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FOREWORD

This manual contains maintenance and repair procedures for the 1995 INFINITI Q45.

In order to assure your safety and the efficient functioning of the vehicle, this manual should be read thoroughly. It is especially important that the PRECAUTIONS in the GI section be completely understood before starting any repair task.

All information in this manual is based on the latest product information at the time of publication. The right is reserved to make changes in specifications and methods at any time without notice.

IMPORTANT SAFETY NOTICE

The proper performance of service is essential for both the safety of the technician and the efficient functioning of the vehicle. The service methods in this Service Manual are described in such a manner that the service may be performed safely and accurately. Service varies with the procedures used, the skills of the technician and the tools and parts available. Accordingly, anyone using service procedures, tools or parts which are not specifically recommended by INFINITI must first completely satisfy himself that neither his safety nor the vehicle's safety will be jeopardized by the service method selected.



ISSAN MOTOR CO., LTD.

Overseas Service Department Tokyo, Japan

QUICK REFERENCE CHART : Q45



ENGINE TUNE-UP DATA

Engine model		VH45DE				
Firing order				1-8-7-3-6-	5-4-2	
Idle speed	rpm	A/T (in "N" position)	650±50			
Ignition timing	(B.	T.D.C. at idle speed)		15°±2	°	
CO% at idle			Idle mixture screw is preset and sealed at factory.			
Drive belt deflection	(Cold)	9999 (in)	Used t	selt deflection	Deflection of	
Alternator Air conditioner compressor			Limit	Deflection after adjustment	new belt	
			14 (0.55)	9 - 10 (0.35 - 0.39)	7,5 - 8,5 (0.295 - 0.335)	
			12 (0.47)	8.5 - 9.5 (0.335 - 0.374)	7,5 - 8,5 (0,295 - 0,335)	
Power steering	Withou SUSPE	t FULL-ACTIVE NSION	14 (0.55)	9 - 10 (0.35 - 0.39)	8 - 9 (0.31 - 0.35)	
oil gump	With FULL-ACTIVE		13 (0.51)	7 - 8 (0.28 - 0.31)	5,5 - 6.5 (0.217 - 0.256)	
Applied pushing	force	N (kg, lb)	98 (10, 22)			
Radiator cap relief p	essure	kPa (kg/cm² , psi)	78 - 98 (0.8 - 1.0, 11 - 14)			
Cooling system leakage testing pressure kPa (kg/cm ² , psi)			157 (1.6, 23)			
Compression pressure Standard kPa (kg/cm ² , psi)/rpm Minimum		Standard		1,275 (13.0, 185)/300		
		981 (10.0, 142)/300				
Spark plug Type (Standard)			PFR6B-11			

FRONT WHEEL ALIGNMENT (Unladen*1)

		Without full-active	Full-active suspension		
		suspension	Engine running*2	Reference (Engine stopped*3)	
Camber	degree	1°35′ to0°05′	1°40' to0°10'	-1°35′ to -0°05′	
Caster	degree	5°45′ - 7°15′	6° 10′ - 7° 40′	5°55' - 7°25'	
Kingpin inclination degree		12°00' - 13″30'	12°10' - 13°40'		
Toe-in A B	mm (in)	0 - 2 (0 - 0,08)	1 to 1 (().04 to 0.04}	
Total angle 2θ	degree	0' - 10'	-5'	to 5'	
Wheel turning angle (Full tu Inside	urm) degree	35°30' - 39°30'	35°	- 39°	
Outside			32°		

*7 Fuel, radiator coolant and engine oil full.

*3

Spare tire, jack, hand tools and mats in designated positions

*2 Unladen, engine running and height control switch in normal (N) position.

The data obtained when engine is stopped are reference values.

For standard values, use the data obtained by running engine. • Conditions when engine is stopped:

Unladen, full-active fluid temperature 60±4°C (140±7.2°F).

Ignition switch "OFF" after driver gets out of the vehicle.

• For alignment measurement, wait at least 3 minutes after engine has stopped.

REAR WHEEL ALIGNMENT (Unladen *1)

		Without full-active suspension	Full-active suspension		
			Engine running*2	Reference (Engine stopped*3)	
Camber	degree	-1°35′ to0°35′	-2°00′ to -1°00′	–1°50′ to –0°50′	
Toe-in A B	mm (in)		0 - 4 (0 - 0.16)		
Total angle 28	degree		0' - 22'		

*1 Fuel, radiator coolant and engine oil full.

Spare tire, jack, hand tools and mats in designated positions. 2 Unladen, engine running and height control switch in normal (N) position.

*3 • The data obtained when engine is stopped are reference values.

For standard values, use the data obtained by running engine.

 Conditions when angine is stopped: Unladen, full-active fluid temperature 60±4°C (140±7.2°F).

Ignition switch "OFF" after driver gets out of the vehicle.

· For alignment measurement, wait at least 3 minutes after engine has stopped.

BRAKE

	Unit: mm (in
Front brake Pad wear limit	2.0 (0.079)
Rotor repair limit	26.0 (1.024)
Rear brake Pad wear limit	2.0 (0.079)
Rotor repair limit	8.0 (0.315)
Pedal free height	184 - 194 (7.24 - 7.64)
Padal depressed height*	100 - 110 (3.94 - 4.33)

* Under force of 490 N (50 kg, 110 lb) with engine running

REFILL CAPACITIES

			/ · _ · · · · ·	
Unit		Liter	US measure 22-1/2 gaf	
Fuel tank		85		
Coolant (With reserv	oir tank)	10.3	10-7/8 qt	
E	With oil filter	6.0	6-3/8 qt	
Engine	Without oil filter	5.6	5-7/8 qt	
Transmission A/T		10.5	11-1/8 qt	
Differential carrier		1.3	2-3/4 pt	
Power steering system	m	1,2	1-1/4 qt	
Full-active suspensio	n system	5.7	6 q t	
Air conditioning	Compressor oil	0.200	6.8 fl oz	
system	Refrigerant	0.775 - 0.825 kg	1.709 - 1.819 lb	

GENERAL INFORMATION

GI SECTION MA

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Observe the following precautions to ensure safe and proper servicing.



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 pretensioners, a diagnosis sensor unit, warning lamp, wiring harness and spiral cable. Information necessary to service the system safely is included in the **RS section** of 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.
- All SRS electrical wiring harnesses and connectors are covered with yellow outer insulation. Do not use electrical test equipment on any circuit related to the SRS.

Precautions for "FULL-ACTIVE SUSPENSION"

- Do not disconnect battery terminals or remove fuses for approximately 2 minutes after stopping the engine. Doing so may change vehicle height.
- Before raising the vehicle using a jack, wait at least 2 minutes after stopping the engine.
- Do not get under the vehicle when it is raised with only a jack and do not start the engine.
- Before working under the vehicle, raise the four wheels off the ground and properly support the vehicle using rigid racks.

General Precautions

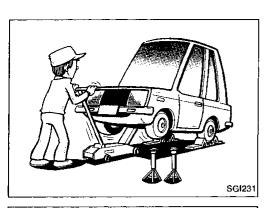
• Do not operate the engine for an extended period of time without proper exhaust ventilation.

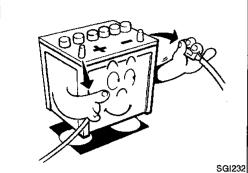
Keep the work area well ventilated and free of any inflammable materials. Special care should be taken when handling any inflammable or poisonous materials, such as gasoline, refrigerant gas, etc. When working in a pit or other enclosed area, be sure to properly ventilate the area before working with hazardous materials.

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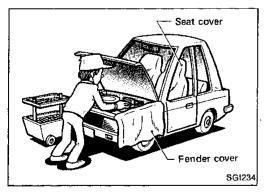
Do not smoke while working on the vehicle.

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, always turn off the ignition switch, then disconnect the ground cable from the battery to prevent accidental short circuit.
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- To prevent serious burns, avoid contact with hot metal parts such as the radiator, exhaust manifold, tail pipe and muffler. Do not remove the radiator cap when the engine is hot.

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- Before servicing the vehicle, protect fenders, upholstery ST and carpeting with appropriate covers.

Take caution that keys, buckles or buttons on your person do not scratch the paint. $$\mathbb{R}\$$$

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General Precautions (Cont'd)

- 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 compo-
- After disconnecting vacuum or air hoses, attach a tag to indicate the proper connection.
- Use only the lubricants specified in MA section and HA section or their equivalents.
- 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.



Precautions for Multiport Fuel Injection System or ECCS Engine

- Before connecting or disconnecting multiport fuel injection system or ECM (ECCS control module) harness connector, be sure to turn the ignition switch to the "OFF" position and disconnect the 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 to eliminate danger.
- 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 converter, the converter temperature will be excessively high. To prevent this, follow the procedure below:

- Use unleaded gasoline only. Leaded gasoline will seriously damage the three way catalyst.
- When checking for ignition spark or measuring engine MA 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 converter.

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

Engine Oils

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

HEALTH PROTECTION PRECAUTIONS

- Avoid prolonged and repeated contact with oils, particularly used engine oils. AT
- Wear protective clothing, including impervious gloves where practicable. PD
- Do not put oily rags in pockets.
- Avoid contaminating clothes, particularly underpants, with oil
- FA Heavily solled clothing and oil-impregnated footwear should not be worn. Overalls must be cleaned regularly.
- First Aid treatment should be obtained immediately for RA open cuts and wounds.
- Use barrier creams, applying them before each work period, to help the removal of oil from the skin. BR
- 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 ST 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.
- BT 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 旧為 addition an eye wash facility should be provided.

ENVIRONMENTAL PROTECTION PRECAUTIONS

EL 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 IDX 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.

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Engine Oils (Cont'd)

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

The regulations concerning the pollution of the environment will vary from country to country.

Precautions for Fuel

To maintain engine and exhaust system durability and performance, UNLEADED PREMIUM gasoline with an octane rating of at least 91 AKI (Research octane number 96) must be used.

If premium unleaded gasoline is not available, REGULAR UNLEADED gasoline with an octane rating of 87 AKI (Research octane number 91) may be used temporarily, but only under the following conditions:

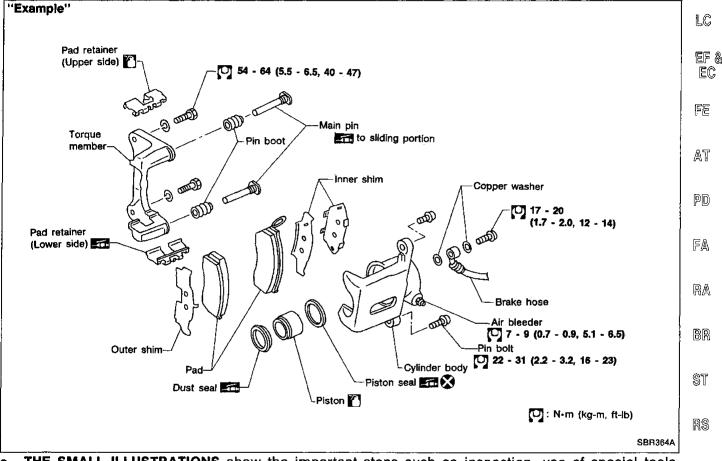
- The fuel tank should be filled only partially with unleaded regular gasoline, and filled up with premium unleaded gasoline as soon as possible.
- Full throttle driving and abrupt acceleration should be avoided.

CAUTION:

Using a fuel other than that specified could adversely affect the emission control devices and systems, and could also affect the warranty coverage validity.

Under no circumstances should a leaded gasoline be used, since this will damage the three way catalyst.

- ALPHABETICAL INDEX is provided at the end of this manual so that you can rapidly find the item and page you are searching for.
- A QUICK REFERENCE INDEX, a black tab (e.g. ER) is provided on the first page. You can quickly find the first page of each section by mating it to the section's black tab.
- THE CONTENTS are listed on the first page of each section.
- THE TITLE is indicated on the upper portion of each page and shows the part or system.
- **THE PAGE NUMBER** of each section consists of two letters which designate the particular section and a number (e.g. "BR-5").
- THE LARGE ILLUSTRATIONS are exploded views (See below) and contain tightening torques, lubrication points and other information necessary to perform repairs.
 The illustrations should be used in reference to service matters only. When ordering parts, refer to EM the appropriate PARTS CATALOG.



• THE SMALL ILLUSTRATIONS show the important steps such as inspection, use of special tools, knacks of work and hidden or tricky steps which are not shown in the previous large illustrations. Assembly, inspection and adjustment procedures for the complicated units such as the automatic transaxle or transmission, etc. are presented in a step-by-step format where necessary.

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• The following SYMBOLS AND ABBREVIATIONS are used:

P/S	••••••	Tightening torque Should be lubricated with grease. Unless otherwise indicated, use rec- ommended multi-purpose grease. Should be lubricated with oil. Sealing point Checking point Always replace after every disassem- bly. Apply petroleum jelly. Apply ATF. Select with proper thickness. Adjustment is required. Power steering	SDS SAE LH, RH FR, RR A/T Tool ATF D_1 D_2 D_3 D_4 OD 2_2 2_1 1_2 1_1 3_3 3_2 3_1		Service Data and Specifications Society of Automotive Engineers Inc. Left-Hand, Right-Hand Front, Rear Automatic Transaxle/Transmission Special Service Tools Automatic Transmission Fluid Drive range 1st gear Drive range 2nd gear Drive range 3rd gear Drive range 4th gear Overdrive 2nd range 2nd gear 1st range 1st gear 1st range 1st gear 3rd range 3rd gear 3rd range 2nd gear 3rd range 1st gear
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• The UNITS given in this manual are primarily expressed as SI UNITS (International System of Unit), and alternately expressed in the metric system and in the yard/pound system.

"Example"

Tightening torque:

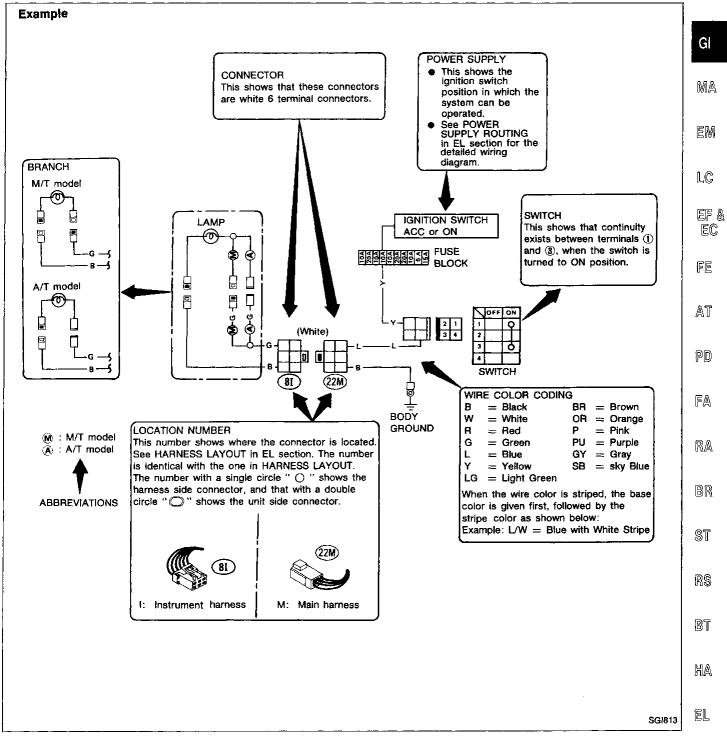
59 - 78 N·m (6.0 - 8.0 kg-m, 43 - 58 ft-lb)

- TROUBLE DIAGNOSES are included in sections dealing with complicated components.
- SERVICE DATA AND SPECIFICATIONS are contained at the end of each section for quick reference of data.
- The captions **WARNING** and **CAUTION** warn you of steps that must be followed to prevent personal injury and/or damage to some part of the vehicle.

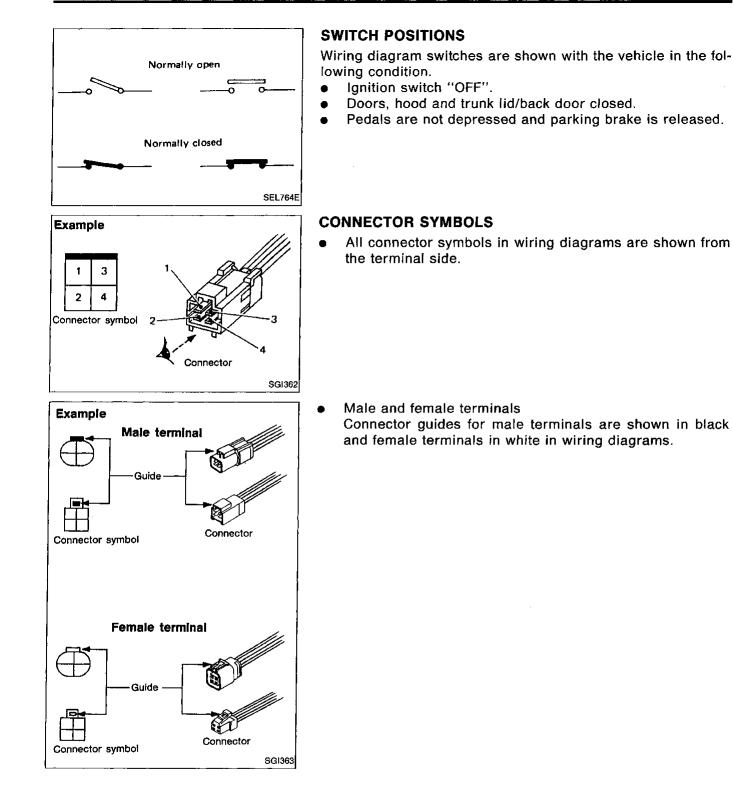
WARNING indicates the possibility of personal injury if instructions are not followed. **CAUTION** indicates the possibility of component damage if instructions are not followed. **BOLD TYPED STATEMENTS** except **WARNING** and **CAUTION** give you helpful information.

WIRING DIAGRAM

Symbols used in WIRING DIAGRAM are shown below:

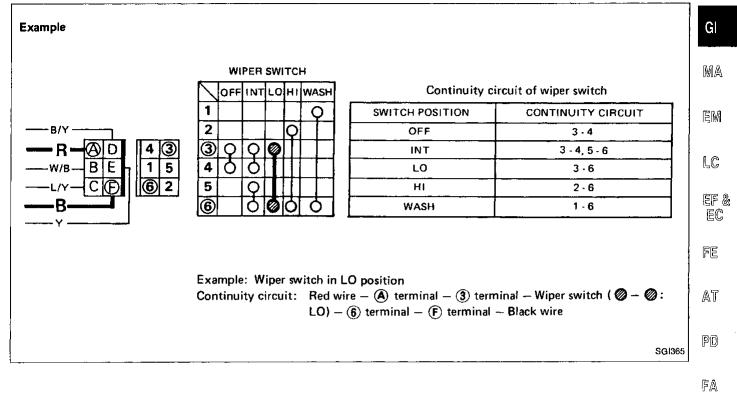


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MULTIPLE SWITCH

The continuity of the multiple switch is identified in the switch chart in wiring diagrams.



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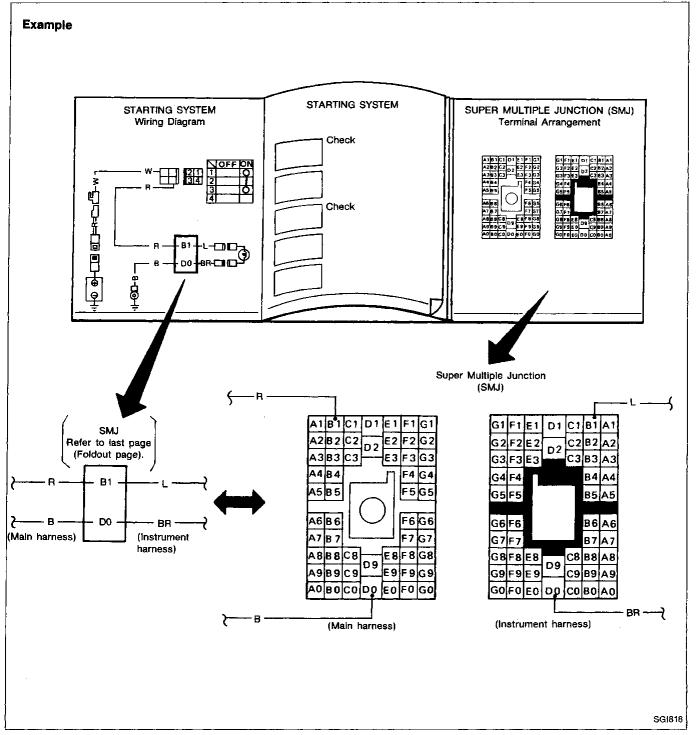
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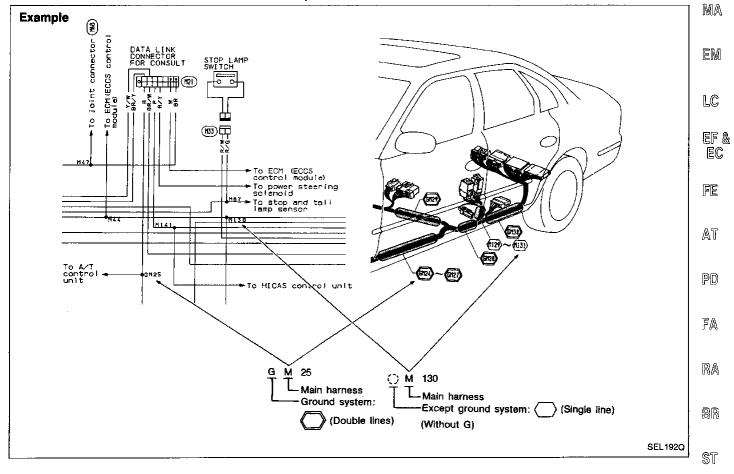
SUPER MULTIPLE JUNCTION (SMJ)

- The "SMJ" indicated in wiring diagrams is shown in a simplified form. The terminal arrangement should therefore be referred to in the foldout at the end of the Service Manual.
- The foldout should be spread to read the entire wiring diagram.



SPLICE LOCATION

- "GM25", "M130" etc., which are shown in the wiring diagram, refer to wiring harness splice points. These points are located in shaded areas "(13)", "(13)", etc. in illustrations under the title "SPLICE LOCATION".
- Wiring harness splice points are subject to change without prior notice.



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HOW TO PERFORM EFFICIENT DIAGNOSIS FOR AN ELECTRICAL INCIDENT

Work Flow

		START ISTEN TO CUSTOMER COMPLAINTS ISTEN TO CUSTOMER COMPLAINTS IRIFY THE SYMPTOM SYMPTOM SIMULATION ARROW THE POSSIBLE CAUSE SPECT THE CIRCUIT STEP 1 SPECT THE CIRCUIT STEP 2 STEP 3 SPECT THE CIRCUIT STEP 4 STEP 5 STEP 6	
		END	
l	· · · · ·		SG1838
STEP		DESCRIPTION	
STEP 1	Get detai	led information about the conditions and the environment when the incident occurred.	
	The follow	wing are key pieces of information required to make a good analysis:	
	WHAT	Vehicle Model, Engine, Transmission and the System (i.e. Radio).	
	WHEN	Date, Time of Day, Weather Conditions, Frequency.	
	WHERE	Road Conditions, Altitude and Traffic Situation.	
	HOW	System Symptoms, Operating Conditions (Other Components Interaction). Service History and if any After Market Accessories have been installed.	
STEP 2	Verify the	he system, road test if necessary. parameter of the incident. blem can not be duplicated, refer to ''Incident Simulation Tests'' next page.	
STEP 3	Get the pr	roper diagnosis materials together including:	
		POWER SUPPLY ROUTING System Operation Descriptions Applicable Service Manual Sections	
	ldentify w ments.	here to begin diagnosis based upon your knowledge of the system operation and the customer	com-
STEP 4	•	e system for mechanical binding, loose connectors or wiring damage. e which circuits and components are involved and diagnose using the Power Supply Routing an puts.	d Har-
STEP 5	Repair or	replace the incident circuit or component.	
STEP 6	•	he system in all modes. Verify the system works properly under all conditions. Make sure you h ertently created a new incident during your diagnosis or repair steps.	nave

Incident Simulation Tests

INTRODUCTION

Sometimes the symptom is not present when the vehicle is brought in for service. Therefore, it is necessary to simulate the conditions and environment when the incident occurred. Otherwise, only a No Trouble Found Diagnosis may be found. The following section illustrates ways to simulate the conditions/ environment under which the owner experiences an electrical incident.

 The section is broken into the six following topics:
 MA

 1. Vehicle vibration
 EM

 2. Heat sensitive
 EM

 3. Freezing
 EM

 4. Water intrusion
 EC

 5. Electrical load
 LC

 6. Cold or hot start up
 EF &

 Get a thorough description of the incident from the customer. It is important for simulating the conditions of the problem.
 EF &

VEHICLE VIBRATION

The problem may occur or become worse while driving on a rough road or when engine is vibrating (idle with A/C on). In such a case, you will want to check for a vibration related condition. Refer to the AT illustration below.

Connectors & harness

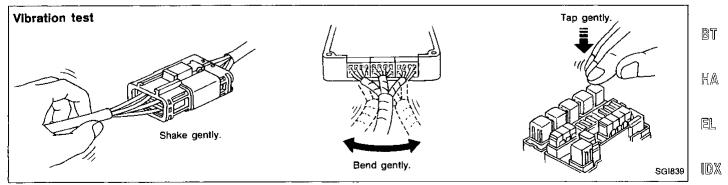
Determine which connectors and wiring harness would affect the electrical system you are inspecting. **Gently** shake each connector and harness while monitoring the system for the incident you are trying to duplicate. This test may indicate a loose or poor electrical connection.

Hint

Connectors can be exposed to moisture. It is possible to get a thin film of corrosion on the connector terminals. A visual inspection may not reveal this without disconnecting the connector. If the problem occurs intermittently, perhaps the problem is caused by corrosion. It is a good idea to disconnect, inspect and clean the terminals on related connectors in the system.

Sensors & relays

Gently apply a slight vibration to sensors and relays in the system you are inspecting. This test may indicate a loose or poorly mounted sensor or relay.



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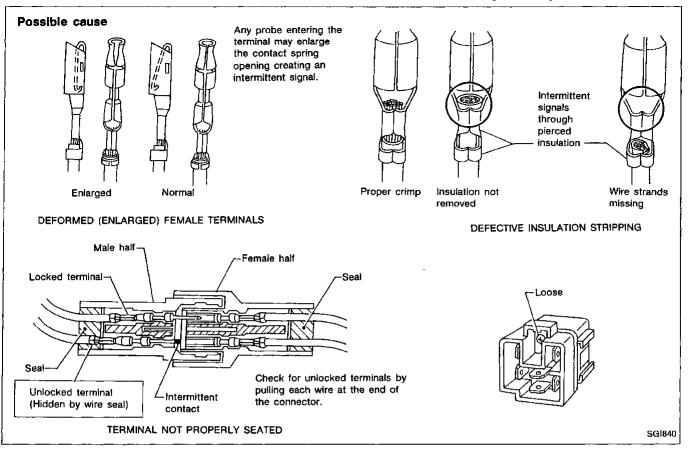
RA

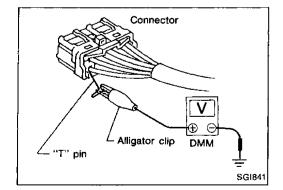
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HOW TO PERFORM EFFICIENT DIAGNOSIS FOR AN ELECTRICAL INCIDENT

Incident Simulation Tests (Cont'd)





Tester probe

When probing a connector it is possible to enlarge the contact spring opening. If this occurs it may create an intermittent signal in the circuit. When probing a connector, use care not to enlarge the opening. The probe of the Digital Multimeter (DMM) may not fit into the connector cavity. In such cases make an extension of a "T" pin and probe it from the harness side of the connector. Most DMMs have accessory alligator clips. Slide these over the probe to allow clipping the "T" pin for a better contact. If you have any difficulty probing a terminal, inspect the terminal. Ensure you have not accidentally opened the contact spring or pulled a wire loose. 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.