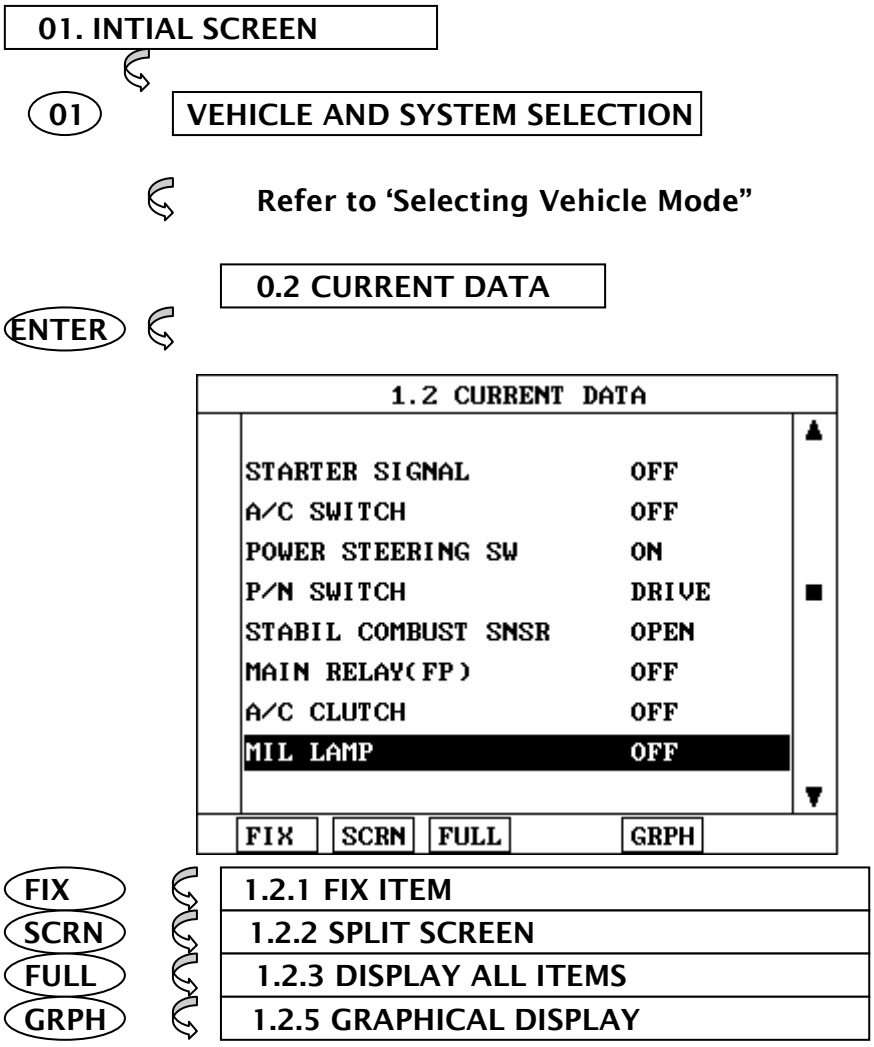
By using the UP / DOWN key, the display may be scrolled.

EARS — This soft function key will clear the DTC currently held in the memory of the selected ECM. If this option is selected, a message requesting confirmation of the ERAS request will be displayed. The ENTER or ESC key should be used to confirm or cancel the request to clear the current DTC.

To erase the MIL type DTCs, disconnect the battery terminal for 15 second or more.

4. CURRENT DATA

4-1. OPERATION FLOW



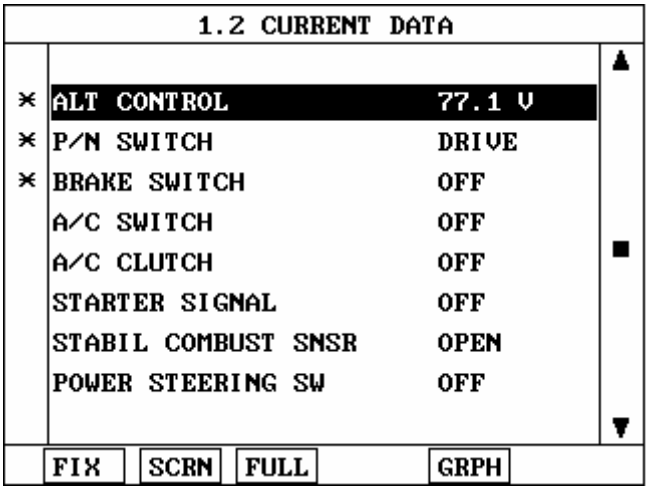
[FLOW 3 : CURRENT DATA MODE IN/OUT FLOW]

4-2. MODE APPLICATION

The sensor values and the ON/OFF state of the system switches of the selected ECM are displayed.

Scrolling up and down the data is possible by means of the UP / DOWN keys and more detailed data is available by Using the soft function keys as follows :

FIX Executing the [I.2.I FIX ITEM] function that moves the item in inverted text to the top of the display. This item is held and does not move when the cursor keys are used to page through the display and therefore allows specific items to be compared directly to one another.



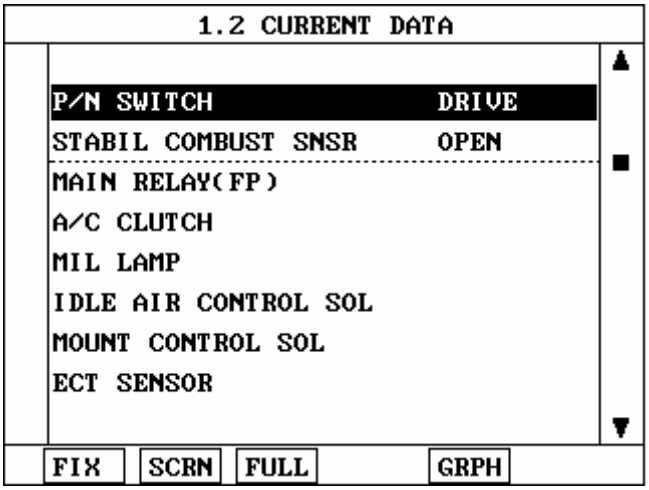
[Figure 1 : FIX ITEM]

A fixed item may be released by depressing the FIX key again.

In the example, illustrated by figure 1, is fixed as denoted by the asterisk to the left of the item number.

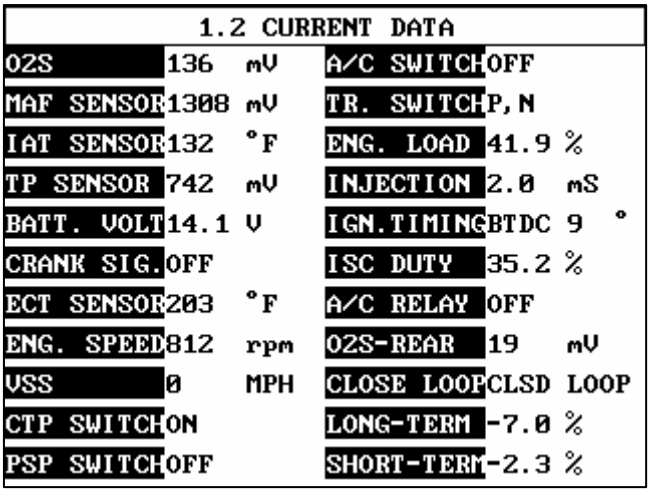
SCRN Pressing this key will change the number of displayed sensors or switch state which are 'active' from 8(MAX), 4, or 2(MIN). Where only 2 items are 'active', the rate at which CARMAN SCAN LITE update the display data will be faster than where a higher number of 'active' items are selected.

In the example illustrated by figure 2, only 2 'active' data items are selected



[Figure 2 : Split screen]

FULL Use of this key will cause maximum 22 data value to be displayed on the screen as illustrated in figure 3. The component description displayed will be abbreviated when this mode is used. The date may be scrolled by use of the UP / DOWN key.



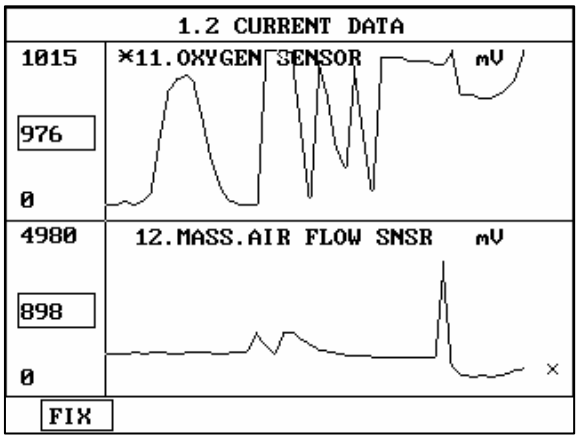
1.2 CURRENT DATA

O2S	136	mV	A/C SWITCH	OFF	
MAF SENSOR	1308	mV	TR. SWITCH	P,N	
IAT SENSOR	132	°F	ENG. LOAD	41.9	%
TP SENSOR	742	mV	INJECTION	2.0	mS
BATT. VOLT	14.1	V	IGN.TIMING	BTDC 9	°
CRANK SIG.	OFF		ISC DUTY	35.2	%
ECT SENSOR	203	°F	A/C RELAY	OFF	
ENG. SPEED	812	rpm	O2S-REAR	19	mV
VSS	0	MPH	CLOSE LOOP	CLSD LOOP	
CTP SWITCH	ON		LONG-TERM	-7.0	%
PSP SWITCH	OFF		SHORT-TERM	-2.3	%

[Figure 3 : DISPLAY ALL ITEMS]

GRPH Where more 2 'active' data items have been selected using the FIX key, pressing the GRPH key will cause the data for those items to be displayed in the form of a graph as illustrated in figure 4.

FIX Holding one item of two. When the UP / DOWN keys are used to scroll up and down the display, the item selected by FIX key does not move.



[Figure 4 : CURRENT DATA (GRPH)]

5. FLIGHT RECORD

5-1 OPERATION FLOW

0.1 INITIAL SCREEN

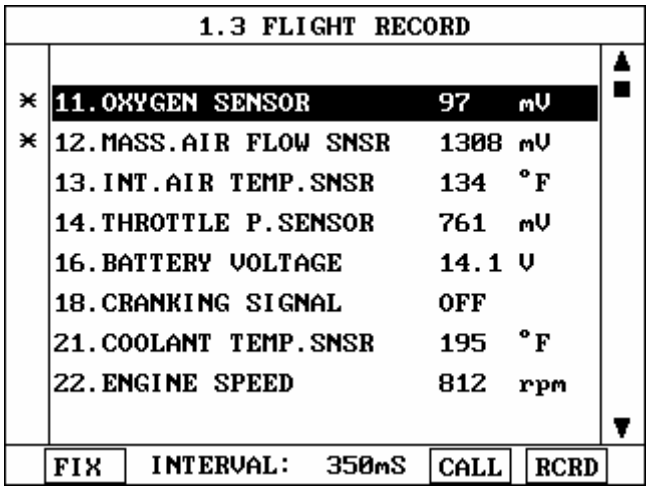
0 1

VEHICLE AND SYSTEM SELECTION

Refer to " Selecting Vehicle Mode"

0.3 FLGHT RECORD

ENTER



FIX → 1.3.1 FIX ITEM

CALL → 1.3.2 CALL MEMORIZED DATA

RCRD → 1.3.3 START RECORD

[FLOW 4 : FLIGHT RECORD MODE IN/OUT FLOW]

5-2 . MODE APPLICATION

The FLIGHT RECORD mode allows for the display and recording of data generated by the ECM as determined by the user of CARMAN SCAN LITE .

By using the UP / DOWN key, the display may be scrolled.

The function of the FLIGHT RECORD is determined by the following soft function keys :

FIX This soft function key selects or releases the items for which data is to be recorded. The fixed are identified by means of an asterisk to the left of the item number on the CARMAN SCAN LITE screen. The maximum number of items, which may be selected for FLIGHT RECORD functions, is 8.

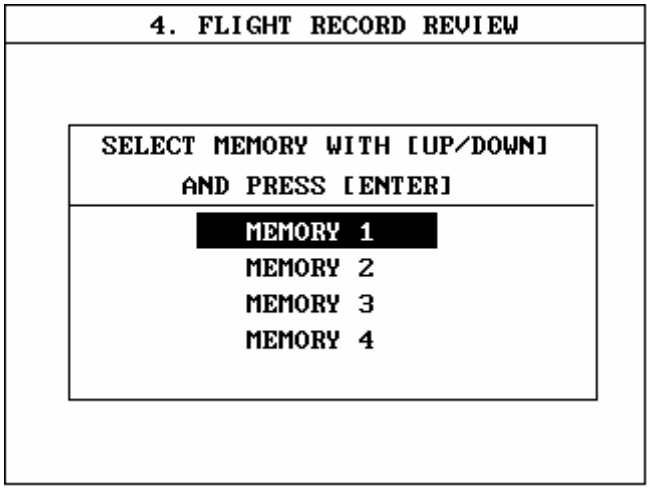
The data sampling time interval is displayed at the center of the bottom line of the screen.

CALL This function is used to replay the recorded data. Stored data is only overwritten when recording and therefore the same data can be viewed more than once/without being over written provided that no recording takes place.

If the stored file to be viewed relates to vehicle or system, which differs from the current vehicle and system selection, or if no recording data, the following message will be displayed.

NO RECORDED DATA OR DIFFERENT SYSTEM DATA.

The message is displayed on the screen as shown in Figure 5. The user can select one of the items to read.



[Figure 5 : FLIGHT RECORD (CALL)]

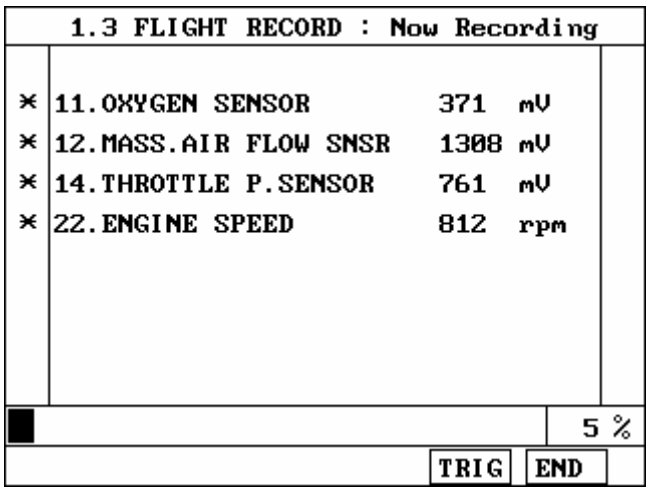
MEMORY 1 and MEMORY 4, each memory indicates built-in memory of CARMAN SCAN LITE.

If data is in the selected memory, stored data will be displayed , But the following message will be displayed if the ID of the stored record is different from that of current vehicle and system selection or if no recorded data.

NO RECORDED DATA OR DIFFERENT SYSTEM DATA

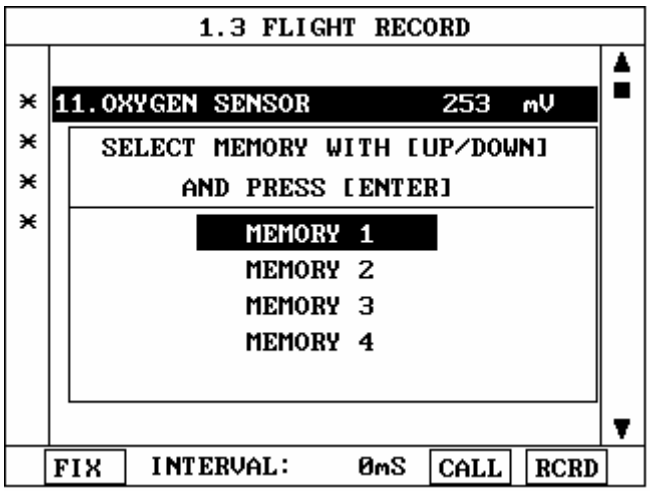
RCRD end when either the END or ESC key is depressed. During the recording function, the screen takes the appearance of that illustrated in [figure 6]

If the quantity of data being recorded exceeds the capacity of the CARMAN SCAN LITE memory, the first recorded data of the current session will be progressively overwritten as recording continues



[Figure 6. FLIGHT RECORD (RECORDING)]

The message is displayed on the screen as in the following figure.



[Figure 7 : FLIGHT RECORD (RCRD)]

MEMORY 1 and MEMORY 4, each memory indicates internal memory of CARMAN SCAN LITE.

If user selects memory, [Figure 7] is display. If this key is pressed without selected items, the following message is displayed.

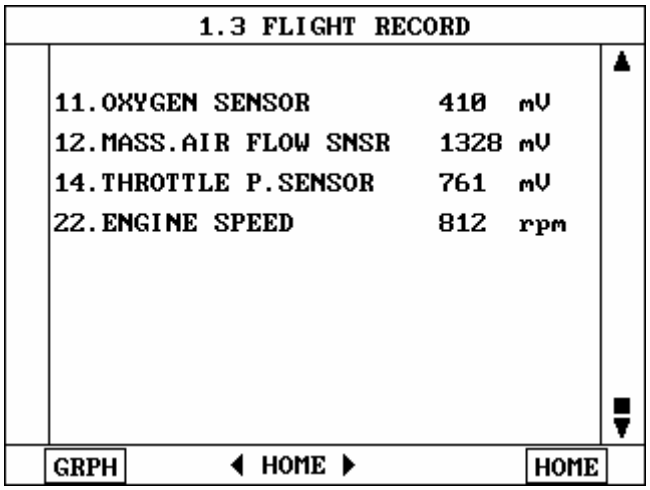
SELECT ITEM WITH[FIX]

TRIG This key is used to set trigger point in this recording process.

When TRIG key is depressed more than twice , only the latest TRIG key handled as trigger at trigger point.

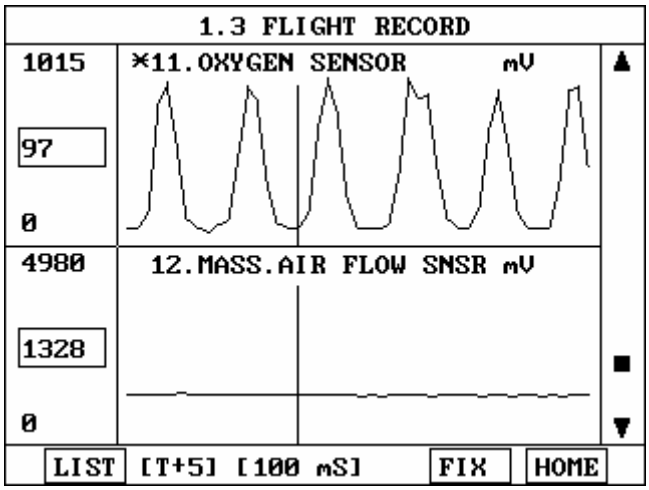
If END key or ESC key is depressed before TRIG key , that time becomes the trigger point and recording will be ended.

After finishing the recording, screen will display stored data values in a numeric data form. The screen example is as follows:



[Figure 8 : FLIGHT RECORD (NUMERIC)]

In this numerical data display, GRPH key is used to see Graphic views for the items recorded by FIX key operation.
If the two items are selected, a graphical view is as follows.



[Figure 9 : FLIGHT RECORD (GRAPH)]

[T+5] MEANS SAMPLED TIME INDEX, AND CURRENT SCREEN DISPLAY THE TIME AFTER 5TH SAMPLING INDEX FROM TRIGGER POINT.

You can change sampled time index by LEFT(◄) or RIGHT(►) key. In graphic display, current sampled time index position is displayed as vertical line cursor. If this cursor is arrived end of screen, screen will be moved as half page.

6. ACTUATION TEST

6-1 OPERATION FLOW

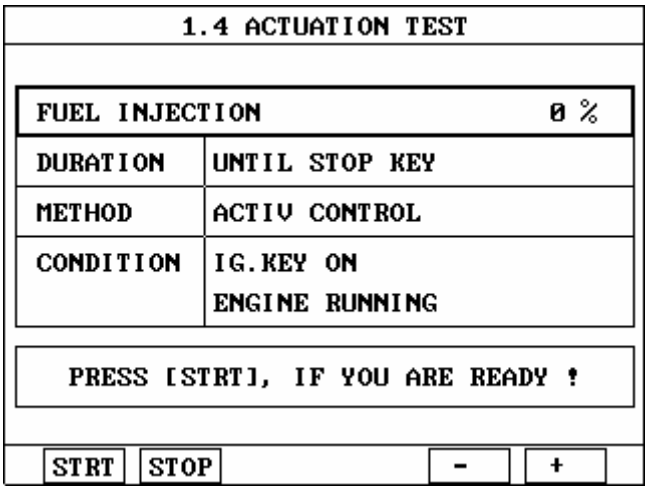
JAPAN

NISSAN AND ENGINE SELECTION

Refer to " Selecting Vehicle Mode "

04. ACTUATION TEST

ENTER



START

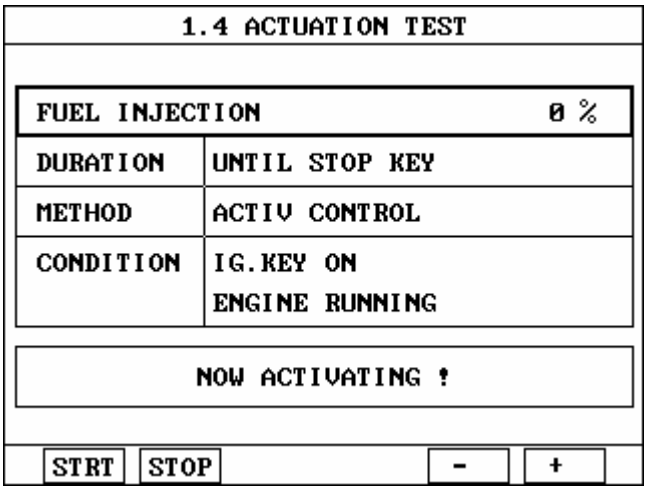
START ACTIVATING

[FLOW 5 : ACTUATION TEST MODE IN/OUT FLOW]

6-2 MODE APPLICATION

The ACTUATION TEST mode allows certain actuators to be forcibly driven by CARMAN SCAN LITE but this mode can only be supported according to the selected vehicle. The illustration of a typical screen is shown in [figure 10] .

The actuator to be driven can be changed by using the UP / DOWN key to scroll through the list.



[Figure 10 : ACTUATOR DRIVING]

The test must be performed with the vehicle in the state indicated by the CONDITION statement on the screen. In this illustration given, for example, the ignition key must be turned “on”, and the engine must be running.

The duration of the test will either be fixed by CARMAN SCAN LITE and indicated on the screen or the duration dialogue will indicate

UNTIL STOP KEY

To begin an actuator test, the STRT key should be pressed. For fixed duration test, the message

COMPLETED!

will be display after an acknowledged code has been received from the vehicle. For tests of no fixed duration, the message

NOW ACTIVATING

will be displayed once an acknowledged code has been received from the vehicle and until the STOP key is pressed. In both types of test, the message

TEST FAILURE!

will be displayed if no acknowledge code is received from the Vehicle. The messages will be displayed for 0.5 seconds and then disappear.

7. IDENTIFICATION CHECK

7-1. OPERATION FLOW

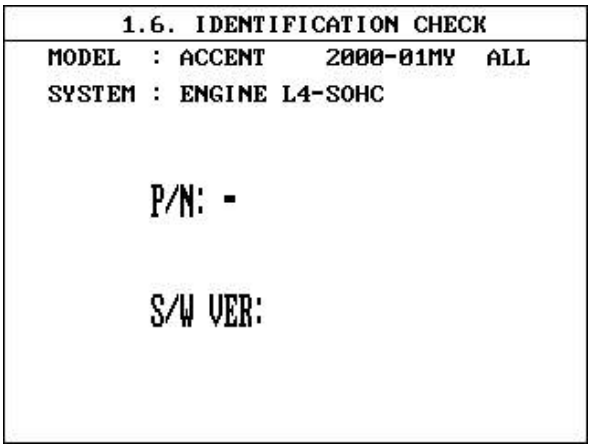
HYUNDAI

↳

HUNDAI AND ENGINE SELECTION

↳ Refer to " Selecting Vehicle Mode "

0X. IDENTIFICATION CHECK



[FLOW 6 : IDENTIFICATION CHECK]

Right after IDENTIFICATION CHECK mode is accessed, Part number and Software Version number will be displayed automatically.

III. CARB OBD-II DIAGNOSIS

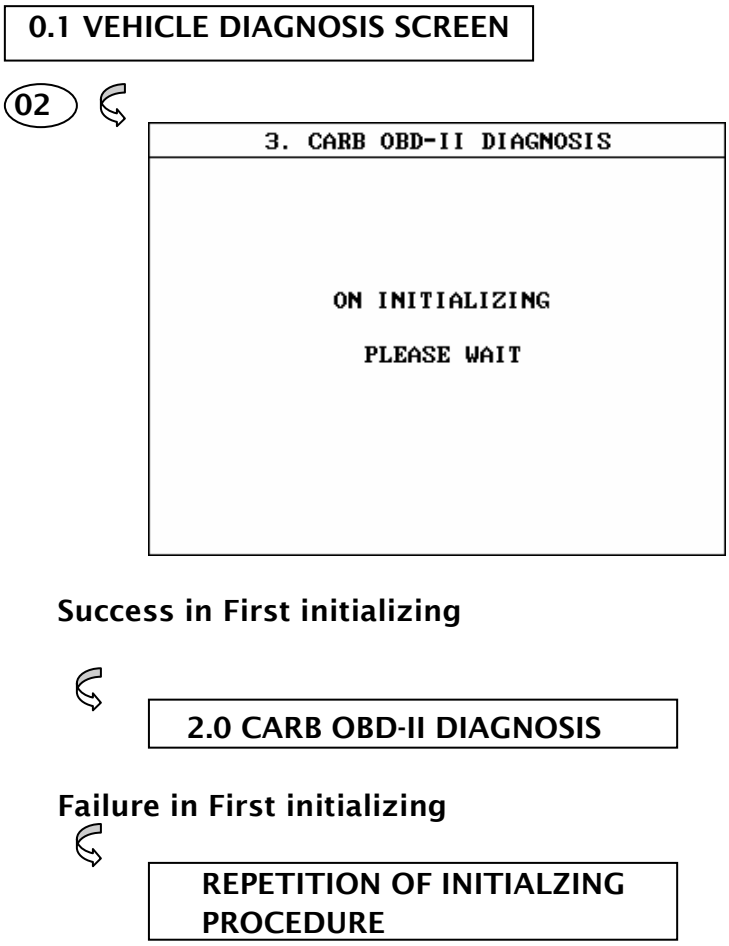
1. CONNECTION METHOD

For vehicles with OBD-II communications protocol, power is supplied from the DLC terminal through the DLC cable without the need for an additional power supply.

For these vehicles connection of the DLC CABLE 16 to the CARMAN SCAN LITE and the vehicle data link terminals is all that is required.

2. COMMUNICATION INTERFACE

2-1. OPERATION FLOW



Success in First initializing

2.0 CARB OBD-II DIAGNOSIS

Failure in First initializing

REPETITION OF INITIALZING PROCEDURE

[FLOW III.1 : COMM. INITIAL SUB-MSR IN/OUT FLOW]

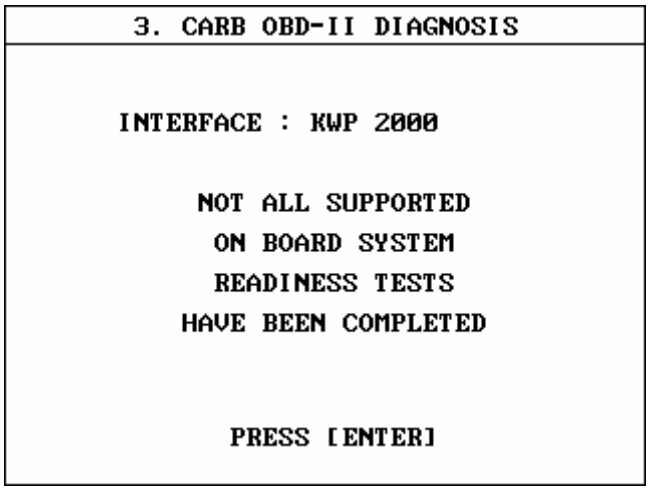
2-2. MODE APPLICATION

When CARB OBD-II DIAGNOSIS is selected, CARMAN SCAN LITE automatically searches for vehicle interfaces that apply to OBD-II functions.

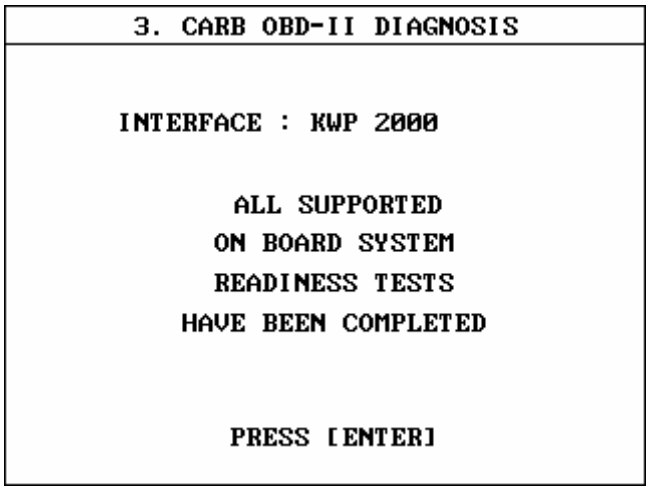
During initialization, a process message is displayed. If the initialization fails because no interfaces have been found, CARMAN SCAN LITE repeats the initialization process and displays the following message. The user may terminate this process by pressing ESC

RETRY 1 TIMES

When a communication interface is located, CARMAN SCAN LITE displays the figure III.2 or III.3 according to the result of the on board- system-readiness-tests.



[Figure III.2 : INITIALIZATION (NOT COMPLETED)]



[Figure III.3 : INITIALIZATION (COMPLETED)]

3. READINESS TEST

3-1 OPERATION FLOW

0.1 VEHICLE DIAGNOSIS SCREEN

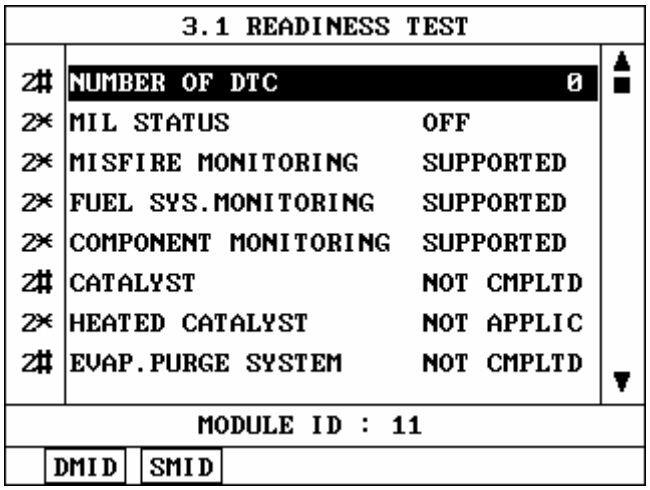
02

Automatic Search for communication Interface

Refer to “Searching for Communication Interface”

2.0 CARB OBD II DIAGNOSIS

01



DMID — 3.1.1 DISPLAY MODULE ID

SMID — 3.1.2 SELECT MODULE

[FLOW III.2 : READINESS TEST MODE IN/OUT FLOW]

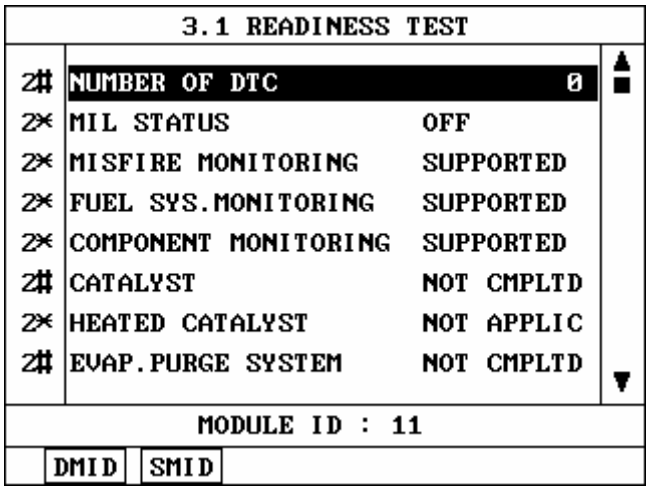
3-2. MODE APPLICATION

The type and result of the READINESS TESTS supported by more than one MODULE within the vehicle will be displayed.
And the number of DTC and the state of MIL(Malfunction Indicator Lamp) are displayed.

Where several modules respond to each TEST, the number of responding modules along with an indicator will be displayed. The indicator takes the form of an '*' or '#' symbol.

'*' indicates that two or more modules have responded with the same value.
'#' indicates that two or more modules have responded with different values.

A typical illustration of the readiness TEST appears at figure III.4

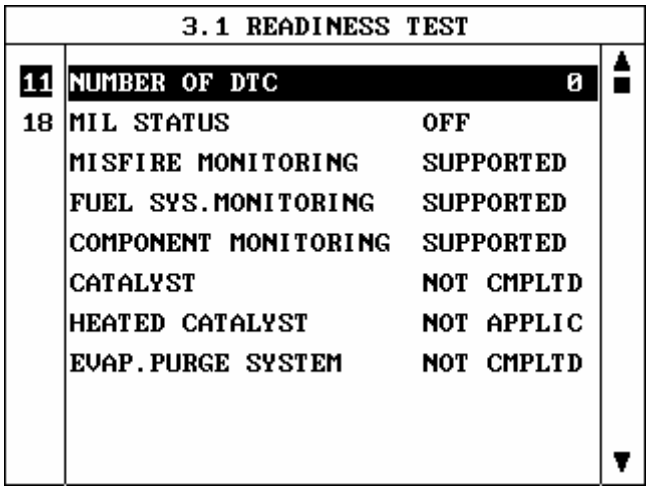


[Figure III.4 : READINESS TEST]

Using the UP / DOWN key permits scrolling of the displayed data.

DMID Displaying the Module ID of the test item selected by UP / DOWN key.

SMID Displaying the supporting items, sorted according to the module ID. A typical screen display is illustrated at figure III.5.



[Figure III.5:READINESS TEST(SMID)]

If you want to know items corresponding to another Module ID, move cursor to display area of Module ID with LEFT key, and then use UP / DOWN key to select Module ID and press ENTER key.

ESC Causes the display to return.

4. CURRENT DATA

4-1. OPERATION FLOW

0.1 VEHICLE DIAGNOSIS SCREEN

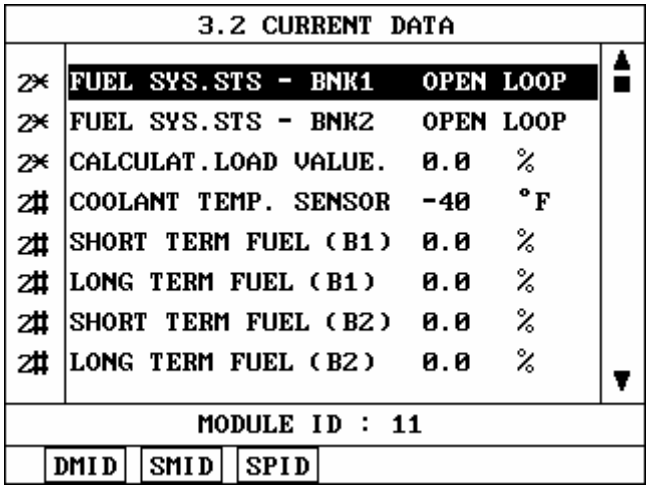
02

Automatic Search for communication Interface

Refer to “Searching for Communication Interface”

2.0 CARB OBD II DIAGNOSIS

02



DMID → 3.2.1 DISPLAY MODULE ID

SMID → 3.2.2 SELECT MODULE

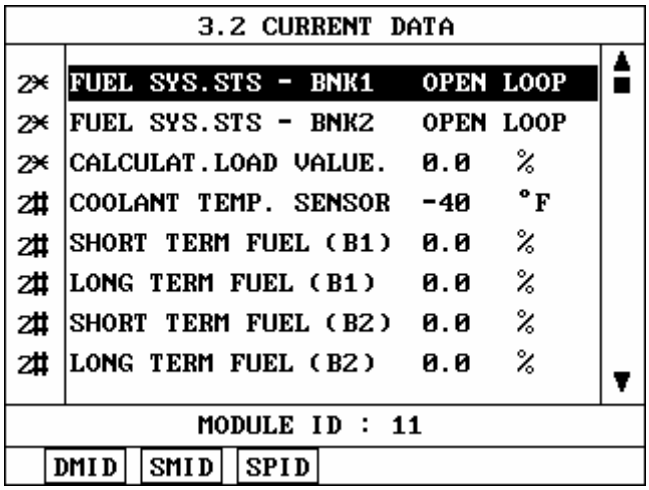
SPID → 3.2.3 SELECT PID

[FLOW III.3 : CURRENT DATA MODE IN/OUT FLOW]

4.2 MODE APPLICATION

The CURRENT DATA MODE allows for sensor values and switch states to be displayed, based upon the concept that one item may be supported by several modules. Supporting module information is displayed in this mode.

A typical CURRENT DATA screen display appears at figure III.6.



[Figure III.6 : CURRENT DATA]

CARMAN SCAN LITE display all of the PID names supported by several modules and the status in the center column of the display. In the left hand column, an indicator is displayed. The indicator takes the form of an '*' , '#' or '-' symbol.

'*' indicates that two or more modules have responded with the same value.

'#' indicates that two or more modules have responded with different values.

'-' indicates no response from two or more modules.

The UP / DOWN key can be used to scroll through the data to highlight items to be activated by soft function keys.

DMID Displaying the Module IDs for the selected item. The UP / DOWN key may be used to scroll through the data.

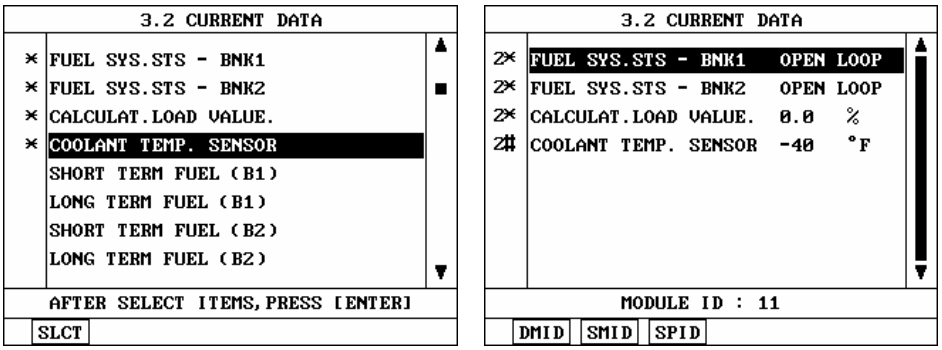
SMID Displaying the supported items sorted according to Module ID. Using this function it is possible to view the module ID supporting an item group.

If you want to know items corresponding to another Module ID, move cursor to display area of Module ID with LEFT Key, and then use UP / DOWN key to select Module ID and press ENTER key.

SPID This function allows for selective data display based upon user selection of the required data. Moving the cursor to the required line(s) and pressing the soft function key. SLCT .

Once all of the required items have been selected, pressing ENTER will cause them to be displayed. Selected items are marked with an asterisk. Items can be deselected by depressing SLCT key again.

Pressing ENTER without item selection will display all items.



[Figure III.6 : CURRENT DATA(SPID)]

5. DIAGNOSTIC TROUBLE CODES

5-1. OPERATION FLOW

0.1 VEHICLE DIAGNOSIS SCREEN

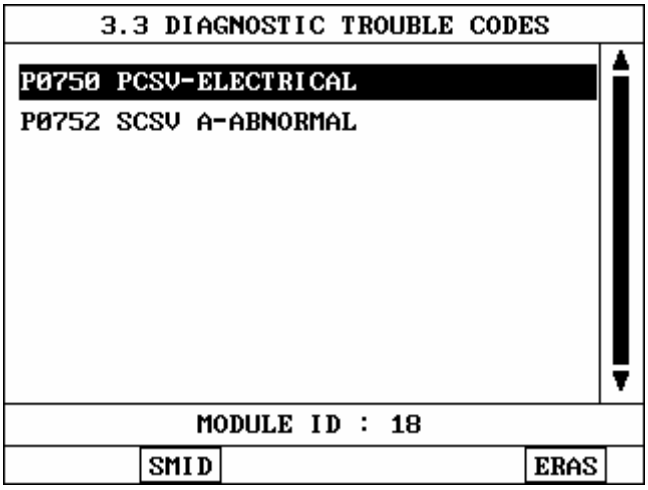
02

Automatic Search for communication Interface

Refer to “Searching for Communication Interface”

2.0 CARB OBD II DIAGNOSIS

03



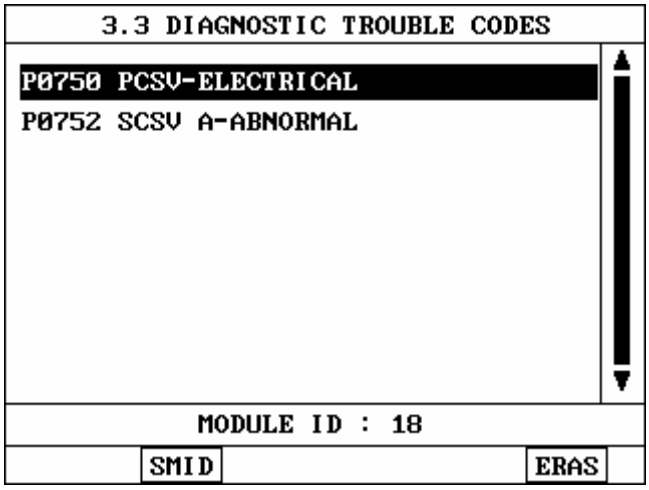
SMID → 3.3.1 SELECT MODULE

ERAS → 3.3.2 CLEAR FAULT CODES

[FLOW III.4 : DIAGNOSTIC TROUBLE CODES MODE IN/OUT FLOW]

I5-2. MODE APPLICATION

At this level, DIAGNOSTIC TROUBLE CODES (DTC) are displayed based upon the concept that one DTC may be supported by several modules. Supporting module information is displayed in this mode.



[Figure III.8: DTC SCREEN]

By using the UP / DOWN key, CARMAN SCAN LITE displays all of the DTCs supported by several modules and the status.

SMID — Displaying the DTCs sorted according to module ID. Using this function it is possible to view the Module ID supporting a DTC group.

If you want to know DTCs corresponding to another Module ID, move cursor to display area of Module ID with LEFT key, and then use UP / DOWN key to select Module ID and press ENTER key.

ERAS — This soft function key will clear the DTC currently held in the memory of ECM. If this option is selected, all message requesting confirmation of the ERAS request will be displayed.

NOTE THAT ALL MODULES MUST BE IN THE "IGNITION ON, ENGINE OFF" MODE FOR CARMAN SCAN LITE TO BE ABLE TO ERASE DTCs. IF ANY OTHER CONDITION EXISTS. CARMAN SCAN LITE WILL NOT ERASE CODES.

6. FREEZE FRAME DATA

6-1. OPERATION FLOW

0.1 VEHICLE DIAGNOSIS SCREEN

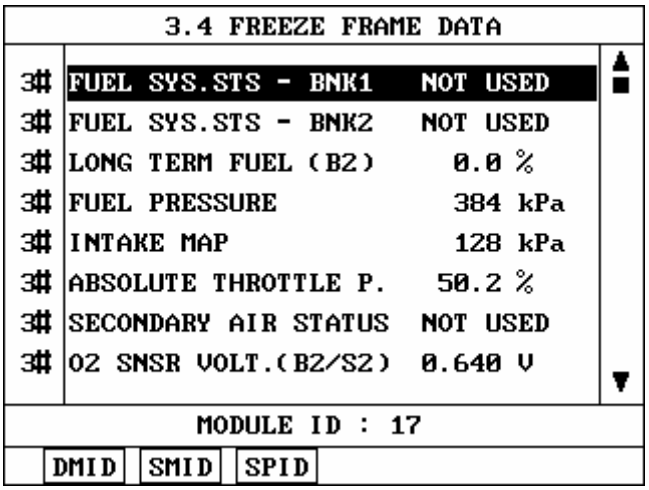
02

Automatic Search for communication Interface

Refer to “Searching for Communication Interface”

2.0 CARB OBD II DIAGNOSIS

04



DMID → 3.4.1 DISPLAY MODULE ID

SMID → 3.4.2 SELECT MODULE

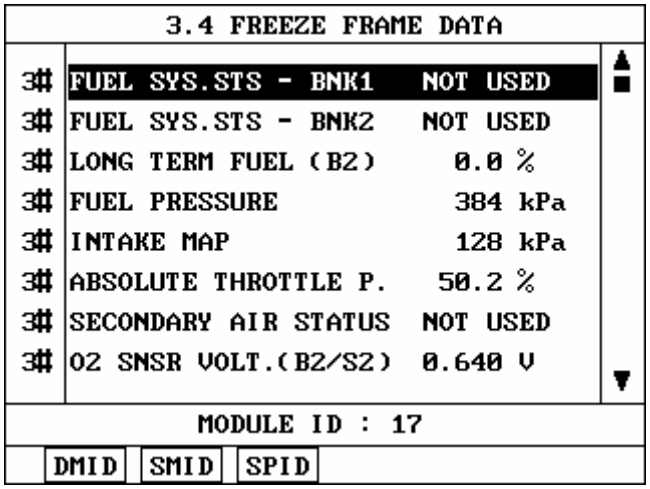
SPID → 3.4.3 SELECT PID

[FLOW III.5 : FREEZE FRAME DATA MODE IN/OUT FLOW]

6-2. MODE APPLICATION

The FREEZE FRAME DATA displays the data values stored in the ECM at the point when the first DTC is detected.

A typical screen display is illustrated at figure III.9.



[Figure III.9:FREEZE FRAME DATA]

CARMAN SCAN LITE displays all of the Freeze Frame Data for those items supported by several modules and the status in the center column of the display. In the left hand column, an indicator is displayed. The indicator takes the form of a '*', '#' or '-' symbol.

'*' indicate that two or more modules have responded with the same value.

'#' indicate that two or more modules have responded with different values.

'-' indicate no response from two or more modules.

The UP / DOWN key can be used to scroll through the data to highlight items to be activated by soft function keys.

DMID is used to display the Module Ids for the selected item. The UP / DOWN key may be used to scroll through the data.

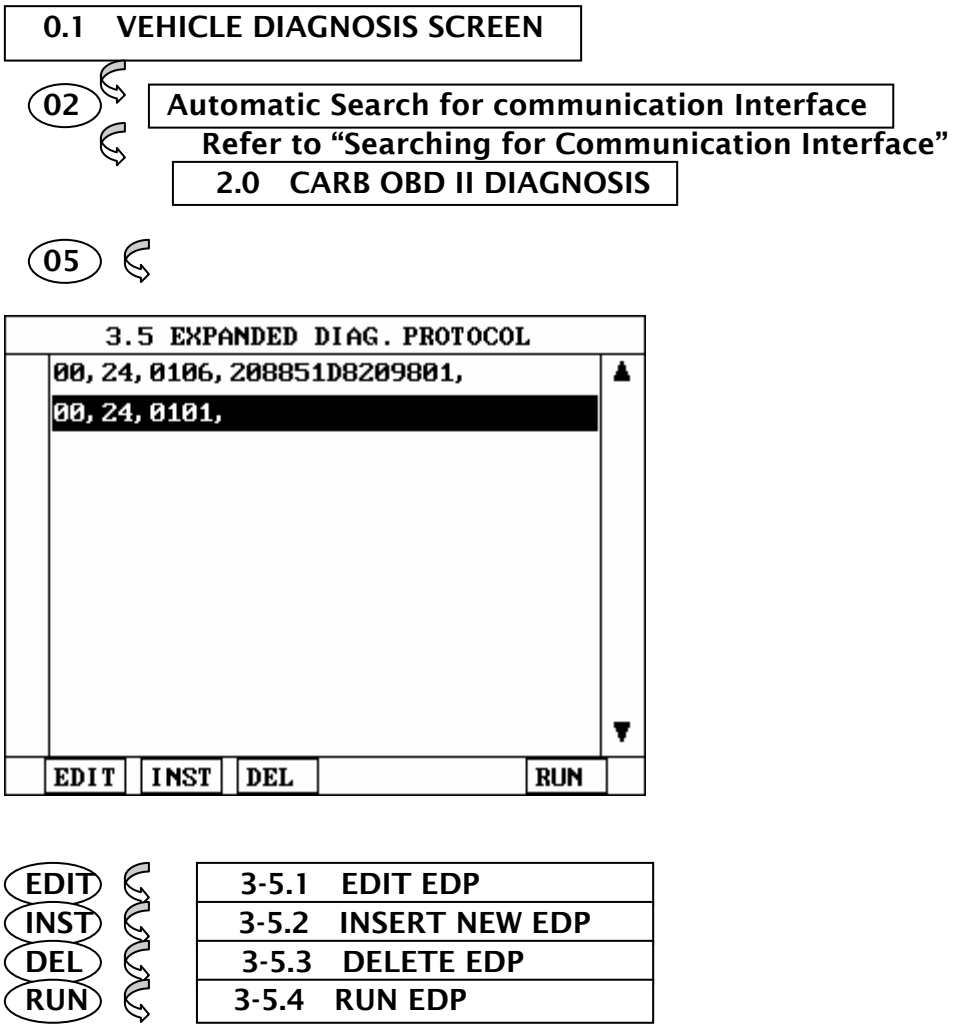
SMID is used to display the supported items sorted according to module ID. Using this function it is possible to view the module ID supporting an item group.

If you want to know items corresponding to another Module ID, move cursor to display area of Module ID with LEFT key, and then use UP / DOWN key to select Module ID and press ENTER key.

SPID This function allows for selective data display based upon required line(s) and press of the soft function key. Once all of the required items have been selected, pressing ENTER will cause them to be displayed. Selected items art marked with an asterisk. Items can be deselected by depressing SLCT key again.

7. EXPANDED DIAG. PROTOCOL

7-1. OPERATION FLOW



[FLOW III.6 : EXPANDED DIAG. PROTOCOL MODE IN/OUT FLOW]

7-2. MODE APPLICATION

The purpose of EXPANDED DIAG. PROTOCOL(here-in-after "EDP") is to define encoding techniques which can perform the following functions.

1) Function that describes the messages to be transmitted to the vehicle and the transmitting method to SAE J1978 OBD II Scan Tool.

2) Function that describes the message that scan tool will receive and process to SAE J1978 OBD II Scan Tool.

3) Function that describes the way to process the data included in the received messages to SAE J1978 OBD II Scan Tool.

In EDP definition, there are generally 4 groups: control type, transmit type, receive only type and miscellaneous type.

General format of each is as follows.

CONTROL TYPE definition
<id>,<type>,<DSV>

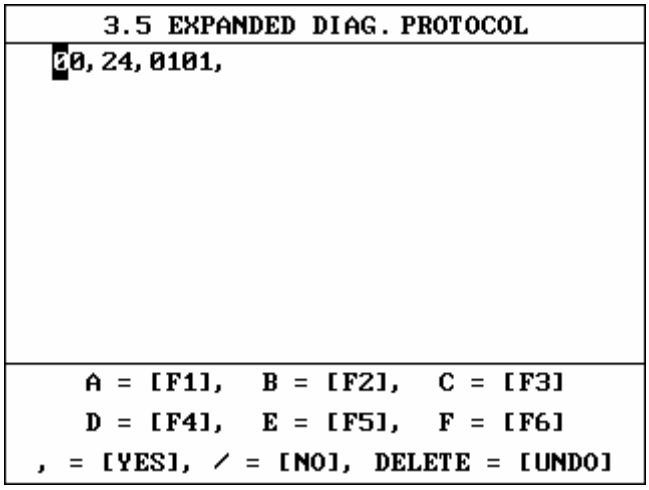
TRANSMIT TYPE definitions
<id>,<type>,<tx msg>, <rx filter>
<rx data processing info>,<DSV>

RECEIVE ONLY TYPE definitions
<id>,<type>,<rx filter>,<rx data processing info>,<DSV>

MISCELLANEOUS TYPE definitions
<id>,<type and additional info>,<DSV>

For more detailed information of these EDP definitions and meanings of each field, please refer to related documents such as AE J1978. In this operation guide, EDP edit and execution method are described only.

A screen example of the EDP is as follows:

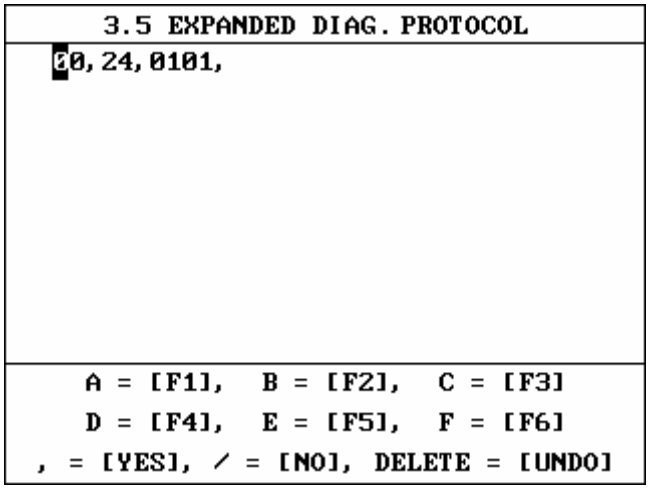


[Figure III.9 : EDP SCREEN]

Stored EDP DEFINITIONS are displayed in default screen.
Each DEFINITION can include 256 characters and 15 definitions can be stored. For more than 34 words (maximum display line length for EDP), horizontal scroll can be performed by LEFT / RIGHT key.

You can scroll display by UP / DOWN key. To edit and execute EDP, you can apply advanced application by using soft function keys of which usages are as follows :

EDIT — This key is used to access edit mode of EDP. When the EDIT key is pressed, the following edit mode screen will be displayed.



[Figure III.10 : EDP SCREEN (EDIT)]

In this edit mode screen, you can edit EDP with the following key operation.

F1	:	input character 'A'
F2	:	input character 'B'
F3	:	input character 'C'
F4	:	input character 'D'
F5	:	input character 'E'
F6	:	input character 'F'
YES	:	input character ','
NO	:	input character '/'

You must finish all definitions by ',' at the end.
To escape from EDIT mode, press ESC key

INST key is used to insert new EDP. When INST key is pressed, edit mode screen will be displayed.

EDIT / INST If a given definition id is already associated with an EDP definition when another message definition using the same ID is successfully entered then the new definition shall be added.

When the number of stored definition exceeds 15, the following message will be displayed.

```
EDP DEFINITION IS FULL
PRESS [ENTER]
```

The cursor can be moved to the left or right by LEFT / RIGHT keys and moved to the up or down by UP / DOWN keys.

After editing, if ENTER key is depressed, CARMAN SCAN LITE checks whether the definition is entered successfully or not.
If the definition includes errors, the following message will be displayed. For the message, if ENTER key depressed, the definition will be saved even though that is the wrong definition. If ESC entered, the definition will not saved.

```
THIS EDP IS NOT SUPPORTED
TO SAVE ANYWAY, PRESS [ENTER]
```

DEL key is used to delete EDP which is selected by cursor.

RUN key is used to run EDP. If RUN key is pressed, selected EDP is transmitted to the vehicle and the response will be displayed.

If the definition selected by cursor includes errors the following message will be displayed.

THIS EDP IS NOT SUPPORTED PRESS [ENTER]

Hi-scan supports the following definitions. 12, 13, 14, 19, 1A are Control Definition Types and 20, 21, 24 are transmit Definition Types.

[12] terminates the current ISO 9141-2 communication connection and begin the ISO 9141-2 addressing and initialization sequence with the given address

12 xx xx = ISO 9141-2 address

[13] define the idle message to be used for ISO 9141-2 communication

13 aa bb ... zz

[14] define the shop 9141 communication message to be used to terminate ISO 9141-2 communication.

14 aa bb ... zz

[19] delete all current definitions

19

[1A] delete a given definition id

1A xx

If several messages with the same definition id are in the memory, CARMAN SCAN LITE deletes the oldest definition.

[20] transmit this message once per selection.

User should enter '20' and ',' and then message

[21] transmit message repeatedly at standard rate once selected, until selected again, at which time stop the repeated retransmissions.

User should enter '21' and ',' and then message.

CARMAN SCAN LITE transmit the message including this definition and display the results in hexadecimal form.

The scrolling of display can be held by pressing ENTER key, and can be restarted by depressing ENTER key again.

[24] process message as an SAE J1979 request.

CARMAN SCAN LITE transmits the message included in this definition and display the results in hexadecimal form.

The scrolling of display can be held by the ENTER key, and can be restarted by depressing ENTER key again.

For more detailed information such as DEFINITION ID, TYPE etc., please refer to 'SAE J2205' separately.

8. 02 TEST RESULTS

8-1. OPERATION FLOW

0.1 VEHICLE DIAGNOSIS SCREEN

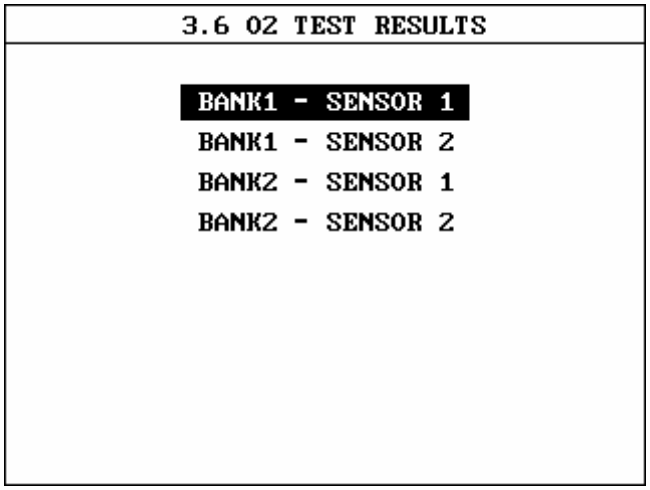
02

Automatic Search for communication Interface

Refer to 'Searching for Communication Interface"

2.0 CARB OBD II DIAGNOSIS

06



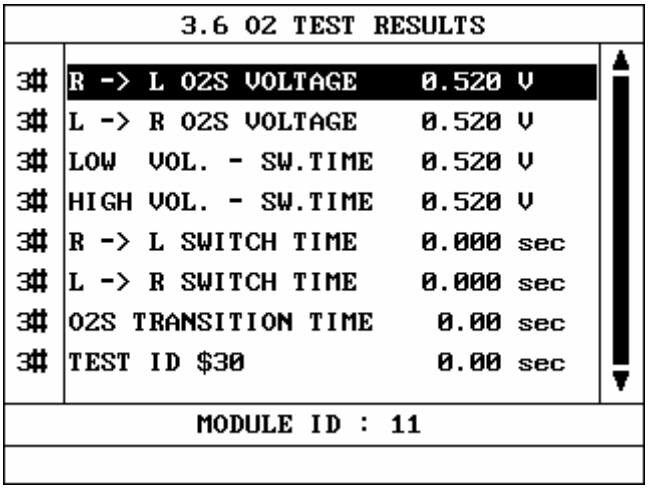
ENTER → DISPLAY TEST RESULTS

[FLOW III.7 : 02 TEST RESULT MODE IN/OUT FLOW]

8-2 MODE APPLICATION

The results of on board oxygen sensor monitoring tests can be displayed in this mode. Note that only items related to the oxygen sensor will be displayed.

A typical screen display is illustrated in figure III.12.



[Figure III.12 : 02 TEST RESULTS]

CARMAN SCAN LITE display all of the test names for those items supported by several modules and the status in the center column of the display. In the left hand column, an indicator is displayed. The indicator takes the form of an '*' '#' or '-' symbol.

'*' Indicates that two or more modules have responded with the same value.

'#' indicates that two or more modules have responded with different values.

'-' indicates no response from two or more modules.

The UP / DOWN key can be used to scroll through the data to highlight items to be activated by soft function keys.

DMID Displaying the Module Ids for the selected test item. The UP / DOWN key may be used to scroll through the data.

SMID Displaying the supported items sorted according to module ID. Using this function it is possible to view the module ID supporting an item group.

If you want to know items corresponding to another Module ID, move cursor to display area of Module ID with LEFT key, and then use UP / DOWN key to select Module ID and press ENTER key

STID This function allows for selective data display based upon user selection of the required data. Move the cursor to the required line(s) and press the soft function key. Once all of the required items have been selected, pressing ENTER will cause them to be displayed. Selected items are marked with an asterisk. Items can be deselected by the same process.

9. MONITORING TEST RESULTS

9-1. OPERATION FLOW

0.1 VEHICLE DIAGNOSIS SCREEN

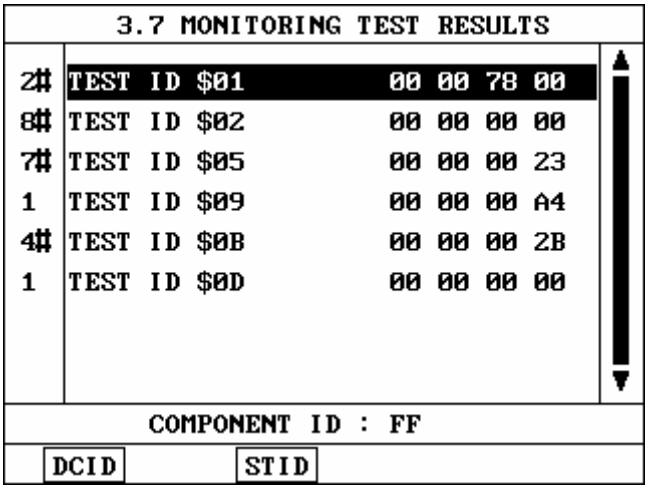
02

Automatic Search for communication Interface

Refer to “Searching for Communication Interface”

2.0 CARB OBD II DIAGNOSIS

07



DCID → 3.7.1 DISPLAY COMPONENT ID

STID → 3.7.2 SELECT TEST ID

[FLOW III.8 : MONITORING TEST MODE IN/OUT FLOW]

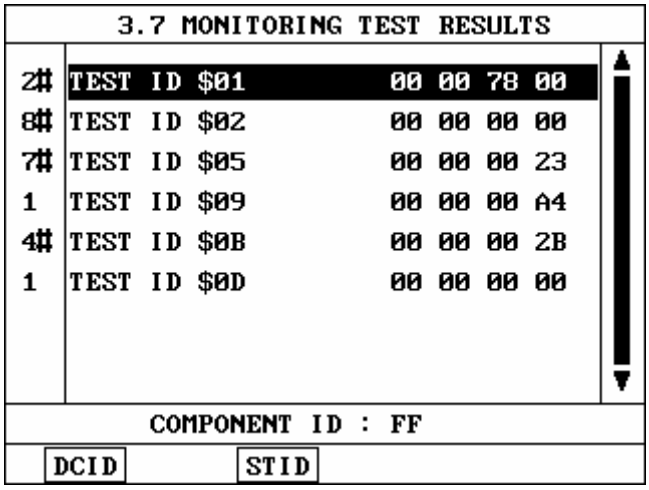
9-2. MODE APPLICATION

The results of on board monitoring tests conducted during normal driving is displayed in this mode.

If the vehicle manufacturer is responsible of assigning test IDs and component IDs for tests of different system and components. If no TEST which vehicle manufacturer supports, CARMAN SCAN LITE displays the following message in the screen:

THIS TEST MODES IS NOT SUPPORTED PRESS [ESC]

A typical screen display is illustrated at figure III.13.



[Figure III.13 : MONITORING TEST RESULTS]

CARMAN SCAN LITE displays all of the Component ID for those items supported by several components and the status in the center column of the display. In the left hand column, an indicator is displayed. The indicator takes the form of an '*' '#' or '-' symbol.

'*' indicates that two or more components have responded with the same value.

'#' indicates that two or more components have responded with different values.

'-' indicates no response from two or more components.

The UP / DOWN key can be used to scroll through the data to highlight items to be activated by soft function keys.

DCID is used to display the Component Ids for the elected test item. The UP / DOWN key may be used to scroll through the data.

STID This function allows for selective data display based upon user selection of the required data. Moving the cursor to the required line(s) and pressing the soft function key. Once all of the required items have been selected, pressing ENTER will cause them to be displayed. Selected items are marked with an asterisk. Items can be deselected by the same process.

10. COMBINATION DISPLAY

10-1. OPERATION FLOW

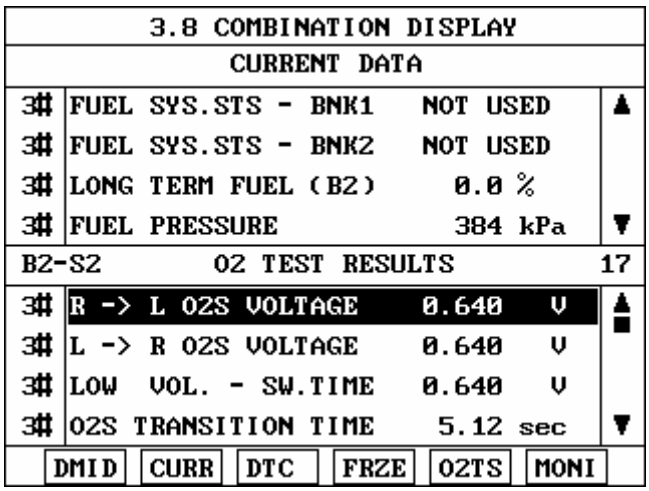
0.1 VEHICLE DIAGNOSIS SCREEN

02 → Automatic Search for communication Interface

Refer to "Searching for Communication Interface"

2.0 CARB OBD II DIAGNOSIS

08 →



DMID	3.8. 1 DISPLAY MODULE ID
CURR	3.8. 2 CURRENT DATA
DTC	3.8. 3 DIAG. TROUBLE CODES
FRZE	3.8. 4 FREEZE FRAME DATA
O2TS	3.8. 5 O2 TEST RESULTS
MONI	3.8. 6 MONITORING TEST RESULTS

[FLOW III.9 : COMBINATION DISPLAY MODE IN/OUT FOLW]

10.2 MODE APPLICATION

This facility allows for the display of the following simultaneously:

- Current data items
- Available DTC
- Available freeze frame data items
- Test parameters and results for oxygen sensor tests and monitoring tests

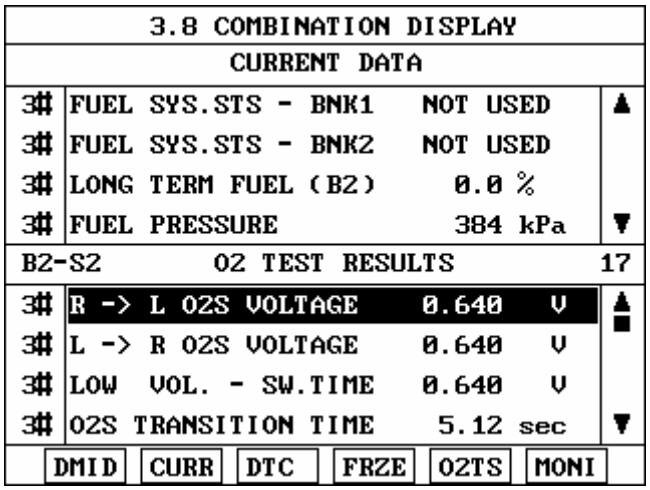
The default screen is CURRENT DATA and DIAGNOSTIC TROUBLE CODES (DTC).

The UP / DOWN key may be used to scroll the data contained in the same window as the cursor.

Where a soft function key related to the current window is used, the cursor will move to the selected area.

Where a soft function key related to the current window is used, the window, which does not contain the cursor, will be replaced with the soft function key related information.

A typical COMBINATION DISPLAY screen is illustrated at figure III.14.



[Figure III.14 : COMBINATION DISPLAY]

The UP / DOWN key is used to scroll through the display.

DMID This soft function key is used to display the module ID for the selected item. Item selection is made by means of the UP / DOWN key. Pressing the DMID key at the highlighted line will display all of the module ID for that item.

CURR Taking the cursor to the CURRENT DATA AREA. If the CURRENT DATA is being displayed, the CURR key will move the cursor to that window. If the CURRENT DATA is not being displayed, the window not containing the cursor will be replaced with the CURRENT DATA display.

DTC	DIAGNOSTIC TROUBLE CODES
FRZE	FREEZE FRAME DATA-
O2TS	OXYGEN SENSOR TEST RESULTS
MONI	MONITORING TEST RESULTS

Work in a similar manner to CURR except that the screen replaced is that selected by the soft function key description.

11. ECU INFORMATION

11-1. OPERATION FLOW

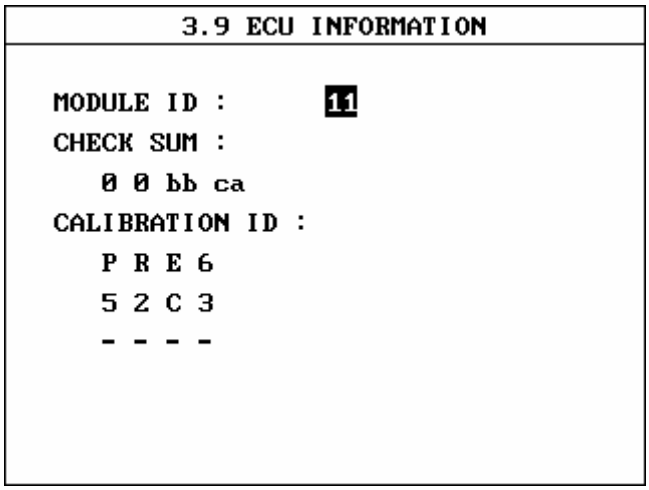
0.1 VEHICLE DIAGNOSIS SCREEN

↪ Automatic Search for communication Interface

↪ Refer to “Searching for Communication Interface”

2.0 CARB OBD II DIAGNOSIS

09 ↪



[FLOW III.11 : ECU INFORMATION MODE]

12. PENDING DTC

12-1. OPERATION FLOW

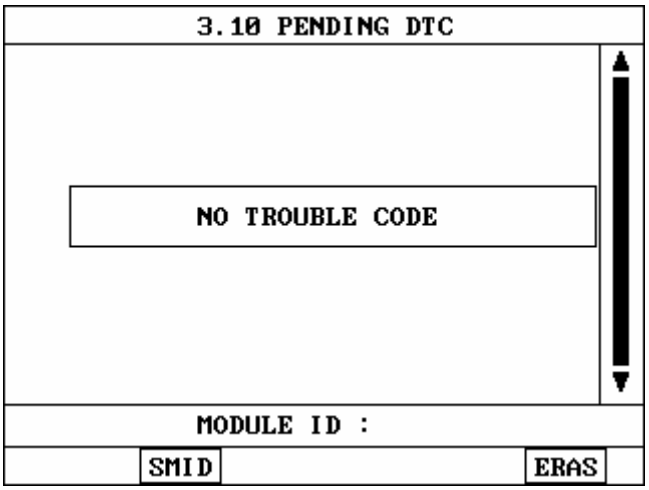
0.2 INITIAL SCREEN

02 → Automatic Search for communication Interface

→ Refer to “Searching for Communication Interface”

2.0 CARB OBD II DIAGNOSIS

10 →



[FLOW III.12 : PENDING DTC MODE]

12-2. MODE APPLICATION

ECU is monitoring each sensor. When monitoring output is abnormal, it shows you DTC and when monitoring output is normal, it automatically removes records. But this [02. DIAGNOSTIC TROUBLE CODES] can be shown even for temporary problem.

SMID is used to display the supported items sorted according to module ID. Using this function it is possible to view the Module ID supporting an item group.

If you want to know items corresponding to another Module ID, move cursor to display area of Module ID with LEFT key, and then use UP / DOWN key to select Module ID and press ENTER key.

IV. FLIGHT RECORD REVIEW

1. OPERATION FLOW
2. MODE APPLICATION

1. OPERATION FLOW

1-1. OPERATION FLOW

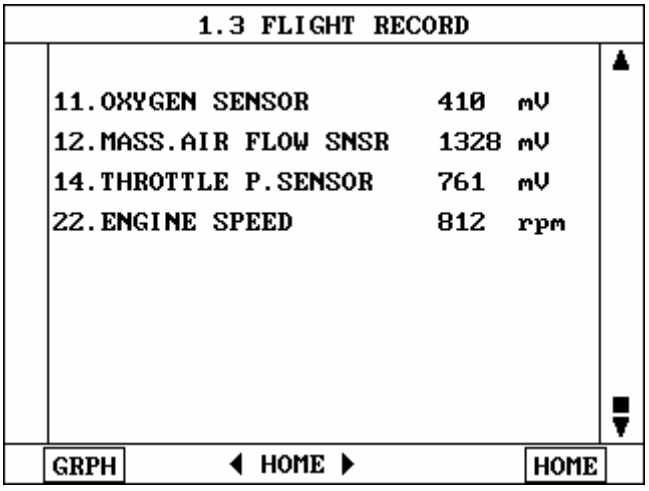
Choose VEHICLE DIAGNOSIS to operate the FLIGHT RECORD REVIEW function.

0.1 INITIAL SCREEN

01

FLIGHT RECORD REVIEW

ENTER



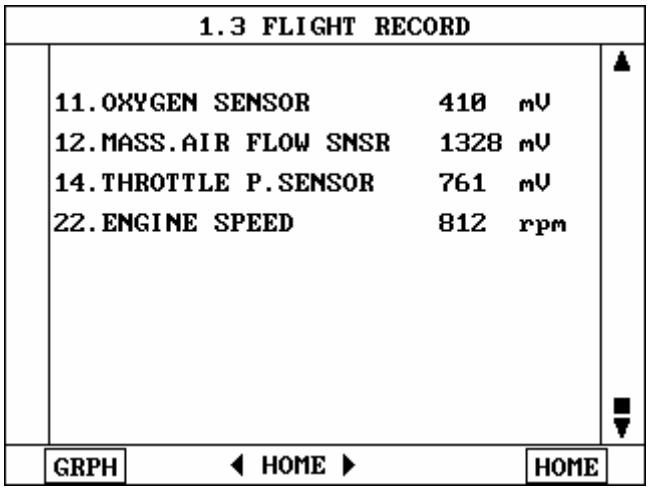
In this mode, you can review recorded Flight Record data. The screen will be displayed by frame unit that is determined by data update.

[FLOW IV.1 : FLIGHT RECORD REVIEW MODE IN/OUT FLOW]

2. MODE APPLICATION

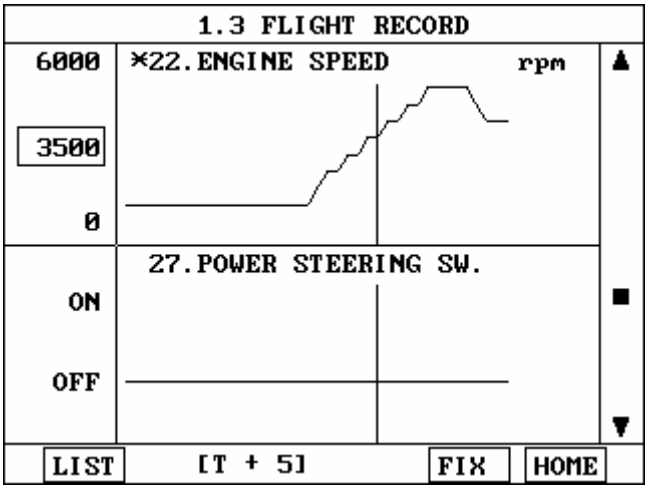
TRIG

After finishing the recordings, screen will display stored data values in a numeric data form. The example screen is as follows:



[Figure IV.1 : FIGHT RECORD (NUMERIC)]

In this numerical data display, GRPH key is used to see graphic views for the items recorded by FIX key operation.
When two items are selected, a graphical view is as follows.



[Figure IV.2 : FLIGHT RECORD (GRAPH)]

[T+5] MEANS SAMPLED TIME INDEX, AND CURRENT SCREEN DISPLAY THE DATA AFTER 5TH SAMPLING INDEX FROM TRIGGER POINT.

You can change sampled time index by UP or DOWN key. In graphic display, current sampled time index position is displayed as vertical line cursor. When this cursor is reached at the end of screen, the screen will be moved by half-a-page.

V. SYSTEM SETUP

1. CONNECTION METHOD

The following four kinds of power supply methods can be used.

(1) Cigar lighter power cable

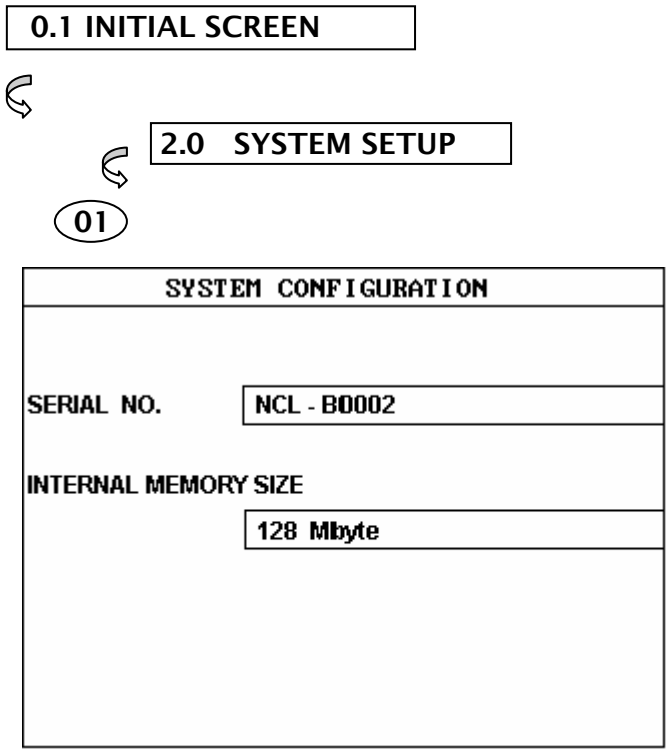
(2) DLC cable

(3) USB cable

(4) AC/DC adapter

2. SYSTEM CONFIGURATION

2-1. OPERATION FLOW



[FLOW V.1 : SYSTEM CONFIGURATION MODE IN/OUT FLOW]

2-2. MODE APPLICATION

This mode displays data for the following items.

1) SERIAL NUMBER

: display product serial number of your CARMAN SCAN LITE

2) INTERNAL MEMORY SIZE

: display Software internal memory size

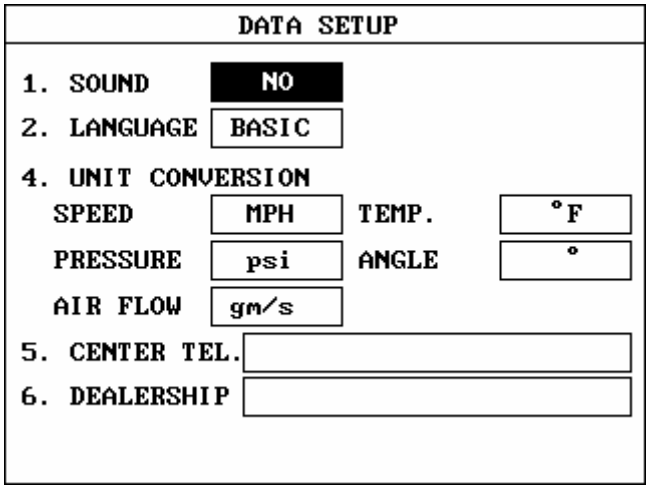
2. DATA SETUP

2-1. OPERATION FLOW

0.1 INITIAL SCREEN

2.0 SYSTEM SETUP

02



LEFT	LEFT ITEM SELECTION
RIGHT	RIGHT ITEM SELECTION
UP	ITEM VALUE CHANGE +
DOWN	ITEM VALUE CHANGE-
ENTER	CONFIRM ITEM SELECTION

[FLOW V.2 : DATA SETUP MODE IN/OUT FOLW]

2-2 MODE APPLICATION

The operating parameters of CARMAN SCAN LITE may be set prior to vehicle testing. The following list details items which are user configurable.

1) SOUND : Determines whether or not the internal beep sounds at each key depression.

2) LANGUAGE : Determines whether or not a local language is used.

3) UNIT CONVERSION : The units of measure used by CARMAN SCAN LITE may be selected from either of the following :

Speed	Km/h, MPH
Temperature	Fahrenheit, Centigrade
Pressure	kPa, mmHg, inHg, psi, mbar
Angle	degree, percent
Airflow Volume	gm/s , lb/m

5) CENTER TEL. : The telephone number to which data transmissions can be made.

6) DEALERSHIP : The name of dealer.

Items are selected by using the LEFT / RIGHT key, and values may be changed using the UP / DOWN key.

When editing the Dealership, the cursor is moved by using the LEFT / RIGHT key, and the selected value is changed using the UP / DOWN key to move to the next or previous character in the character set (1, 2, 3 …, 9, 0, -, blank).

When editing the Telephone Number information, the characters are selected by using UP / DOWN to move to the next or previous character in the character set (1,2,3,…9,0,A,B,C,…Z. -,/,.,blank).

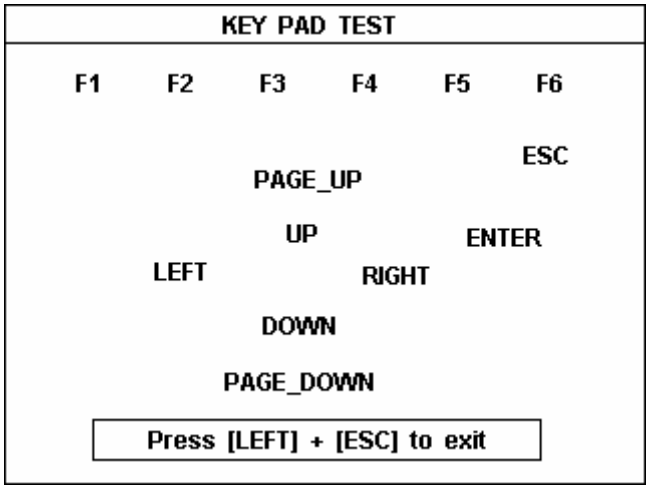
3. KEY PAD TEST

3-1. OPERATION FLOW

0.1 INITIAL SCREEN

02 → 2.0 SYSTEM SETUP

03 →



[FLOW V.3 : SYSTEM TEST MODE IN/OUT FLOW]

3-2. MODE APPLICATION

User can perform CARMAN SCAN LITE self-test.

4. CONTRAST ADJUST SCREEN

4-1. OPERATION FLOW

0.1 INITIAL SCREEN

↳ 02. SYSTEM SETUP

↳ 04. CONTRAST ADJUST SCREEN

CONTRAST ADJUST SCREEN	
CONTRAST SETTINGS WILL BE SAVED WHEN EXIT THE SCREEN	
BRIGHT(+)	DARK(-)
F2	F5

F2 — SCREEN IS BRIGHTER

F5 — SCREEN IS DARKER

[FLOW V.4 : CONTRAST ADJUST SCREEN]

4-2. MODE APPLICATION

This mode is for contrast adjust screen because LCD' bright-ness will change according to the temperature.

Contrast settings will be saved when exiting the screen.

VI. STORAGED SCREEN REVIEW

1. OUTLINE

The CARMANSCAN LITE screen CAPTURE FUNCTION can store 7-PAGED SCREEN INSIDE INTERNAL MOMORY of CARMANSCAN LITE.

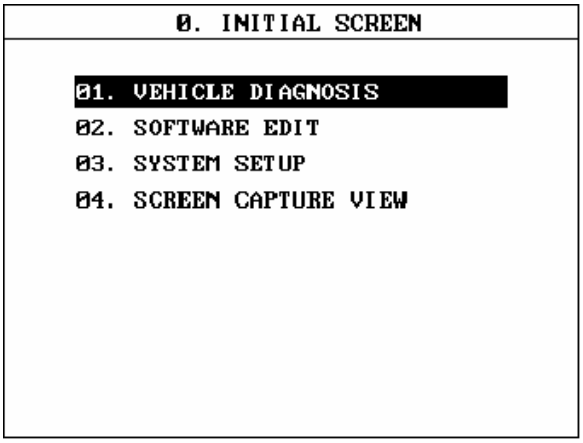
In addition, when you see the relevant function, you can confirm through the SCREEN CAPTURE VIEW MENU of CARMANSCAN LITE main control program or Carmanscan LITE download for PC.

2. HOW TO USE SCREEN CAPTURE FUNCTION

1) At the screen, which you want to save, press [LEFT+ENTER] key of CARMANSCAN LITE

2) If the screen is saved, the screen will be numbered following the number of screen stored last.
If all seven screens are stored, 8th screen will overwrite and replace the first screen and 8th will be the first.

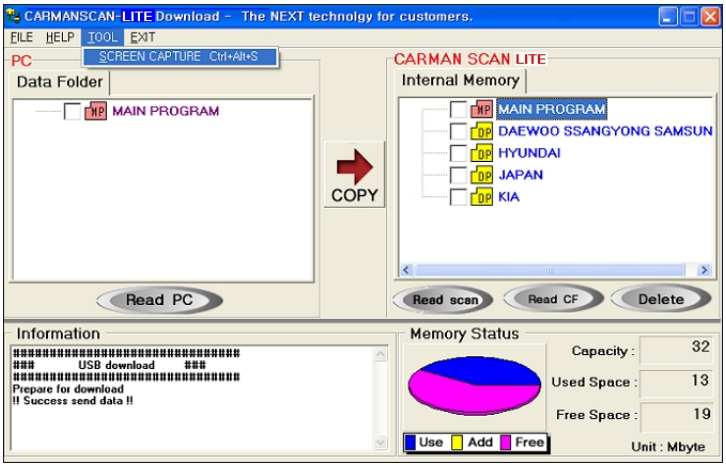
3) You can check saved contents through SCREEN CAPTURE VIEW Function of CARMANSCAN LITE MAIN CONTROL as SCRREEN-1
However, it will take time to load the saved screen.



[SCREEN 1]

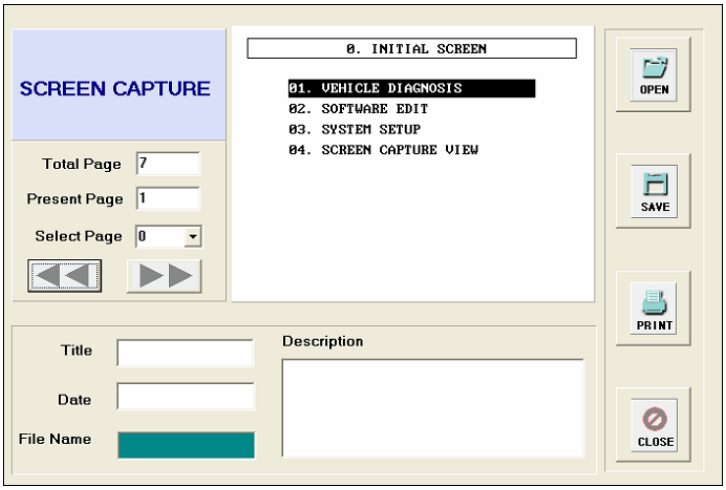
3. HOW TO USE DOWNLOAD FOR PC

1) Connect CARMANSCAN LITE and PC program through USB.
2) As on Screen-2, press [TOOL] on the menu bar and select [SCREEN CAPTURE (CTRL+ALT+S)]



[SCREEN 2]

3) You will see the screen as the below (SCREEN-3).
3.1) It will display the first screen of the initial CARMANSCAN LITE internal memory.
3.2) You can change the picture clicking “Select Page” or [Left/right] button.
3.3) After completion, press [Close] button.



[SCREEN 3]

APPENDIX

A. IMPORTANT MESSAGE DESCRIPTION

B. TROUBLESHOOTING

App. A IMPORTANT MESSAGE DESCRIPTION

ABNORMAL VEHICLE POWER
CHECK AND PRESS [ENTER]

This message occurs when the external power supply is not connected or is lower than 7.0V. The user must supply sufficient external power.

CAN'T COMMUNICATION
PLEASE CHECK THE SYSTEM

The CARMAN SCAN LITE cannot perform the communication because the system status is abnormal. The user must inspect the system.

COMMUNICATION ERROR
CHECK THE SYSTEM, PRESS [ENTER]

A communication error occurs when the CARMAN SCAN LITE displays data which is received via communication. After checking the system, press the ENTER key.

DIFFERENT SYSTEM
PLEASE CHECK THE SYSTEM

This message occurs after opening the communication, when the system is different from the system selected by the user. After checking the system, the user should select the correct system again.

NO RECORDED DATA OR DIFFERENT SYSTEM DATA

This message occurs when there is no recorded data or there is a different system data in the FLIGHT RECORD mode.

NO TIPS. FOR MORE INFORMATION SEE THE SHOP MANUAL

This message occurs when the user selects an item that has no TIPS.

NO TROUBLE CODE FOR TIPS

This message occurs when the user presses the TIPS key, but there is no DTC in the DIAGNOSTIC TROUBLE CODES mode.

NO TROUBLE CODE TO ERASE

This message occurs when the user presses the ERAS key with no DTC to erase in DIAGNOSTIC TROUBLE CODE mode.

SELECT ITEM WITH [FIX]

This message occurs when the GRPH key is pressed without any item selected in the CURRENT DATA mode, or RCRD key is pressed without any item selected in the FLIGHT RECORD mode. In these cases, you must select an item with the FIX key.

SYSTEM ROM ERROR!

This message occurs when an error occurs in the ROM(Read Only Memory) of the CARMAN SCAN LITE. If you are having a problem with the CARMAN SCAN LITE, please try the procedures in appendix B.

App.B TROUBLESHOOTING

1. START-UP TROUBLE

(1) Symptom

1) No BEEP sound after power ON key is pressed
2) Blank screen is displayed

(2) Causes Assumption and Recommended Trial

Causes Assume. 1: No power is supplied to the CARMAN SCAN LITE

Trial 1-1 : If power is supplied by DLC cable, check that the DLC cable is connected. If there is no problem with the DLC cable, change the power supply method.

Trial 1-2 : If power is supplied by Cigar lighter power cable, check fuse in the cigar lighter power cable. If there is no problem in the cigar lighter power cable, change the power supply method.

Trial 1-3 : If power is supplied by Local sourced AC/DC adapter, check that the AC/DC adapter voltage is over 12.0 volt. If there is no problem in the AC/DC adapter voltage, change the power supply method.

2, POWER SUPPLY TRIP MODE

To protect the CARMAN SCAN LITE and power supply from harmful electrical shock-such as a surge in the power supply line-, there is a trip function in the CARMAN SCAN LITE power supply.

When the power supply has been tripped, the power supply status is still ON but the power supply has been halted. So this status can be mis-understood to be OFF status by the user, but the power supply is still alive. To release the trip mode, you must reset the power supply by pressing the ON/OFF key for more than 2 seconds (power OFF) and pressing the ON/OFF key for about 0.5 second (power ON).

A description of this trip function's symptom and recommended trial is described below.

(1) Symptom

1) LCD suddenly OFF, and no key operation can be performed in the power ON mode.

(2) Causes Assumption and Recommended Trial

Cause Assume. 1: The CARMAN SCAN LITE power supply has entered the trip mode for surge protection.

Trial 1-1 :

a. Press the ON/OFF key for more than 2 seconds to turn the power supply OFF.
b. Press the ON/OFF key for more than 0.5 second to turn the power supply ON.
c. In normal mode, the power supply can be restarted by the reset trip.

d. If a severe or continuous surge is sent to the CARMAN SCAN LITE power supply, physical recovery may be needed for the power supply of CARMAN SCAN LITE. This recovery may take a full day.

3. BLANK SCREEN DISPLAYED

(1) Symptom

1) BEEP sound after power ON key is pressed and a blank screen is displayed.

(2) Causes Assumption and Recommended Trial

Causes Assume. 1: LCD Contrast misadjusted
Trial 1-1 : Press the Left+F5 key or Left+F6 key after power ON if this problem is caused by maladjustment of the screen.

Causes Assume. 2 : memory or ROM mis-installed.
Trial 2-1: Check the main board status.