

9) IACV-AAC VALVE

IACV-AAC valve with built-in air cut valve is provided in the auxiliary air passage which bypasses throttle valve.

- IACV-AAC valve of step-motor type opens/closes the bypass passage to control auxiliary air flow at the optimum by rotating by the number of steps corresponding to driving signals from ECCS control unit.
- It is necessary to perform rapid TAS learning at detaching/attaching or replacement of IACV-AAC valve.
- Air cut valve is of spring-type and bimetal type and operates according to cooling coolant temperature. The valve closes when coolant temperature rises high and rotates to the open side when coolant temperature drops to restrict auxiliary air from IACV-AAC valve by air cut valve.



TEC038

10) THROTTLE OPENER

Throttle opener is provided to improve engine startability. This returns throttle valve to the

close position by intake manifold vacuum after engine start.



TEC039



ON BOARD DIAGNOSTIC

2. DIAGNOSIS SYSTEM

1) OUTLINE

Self-diagnosis system is adopted and measures to conform with COSULT are taken to facilitate failure diagnosis.

2) SELF-DIAGNOSIS

When an abnormality occurs in an important sensor system among sensors necessary for ECCS control and conditions for detecting abnormalities by self-diagnosis are satisfied, this system makes the control unit memorize the affected sensor system to facilitate troubleshooting.

There are two ways to indicate self-diagnostic results. One uses the malfunction indicator lamp and the other uses CONSULT.

The following table shows how to indicate the results with the malfunction indicator lamp.

	Diagnostic mode	Mode selection	Indication
1	Failure alarm	To be performed by diagno- sis connector provided at the lower part of instrument lower driver panel at driver's seat.	Malfunction indicator lamp is lighted when a failure alarm is issued. (Refer to the previous page for details.)
2	Self-diagnosis (when key SW is ON)		To be judged by flickering of
	O ₂ sensor monitor (while engine is in operation)		malfunction indicator lamp.



TEC040



3) HOW TO OPERATE SELF-DIAGNOSIS (MODE II SELF-DIAGNOSIS)

- Turn the key SW to "ON" (Do not start engine), connect CHK and IGN terminals of Data link connector with a suitable harness, wait at least 2 seconds, and then disconnect them.
- Make a self-diagnosis with the key SW on.
- If the engine is started during a self-diagnosis, Mode II will change to the O2 sensor monitor. (O2 sensor monitor of Mode II)
- When the key SW is turned off, the Mode II will automatically return to Test Mode I (Normal condition).





4) ALPHABETICAL INDEX FOR DTC

Items	DTC		MIL IIIumina-
(CONSULT-II screen terms)	CONSULTS-II	ECM*1	tion
A/T COMM LINE	P0600	0600	—
CMPS/CIRC (PHASE)	P0340	0340	Х
COOLANT T SEN/CIRC	P0115	0115	Х
CKPS/CIRC (POS)	P0335	0335	Х
ENG OVER TEMP	P1217	1217	Х
FRONT O2 SENSOR-B1	P0130	0190	Х
IGN SIGNAL-PRIMARY	P1320	1320	Х
KNOCK SEN/CIRC-B1	P0325	0325	_
MAF SEN/CIRCUIT	P0100	0100	Х
NATS MALFUNCTION	P1610-P1615	1610-1615	Х
NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED	_	0000	_
NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED		Flashing*2	
THRTL POS SEN/CIRC	P0120	0120	X
VEH SPEED SEN/CIRC	P0500	0500	Х

1: In Diagnostic Test Mode II (Self-diagnostic results).

2: While engine is running, front heated oxygen sensor monitoring status shown by blinks.

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ON BOARD DIAGNOSTIC SYSTEM DESCRIPTION

Diagnostic Test Mode I - Bulb Check

MIL should stay ON with the key SW on (Do not start engine), then turn OFF after starting engine.

Diagnostic Test Mode I - Malfunction Warning

If the following malfunction is detected, the MIL should stay ON to warn the driver.

- Malfunction in air flow meter system
- Malfunction in engine coolant temperature in sensor system
- Malfunction in throttle sensor
- Malfunction in Oxygen sensor
- Malfunction in POS sensor
- Malfunction in PHASE sensor
- · Malfunction in the vehicle speed sensor
- Malfunction in over heat
- Malfunction in ignition signal

Diagnostic Test Mode II

- Self-diagnostic results

In this mode, trouble code can be identified by the number of four-digit numeral flashes. The DTC "0000" refers to no malfunction.

Diagnostic Test Mode II

-Front Heated Oxygen Sensor Monitor

In this mode, the MIL displays the condition of the fuel mixture (lean or rich) which is monitored by the front heated oxygen sensor. When running engine at about 2,000 rpm for about 2 minutes under no-load conditions after warming engine up, check that the MIL comes ON more than 5 times within 10 seconds. (the condition of the fuel gets controlled during idling)

MIL	Fuel mixture condition in the exhaust gas	Air feedbac control condition
ON	Lean	Closed loop system
OFF	Rich	
Remains ON or OFF	Any condition	Open loop system



Duty ratio per 1 cycle { Lean: A/ $(A + B) \times 100$ Rich: B/ $(A + B) \times 100$



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03 X9

TEC045

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0.6 X10



TEC044



NISSAN CONSULT —— HANDLING MANUAL

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OVERVIEW Part Names





1. PRECAUTIONS

- CONSULT employs precaution electronic components (such as LS1s) which should not be used where there are sudden changes in temperature, high temperatures or excessive humidity, dust and dirt. Also, do not leave CONSULT where it might be exposed to direct sunlight.
- Moisture may condense on the surface of CONSULT if it is brought into a warm room from the cold. If this happens, do not use CONSULT until all moisture has been removed or dries.
- Always attach the covers to the terminals when the cables are not in use.
- Never use volatile substances such as thinner or damp cloths to clean the CONSULT unit. Use the display cleaner provided to clean the touch panel.
- Several magnets are used in the printer section so do not leave your CON-SULT unit in place where there are metal particles. Do not allow metal objects such as paper clips to fall inside.
- Do not operate the printer without paper.

2. GETTING STARTED

Before using CONSULT, install the NiCd battery. The battery may grow weak if considerable time has passed since your CONSULT was shipped from the factory. When using CONSULT for the first time, charge the battery.

3. CHARGING THE NICd BATTERY

CONSULT uses a NiCd (rechargeable) battery as the power supply. Charge the battery when using a CONSULT unit for the first time or when the voltage drops. [Low NiCd batt volt!] is displayed when the NiCd battery drops during use.

(1) Press the power OFF switch.



(2) Plug the CH-85 charger power plug into an outlet. Then plug the charger output -- plug into the CONSULT charging connector.



- Before charging the battery, be sure to press the power OFF switch and plug in the charger output plug.
- Insert the charger output plug straight in. Pushing sideways can damage the connector.



- (3) The charger lamp will light brightly while charging. Charging will be completed in approximately eight hours at the first time. Check to make sure the charger lamp lights brightly after plugging in the output plug. If the lamp does not light brightly, insert the output plug into the connector again.
- (4) When charging is completed, the charger lamp will go out. Remove the plug.

The NiCd battery can be charged by connecting the diagnostic data link cable to a vehicle and turning the vehicle ignition key to "ON". However, using both the printer and back-light increases current consumption and causes the battery voltage to drop.

Because of this, charging the battery is recommended at the end of each day's work. Also do not use the printer and back-light unnecessary. Recharge immediately when the battery voltage warning appears. Do not operate the CONSULT unit with the battery charger connected.

When the CONSULT unit is not used over a prolonged period, the battery voltage may drop due to natural discharge. Recharge the battery at least once a week. The NiCd battery temperature rating is 0°C (32°F) to 40°C (104°F). Always recharge within this temperature range.



4. REPLACING THE NICd BATTERY

The NiCd battery will weaken after being recharged approximately 500 times. When this happens, [Low NiCd batt volt!] will appear on the display soon after recharging and the NiCd battery must be replaced. Use the following procedure of replace the NiCd battery.

- (1) Press the power OFF switch.
- (2) Press A mark on top of the battery pack in the direction of the arrow.
- (3) Insert the new battery pack as shown in the illustration.



*Do not crush the old battery pack or throw it into a fire.

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5. PRINTER AND ROLL PAPER

The CONSULT unit is equipped with a thermal dot printer. Use only the specified roll paper for printing. The hard case also serves as the paper holder. Use the following procedure to load the paper.

- Move the paper release lever in the direction of the arrow as shown in the illustration. This lifts the printer head and allows the paper to enter.
- 2) If the end of the paper is not straight, cut if square with scissors. Then insert the end of paper as far as possible into the paper lot.

3) Turn the paper feed knob while pushing the roll paper in by hand until the end of the paper appears above the printer cover.

4) Insert the roll paper shaft into the hole in the center of the roll of paper.







5) Fit the ends of the shaft firmly into slots in the hard case. Then mount CONSULT in the hard case.

6) Remove any excess slack in the paper. Then move the paper release lever in the direction of the arrow as shown in the illustration. This places the printer hard in contact with the paper.





- The CONSULT printer uses thermal (heat sensitive) paper. It cannot use ordinary paper. Use only the specified thermal paper.
- Use of wet paper can result in a paper jam or malfunction and should be avoided.
- If the paper jams, use the paper feed knob whenever possible to remove the paper. The paper feed knob can also be turned in reverse. Use of excessive force can damage the printer head. Always use the paper release lever to lift the printer head from the paper before attempting to remove a paper jam.
- To advance the roll paper while CONSULT is mounted in the hard case, pull lightly on the end of the paper.



6. LOADING PROGRAMS

When using a CONSULT unit for the first time, use the following procedure to load the program card into the main memory.

(1) Hold down the key in the upper left and right corner of the touch panel and press the power ON switch as shown in the illustration. If the keys in the upper left and right corner are not pressed correctly when the power ON switch is pressed, an alarm will sound and the power will not turn on.



TCO009

(2) The following message will appear on the display.

[Initialize by card] Insert card, OK?

The failure of this display to appear indicates that the keys were not correctly pressed. If this happens, press the power OFF switch and repeat the above operation.



(3) Insert the program card into the program card reader.





* Removal program card

TCO010

- (4) Press "Y" on the touch panel.
- * The power will be turned off if any other key than "Y" is pressed..

[Initialize by card] Insert card, OK?						
A	B	C	D	E	F	
G	Η	Ι	J	K	L	
Μ	Ν	0	P	Q	R	
S	Т	U	V	W	ŧ	
Χ	Y	Ζ	SFT	SFC	¥	

TCO011

(5) The program will start to load. Then four English alphabets and a blinking square will appear. After that, the following message will appear.

[Initialize end]

The program can now executed.

An error will be displayed if the program card is not correctly loaded or if a defective card is loaded. If this happens, press the power OFF switch.



7. CABLES

Use the following procedures to connect the cables to the CONSULT. Connecting the diagnostic data link cable

- (1) Press the power OFF switch.
- (2) Open and remove the connector cover marked DDL (on the extreme left).



TCO012

(3) Plug the diagnostic data link cable (black) into the CONSULT connector.



- Always press the power OFF switch before plugging in the connector.
- Always hold the connector when disconnecting cables. Never pull the cable itself.
- Store the connector cover to prevent loss.

For other cables, perform the same procedure.