

EDITION: OCTOBER 1999
REVISION: OCTOBER 1999
PUBLICATION NO. SM0E-1F33U1



Q45

MODEL FY33 SERIES



INFINITI®

© 1999 NISSAN MOTOR CO., LTD.

QUICK REFERENCE INDEX

GENERAL INFORMATION _____	GI
MAINTENANCE _____	MA
ENGINE MECHANICAL _____	EM
ENGINE LUBRICATION & _____ COOLING SYSTEMS	LC
ENGINE CONTROL SYSTEM _____	EC
ACCELERATOR CONTROL, FUEL & _____ EXHAUST SYSTEMS	FE
AUTOMATIC TRANSMISSION _____	AT
PROPELLER SHAFT & _____ DIFFERENTIAL CARRIER	PD
FRONT AXLE & FRONT SUSPENSION _____	FA
REAR AXLE & REAR SUSPENSION _____	RA
BRAKE SYSTEM _____	BR
STEERING SYSTEM _____	ST
RESTRAINT SYSTEM _____	RS
BODY & TRIM _____	BT
HEATER & AIR CONDITIONER _____	HA
ELECTRICAL SYSTEM _____	EL
ALPHABETICAL INDEX _____	IDX

TEST VALUE AND TEST LIMIT (GST ONLY — NOT APPLICABLE TO CONSULT-II)

The following is the information specified in Mode 6 of SAE J1979.

The test value is a parameter used to determine whether a system/circuit diagnostic test is “OK” or “NG” while being monitored by the ECM during self-diagnosis. The test limit is a reference value which is specified as the maximum or minimum value and is compared with the test value being monitored.

Items for which these data (test value and test limit) are displayed are the same as SRT code items.

These data (test value and test limit) are specified by Test ID (TID) and Component ID (CID) and can be displayed on the GST screen.

: Applicable : : Not applicable

SRT item	Self-diagnostic test item	DTC	Test value (GST display)		Test limit	Application	Unit
			TID	CID			
CATALYST	Three way catalyst function (Bank 1)	P0420	01H	01H	Max.	X	-
	Three way catalyst function (Bank 2)	P0430	03H	02H	Max.	X	-
EVAP SYSTEM	EVAP control system (Small leak)	P0440	05H	03H	Max.	X	-
	EVAP control system purge flow monitoring	P1440	05H	03H	Max.	X	-
H02S	Heated oxygen sensor 1 (Bank 1)	P1447	06H	83H	Min.	X	mV
		P0133	09H	04H	Max.	X	ms
		P0131	0AH	84H	Min.	X	mV
		P0130	0BH	04H	Max.	X	mV
		P0132	0CH	04H	Max.	X	mV
	Heated oxygen sensor 1 (Bank 2)	P0134	0DH	04H	Max.	X	s
		P0153	11H	05H	Max.	X	ms
		P0151	12H	85H	Min.	X	mV
		P0150	13H	05H	Max.	X	mV
		P0152	14H	05H	Max.	X	mV
	Heated oxygen sensor 2 (Bank 1)	P0154	15H	05H	Max.	X	s
		P0139	19H	86H	Min.	X	mV/500ms
		P0137	1AH	86H	Min.	X	mV
		P0140	1BH	06H	Max.	X	mV
	Heated oxygen sensor 2 (Bank 2)	P0138	1CH	06H	Max.	X	mV
		P0159	21H	87H	Min.	X	mV/500ms
		P0157	22H	87H	Min.	X	mV
		P0160	23H	07H	Max.	X	mV
H02S HTR	Heated oxygen sensor 1 heater (Bank 1)	P0158	24H	07H	Max.	X	mV
		P0135	29H	08H	Max.	X	mV
	Heated oxygen sensor 2 heater (Bank 2)	P0135	2AH	88H	Min.	X	mV
		P0155	2BH	09H	Max.	X	mV
	Heated oxygen sensor 2 heater (Bank 1)	P0155	2CH	89H	Min.	X	mV
		P0141	2DH	0AH	Max.	X	mV
	Heated oxygen sensor 2 heater (Bank 2)	P0141	2EH	8AH	Min.	X	mV
		P0161	2FH	0BH	Max.	X	mV
EGR SYSTEM	EGR function	P0161	30H	8BH	Min.	X	mV
		P0400	31H	8CH	Min.	X	°C
		P0400	32H	8CH	Min.	X	°C
		P0400	33H	8CH	Min.	X	°C
		P0400	34H	8CH	Min.	X	°C
	EGRC-BPT valve function	P1402	35H	0CH	Max.	X	°C
		P0402	36H	0CH	Max.	X	-
		P0402	37H	8CH	Min.	X	-

GENERAL INFORMATION

SECTION GI

- GI
- MA
- EM
- LC
- EC
- FE
- AT
- PD
- FA
- RA
- BR
- ST
- RS
- BT
- HA
- EL
- IDX

CONTENTS

PRECAUTIONS	2	AN ELECTRICAL INCIDENT	23
Precautions for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	2	Work Flow	23
Precautions for IVIS (Infiniti Vehicle Immobiliser System - NATS)	2	Incident Simulation Tests	24
Precautions for INFINITI Communicator (IVCS)	3	Circuit Inspection	27
General Precautions	3	HOW TO FOLLOW FLOW CHART IN TROUBLE	
Precautions for Multiport Fuel Injection System or Engine Control System	5	DIAGNOSES	33
Precautions for Three Way Catalyst	5	How to Follow This Flow Chart	34
Precautions for Engine Oils	6	CONSULT-II CHECKING SYSTEM	36
Precautions for Fuel	7	Function and System Application	36
Precautions for Air Conditioning	7	Nickel Metal Hydride Battery Replacement	37
HOW TO USE THIS MANUAL	8	Checking Equipment	37
HOW TO READ WIRING DIAGRAMS	10	CONSULT-II Data Link Connector (DLC) Circuit	37
Sample/Wiring Diagram - EXAMPL -	10	IDENTIFICATION INFORMATION	38
Description	12	Model Variation	38
HOW TO CHECK TERMINAL	20	Identification Number	39
Connector and Terminal Pin Kit	20	Dimensions	40
How to Probe Connectors	20	Wheels and Tires	40
How to Check Enlarged Contact Spring of Terminal	21	LIFTING POINTS AND TOW TRUCK TOWING	41
Waterproof Connector Inspection	22	Preparation	41
Terminal Lock Inspection	22	Board-on Lift	41
HOW TO PERFORM EFFICIENT DIAGNOSIS FOR		Garage Jack and Safety Stand	42
		2-pole Lift	43
		Tow Truck Towing	43
		TIGHTENING TORQUE OF STANDARD BOLTS	45
		SAE J1930 TERMINOLOGY LIST	46
		SAE J1930 Terminology List	46

Observe the following precautions to ensure safe and proper servicing.



Precautions for Supplemental Restraint System (SRS) “AIR BAG” and “SEAT BELT PRE-TENSIONER”

The Supplemental Restraint System “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a seat belt, help to reduce the risk or severity of injury to the driver and front passenger in a frontal collision. The Supplemental Restraint System consists of air bag modules (located in the center of the steering wheel and on the instrument panel on the passenger side), seat belt pre-tensioners, a diagnosis sensor unit, warning lamp, wiring harness and spiral cable. In addition to the supplemental air bag modules for a frontal collision, the supplemental side air bag used along with the seat belt helps to reduce the risk or severity of injury to the driver and front passenger in a side collision. The supplemental side air bag consists of air bag modules (located in the outer side of front seats), satellite sensor, diagnosis sensor unit (one of components of supplemental air bags for a frontal collision), wiring harness, warning lamp (one of components of supplemental air bags for a frontal collision). Information necessary to service the system safely is included in the **RS section** in this Service Manual.

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses (except “SEAT BELT PRE-TENSIONER” connector) can be identified with yellow harness connector (and with yellow harness protector or yellow insulation tape before the harness connectors).

Precautions for IVIS (Infiniti Vehicle Immobiliser System — NATS)

NATS (Nissan Anti-Theft System)

NATS will immobilize the engine if someone tries to start it without the registered key of NATS.

Both of the originally supplied ignition key IDs have been NATS registered.

PRECAUTIONS

Precautions for IVIS (Infiniti Vehicle Immobiliser System — NATS) (Cont'd)

The security indicator is located on the instrument panel. The indicator blinks when the ignition switch is in "OFF" or "ACC" position. Therefore, NATS warns outsiders that the vehicle is equipped with the anti-theft system.

- When NATS detects trouble, the security indicator lamp lights up while ignition switch is in "ON" position. This lighting up indicates that the anti-theft is not functioning, so prompt service is required.
- When servicing NATS (trouble diagnoses, system initialisation and additional registration of other NATS ignition key IDs), CONSULT-II hardware and CONSULT-II NATS software is necessary.

Regarding the procedures of NATS initialisation and NATS ignition key ID registration, refer to CONSULT-II operation manual, NATS.

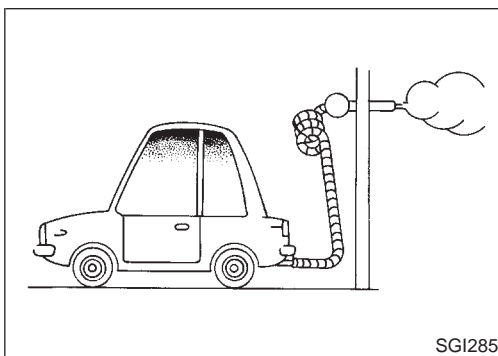
Therefore, CONSULT-II NATS software (program card and operation manual) must be kept strictly confidential to maintain the integrity of the anti-theft function.

- When servicing NATS (trouble diagnoses, system initialisation and additional registration of other NATS ignition key IDs), it may be necessary to re-register original key identification. Therefore, be sure to receive all keys from vehicle owner. A maximum of five key IDs can be registered into NATS.
- When failing to start the engine first time using the key of NATS, restart as follows.
 - (1) Leave the ignition key in "ON" position for approximately 5 seconds.
 - (2) Turn ignition key to "OFF" or "LOCK" position and wait approximately 5 seconds.
 - (3) Repeat step 1 and 2 again.
 - (4) Restart the engine while keeping the key separate from any others on key-chain.

Precautions for INFINITI Communicator (IVCS)

The purpose of INFINITI Communicator is to increase security for the vehicle owner by providing a convenient way to contact the most appropriate emergency assistance provider during an emergency.

Improper operation of the system may result in a police response. The theft warning system also activates INFINITI Communicator. For details, refer to INFINITI Communicator (IVCS) in the EL section.

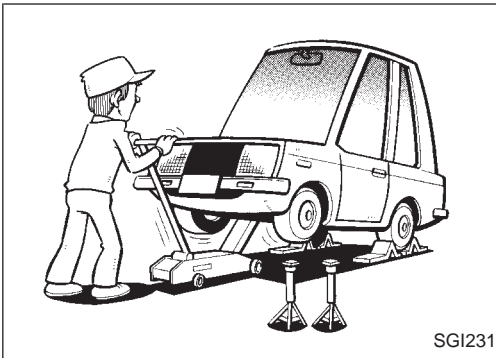


General Precautions

- Do not operate the engine for an extended period of time without proper exhaust ventilation. Keep the work area well ventilated and free of any inflammable materials. Special care should be taken when handling any inflammable or poisonous materials, such as gasoline, refrigerant gas, etc. When working in a pit or other enclosed area, be sure to properly ventilate the area before working with hazardous materials. Do not smoke while working on the vehicle.

PRECAUTIONS

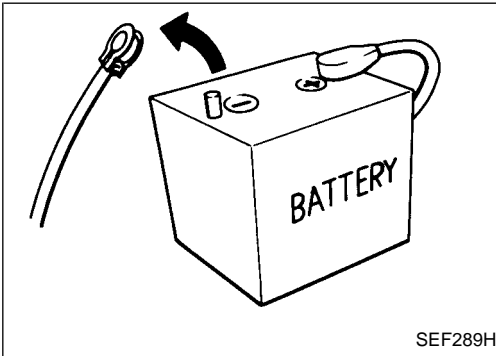
General Precautions (Cont'd)



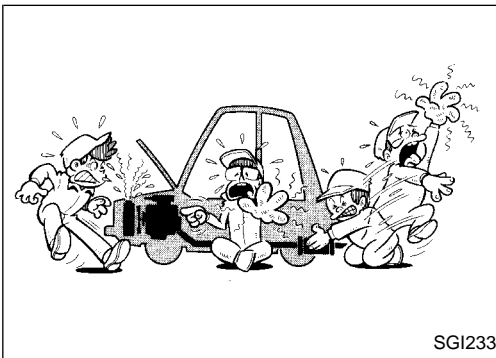
- Before jacking up the vehicle, apply wheel chocks or other tire blocks to the wheels to prevent the vehicle from moving. After jacking up the vehicle, support the vehicle weight with safety stands at the points designated for proper lifting and towing before working on the vehicle.

These operations should be done on a level surface.

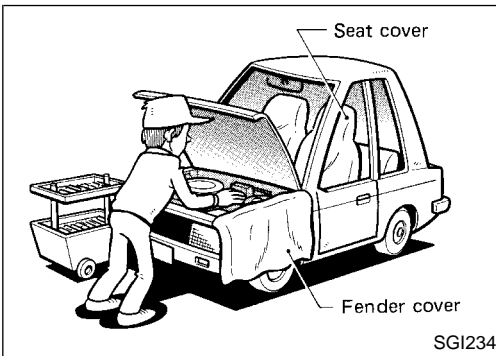
- When removing a heavy component such as the engine or transaxle/transmission, be careful not to lose your balance and drop them. Also, do not allow them to strike adjacent parts, especially the brake tubes and master cylinder.



- Before starting repairs which do not require battery power:
Turn off ignition switch.
Disconnect the negative battery terminal.



- To prevent serious burns:
Avoid contact with hot metal parts.
Do not remove the radiator cap when the engine is hot.



- Before servicing the vehicle:
Protect fenders, upholstery and carpeting with appropriate covers.
Take caution that keys, buckles or buttons do not scratch paint.

- Clean all disassembled parts in the designated liquid or solvent prior to inspection or assembly.
- Replace oil seals, gaskets, packings, O-rings, locking washers, cotter pins, self-locking nuts, etc. with new ones.
- Replace inner and outer races of tapered roller bearings and needle bearings as a set.
- Arrange the disassembled parts in accordance with their assembled locations and sequence.
- Do not touch the terminals of electrical components which use microcomputers (such as ECMs).
Static electricity may damage internal electronic components.

PRECAUTIONS

General Precautions (Cont'd)

- After disconnecting vacuum or air hoses, attach a tag to indicate the proper connection.
- Use only the lubricants specified in this manual.
- Use approved bonding agent, sealants or their equivalents when required.
- Use tools and recommended special tools where specified for safe and efficient service repairs.
- When repairing the fuel, oil, water, vacuum or exhaust systems, check all affected lines for leaks.
- Dispose of drained oil or the solvent used for cleaning parts in an appropriate manner.
- Do not attempt to top off the fuel tank after the fuel pump nozzle shuts off automatically. Continued refueling may cause fuel overflow, resulting in fuel spray and possibly a fire.

WARNING:

To prevent ECM from storing the diagnostic trouble codes, do not carelessly disconnect the harness connectors which are related to the engine control system and TCM (Transmission Control Module) system. The connectors should be disconnected only when working according to the WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.



Precautions for Multiport Fuel Injection System or Engine Control System

- Before connecting or disconnecting any harness connector for the multiport fuel injection system or ECM. Turn ignition switch to "OFF" position. Disconnect negative battery terminal. Otherwise, there may be damage to ECM.
- Before disconnecting pressurized fuel line from fuel pump to injectors, be sure to release fuel pressure.
- Be careful not to jar components such as ECM and mass air flow sensor.

Precautions for Three Way Catalyst

If a large amount of unburned fuel flows into the catalyst, the catalyst temperature will be excessively high. To prevent this, follow the instructions below:

- Use unleaded gasoline only. Leaded gasoline will seriously damage the three way catalyst.
- When checking for ignition spark or measuring engine compression, make tests quickly and only when necessary.
- Do not run engine when the fuel tank level is low, otherwise the engine may misfire causing damage to the catalyst.

Do not place the vehicle on inflammable material. Keep inflammable material off the exhaust pipe and the three way catalyst.

Precautions for Engine Oils

Prolonged and repeated contact with used engine oil may cause skin cancer. Try to avoid direct skin contact with used oil. If skin contact is made, wash thoroughly with soap or hand cleaner as soon as possible.

HEALTH PROTECTION PRECAUTIONS

- Avoid prolonged and repeated contact with oils, particularly used engine oils.
- Wear protective clothing, including impervious gloves where practicable.
- Do not put oily rags in pockets.
- Avoid contaminating clothes, particularly underpants, with oil.
- Heavily soiled clothing and oil-impregnated footwear should not be worn. Overalls must be cleaned regularly.
- First Aid treatment should be obtained immediately for open cuts and wounds.
- Use barrier creams, applying them before each work period, to help the removal of oil from the skin.
- Wash with soap and water to ensure all oil is removed (skin cleansers and nail brushes will help). Preparations containing lanolin replace the natural skin oils which have been removed.
- Do not use gasoline, kerosine, diesel fuel, gas oil, thinners or solvents for cleaning skin.
- If skin disorders develop, obtain medical advice without delay.
- Where practicable, degrease components prior to handling.
- Where there is a risk of eye contact, eye protection should be worn, for example, chemical goggles or face shields; in addition an eye wash facility should be provided.

ENVIRONMENTAL PROTECTION PRECAUTIONS

Burning used engine oil in small space heaters or boilers can be recommended only for units of approved design. The heating system must meet the requirements of HM Inspectorate of Pollution for small burners of less than 0.4 MW. If in doubt check with the appropriate local authority and/or manufacturer of the approved appliance.

Dispose of used oil and used oil filters through authorized waste disposal contractors to licensed waste disposal sites, or to the waste oil reclamation trade. If in doubt, contact the local authority for advice on disposal facilities.

It is illegal to pour used oil on to the ground, down sewers or drains, or into water courses.

The regulations concerning the pollution vary between regions.

**Thank you very much
for your reading.**

**Please click here and go
back to the website.**

**Then, you can
download the complete
manual instantly.**

No waiting.