INFINITI®

Q45

MODEL G50 SERIES

QUICK REFERENCE INDEX

INFINITI®

FOREWORD

This manual contains maintenance and repair procedures for the 1994 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.

INFINITI®

NISSAN MOTOR CO., LTD.
Overseas Service Department
Tokyo, Japan

INCH TO METRIC CONVERSION TABLE

(Rounded-off for automotive use)

inches	mm	inches	mm
.100	2.54	.610	15.49
.110	2.79	.620	15.75
.120	3.05	.630	16.00
.130	3.30	.640	16.26
.140	3.56	.650	16.51
.150	3.81	.660	16.76
.160	4.06	.670	17.02
.170	4.32	.680	17.27
.180	4.57	.690	17.53
.190	4.83	.700	17.78
.200	5.08	.710	18.03
.210	5.33	.720	18.29
.220	5.59	.730	18.54
.230	5.84	.740	18.80
.240	6.10	.750	19.05
.250	6.35	.760	19.30
.260	6.60	.770	19.56
.270	6.86	.780	19.81
.280	7.11	.790	20.07
.290	7.37	.800	20.32
.300	7.62	.810	20.57
.310	7.87	.820	20.83
.320	8.13	.830	21.08
.330	8.38	.840	21.34
.340	8.64	.850	21.59
.350	8.89	.860	21.84
.360	9.14	.870	22.10
.370	9.40	.880	22.35
.380	9.65	.890	22.61
.390	9.91	.900	22.86
.400	10.16	.910	23.11
.410	10.41	.920	23.37
.420	10.67	.930	23.62
.430	10.92	.940	23.88
.440	11.18	.950	24.11
.450	11.43	.960	24.38
.460	11.68	.970	24.64
.470	11.94	.980	24.89
.480	12.19	.990	25.15
.490	12.45	1.000	25.40
.500	12.70	2.000	50.80
.510	12.95	3.000	76.20
.520	13.21	4.000	101.60
.530	13.46	5.000	127.00
.540	13.72	6.000	152.40
.550	13.97	7.000	177.80
.560	14.22	8.000	203.20
.570	14.48	9.000	228.60
.580	14.73	10.000	254.00
.590	14.99	20.000	508.00
.600	15.24		

METRIC TO INCH CONVERSION TABLE

(Rounded-off for automotive use)

mm	inches	mm	inches
1	.0394	51	2.008
2	.079	52	2.047
3	.118	53	2.087
4	.157	54	2.126
5	.197	55	2.165
6	.236	56	2.205
7	.276	57	2.244
8	.315	58	2.283
9	.354	59	2.323
10	.394	60	2.362
11	.433	61	2.402
12	.472	62	2.441
13	.512	63	2.480
14	.551	64	2.520
15	.591	65	2.559
16	.630	66	2.598
17	.669	67	2.638
18	.709	68	2.677
19	.748	69	2.717
20	.787	70	2.756
21	.827	71	2.795
22	.866	72	2.835
23	.906	73	2.874
24	.945	74	2.913
25	.984	75	2.953
26	1.024	76	2.992
27	1.063	77	3.031
28	1.102	78	3.071
29	1.142	79	3.110
30	1.181	80	3.150
31	1.220	81	3.189
32	1.260	82	3.228
33	1.299	83	3.268
34	1.339	84	3.307
35	1.378	85	3.346
36	1.417	86	3.386
37	1.457	87	3.425
38	1.496	88	3.465
39	1.535	89	3.504
40	1.575	90	3.543
41	1.614	91	3.583
42	1.654	92	3.622
43	1.693	93	3.661
44	1.732	94	3.701
45	1.772	95	3.740
46	1.811	96	3.780
47	1.850	97	3.819
48	1.890	98	3.858
49	1.929	99	3.898
50	1.969	100	3.937

QUICK REFERENCE CHART : Q45 [ ] 1994

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) mm (in)			Used belt deflection		Deflection of new belt
			Limit	Deflection after adjustment	
Alternator			14 (0.55)	9 - 10 (0.35 - 0.39)	7.5 - 8.5 (0.295 - 0.335)
Air conditioner compressor			12 (0.47)	8.5 - 9.5 (0.335 - 0.374)	7.5 - 8.5 (0.295 - 0.335)
Power steering oil pump	Without SUPER HICAS or FULL-ACTIVE SUSPENSION		14 (0.55)	9 - 10 (0.35 - 0.39)	8 - 9 (0.31 - 0.35)
	With SUPER HICAS or FULL-ACTIVE SUSPENSION		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 pressure kPa (kg/cm², psi)			78 - 98 (0.8 - 1.0, 11 - 14)		
Cooling system leakage testing pressure kPa (kg/cm², psi)			157 (1.6, 23)		
Compression pressure kPa (kg/cm², psi)/rpm	Standard		1,275 (13.0, 185)/300		
	Minimum		981 (10.0, 142)/300		
Spark plug	Type (Standard)		PFR6B-11		

FRONT WHEEL ALIGNMENT (Unladen *1)

		Without full-active suspension	Full-active suspension	
			Engine running*2	Reference (Engine stopped*3)
Camber	degree	−1°35′ to −0°05′	−1°40′ to −0°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 (−0.04 to 0.04)	
Total angle 2θ	degree	0′ - 10′	−5′ to 5′	
Wheel turning angle (Full turn) Inside	degree	35°30′ - 39°30′	35° - 39°	
Outside		32°		

*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 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′ to −0°35′	−2°00′ to −1°00′	−1°50′ to −0°50′
Toe-in A − B	mm (in)	0 - 4 (0 - 0.16)		
Total angle 2θ	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 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.

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)
Pedal depressed height*	100 - 110 (3.94 - 4.33)

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

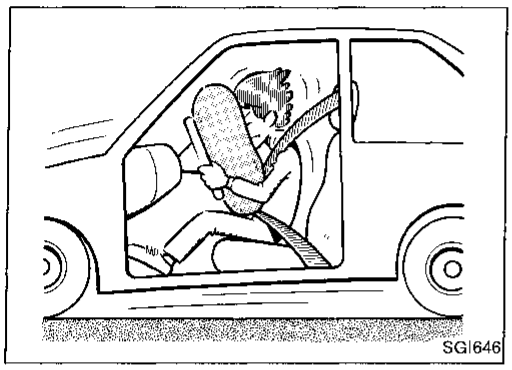
REFILL CAPACITIES

Unit		Liter	US measure
Fuel tank		85	22-1/2 gal
Coolant (With reservoir tank)		10.3	10-7/8 qt
Engine	With oil filter	6.0	6-3/8 qt
	Without oil filter	5.6	5-7/8 qt
Transmission	A/T	10.5	11-1/8 qt
Differential carrier		1.5	3-1/8 pt
Power steering system	With SUPER HICAS	2.2	2-3/8 qt
	Without SUPER HICAS	1.2	1-1/4 qt
Full-active suspension system		5.7	6 qt
Air conditioning system	Compressor oil	0.200	6.8 fl oz
	Refrigerant	0.775 - 0.825 kg	1.709 - 1.819 lb

SECTION GI

CONTENTS

Observe the following precautions to ensure safe and proper servicing. These precautions are not described in each individual section.


SGI646

Precautions for Supplemental Restraint System "AIR BAG"

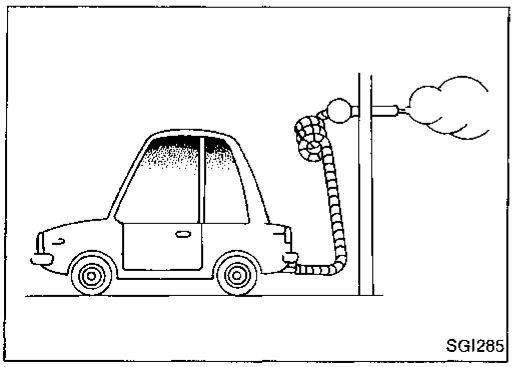
The Supplemental Restraint System "Air Bag" helps to reduce the risk or severity of injury to the driver and front passenger in certain types of frontal collision. The Supplemental Restraint System consists of air bags (located in the center of the steering wheel and on the instrument panel on the passenger side), sensors, ECM, warning lamp, wiring harness and spiral cable. Information necessary to service the system safely is included in the **BF section** of this Service Manual.

WARNING:

- **To avoid rendering the SRS inoperative, which could lead to personal injury or death in the event of a severe frontal collision, 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 "Air Bag".**

Precautions for "FULL-ACTIVE SUSPENSION"

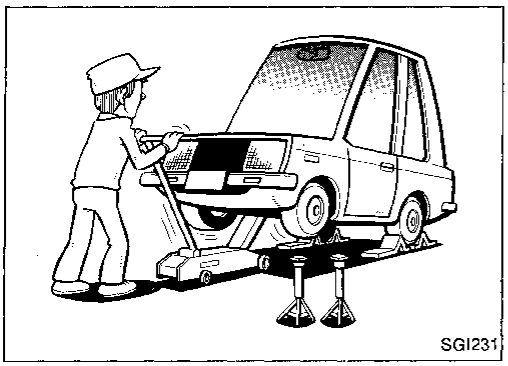
1. Do not disconnect battery terminals or remove fuses for approximately 2 minutes after stopping the engine. Doing so may change vehicle height.
2. Before raising the vehicle using a jack, wait at least 2 minutes after stopping the engine.
3. Do not get under the vehicle when it is raised with only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


SGI285

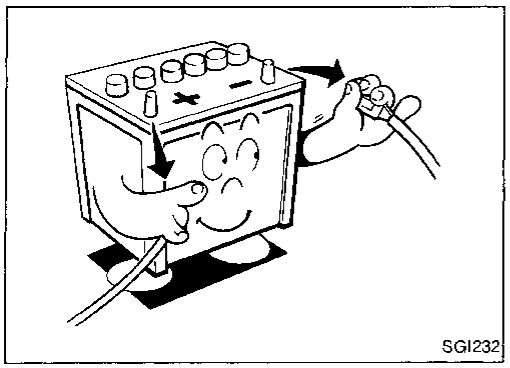
General Precautions

1. 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.

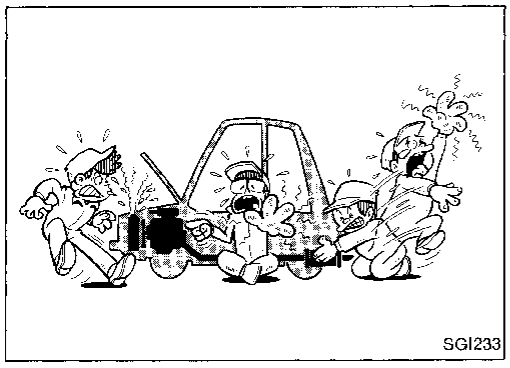
General Precautions (Cont'd)


SGI231

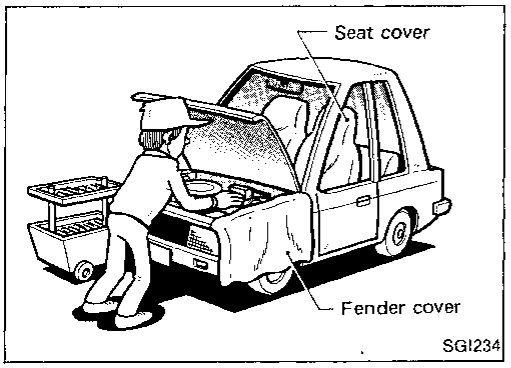
2. Before jacking up the vehicle, apply wheel chocks or other tire blocks to the wheels to prevent the vehicle from moving. After jacking up the vehicle, support the vehicle weight with safety stands at the points designated for proper lifting and towing before working on the vehicle.
   These operations should be done on a level surface.
3. 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.


SGI232

4. 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.


SGI233

5. 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.

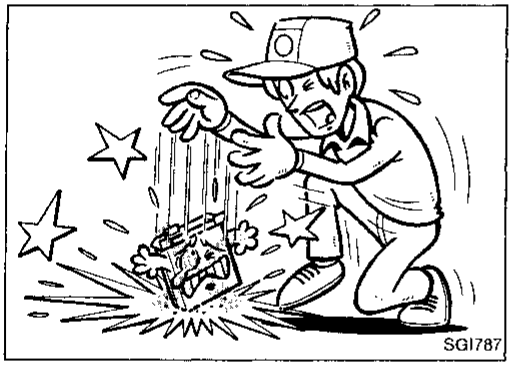


SGI234

6. Before servicing the vehicle, protect fenders, upholstery and carpeting with appropriate covers.
   Take caution that keys, buckles or buttons on your person do not scratch the paint.

General Precautions (Cont'd)

7. Clean all disassembled parts in the designated liquid or solvent prior to inspection or assembly.
8. Replace oil seals, gaskets, packings, O-rings, locking washers, cotter pins, self-locking nuts, etc. with new ones.
9. Replace inner and outer races of tapered roller bearings and needle bearings as a set.
10. Arrange the disassembled parts in accordance with their assembled locations and sequence.
11. Do not touch the terminals of electrical components which use microcomputers (such as ECMs).
    Static electricity may damage internal electronic components.
12. After disconnecting vacuum or air hoses, attach a tag to indicate the proper connection.
13. Use only the lubricants specified in MA section.
14. Use approved bonding agent, sealants or their equivalents when required.
15. Use tools and recommended special tools where specified for safe and efficient service repairs.
16. When repairing the fuel, oil, water, vacuum or exhaust systems, check all affected lines for leaks.
17. Dispose of drained oil or the solvent used for cleaning parts in an appropriate manner.


SGI787

Precautions for Multiport Fuel Injection System or ECCS Engine

1. Before connecting or disconnecting multiport fuel injection system or ECCS harness connector to or from any multiport fuel injection system or ECM (ECCS control module), be sure to turn the ignition switch to the "OFF" position and disconnect the negative battery terminal.
   Otherwise, there may be damage to ECM.
2. Before disconnecting pressurized fuel line from fuel pump to injectors, be sure to release fuel pressure to eliminate danger.
3. 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:

1. Use unleaded gasoline only. Leaded gasoline will seriously damage the three way catalyst.
2. When checking for ignition spark or measuring engine compression, make tests quickly and only when necessary.
3. Do not run engine when the fuel tank level is low, otherwise the engine may misfire causing damage to the converter.
4. Do not place the vehicle on inflammable material. Keep inflammable material off the exhaust pipe.

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.

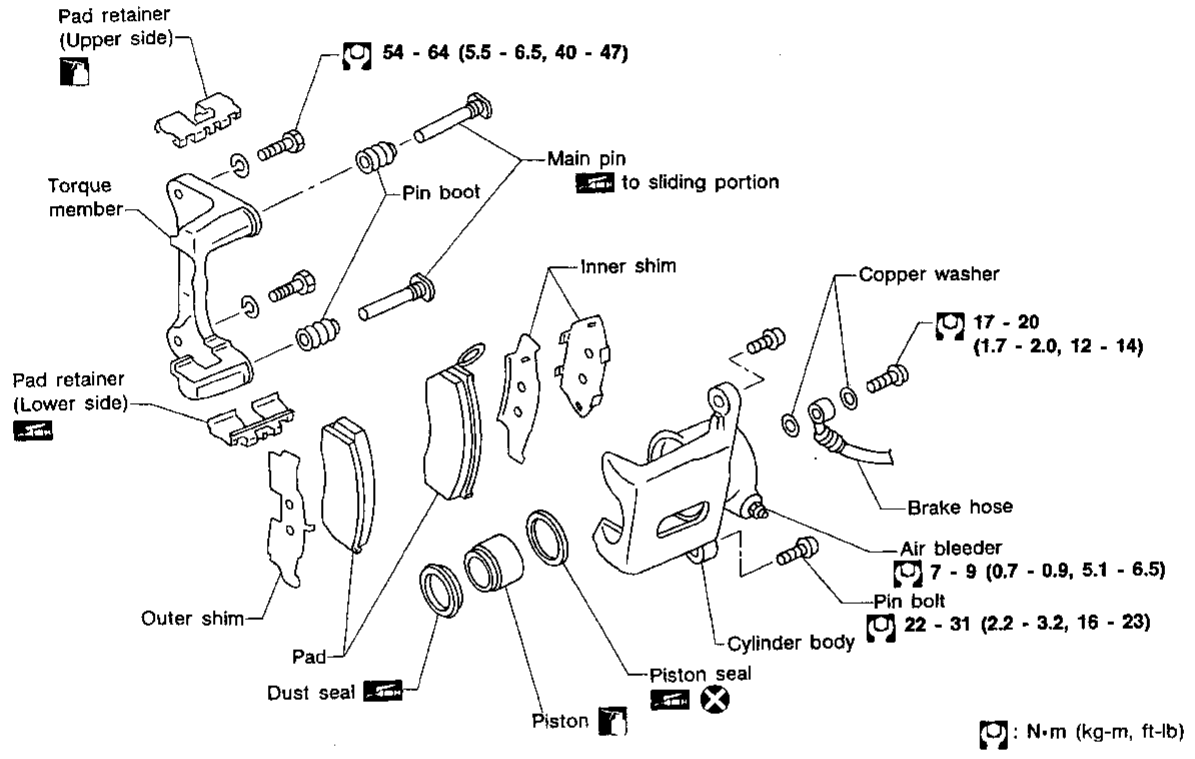
If premium unleaded gasoline is not available, REGULAR UNLEADED gasoline with an octane rating of 87 AKI (Research octane number 91) may be used temporarily, but only under the following conditions:

- 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.

Use UNLEADED fuel only. Under no circumstances should leaded gasoline be used. Lead gasoline will damage the three way catalyst and increase dangerous emissions from the vehicle exhaust.

1. **A QUICK REFERENCE INDEX**, a black tab (e.g. BR) 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.
2. **THE CONTENTS** are listed on the first page of each section.
3. **THE TITLE** is indicated on the upper portion of each page and shows the part or system.
4. **THE PAGE NUMBER** of each section consists of two letters which designate the particular section and a number (e.g. "BR-5").
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 the appropriate **PARTS CATALOG**.

"Example"



6. **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 complicated units such as the automatic transaxle or transmission, etc. are presented in a step-by-step format where necessary.

7. The following **SYMBOLS AND ABBREVIATIONS** are used:

	:	Tightening torque
	:	Should be lubricated with grease. Unless otherwise indicated, use recommended multi-purpose grease.
	:	Should be lubricated with oil.
	:	Sealing point
	:	Checking point
	:	Always replace after every disassembly.
Ⓟ	:	Apply petroleum jelly.
ATF	:	Apply ATF
★	:	Select with proper thickness.
☆	:	Adjustment is required.
P/S	:	Power steering

SDS	:	Service Data and Specifications
SAE	:	Society of Automotive Engineers Inc.
LH, RH	:	Left-Hand, Right-Hand
FR, RR	:	Front, Rear
A/T	:	Automatic Transaxle/Transmission
Tool	:	Special Service Tools
ATF	:	Automatic Transmission Fluid
D_1	:	Drive range 1st gear
D_2	:	Drive range 2nd gear
D_3	:	Drive range 3rd gear
D_4	:	Drive range 4th gear
OD	:	Overdrive
2_2	:	2nd range 2nd gear
2_1	:	2nd range 1st gear
1_2	:	1st range 2nd gear
1_1	:	1st range 1st gear
3_3	:	3rd range 3rd gear
3_2	:	3rd range 2nd gear
3_1	:	3rd range 1st gear

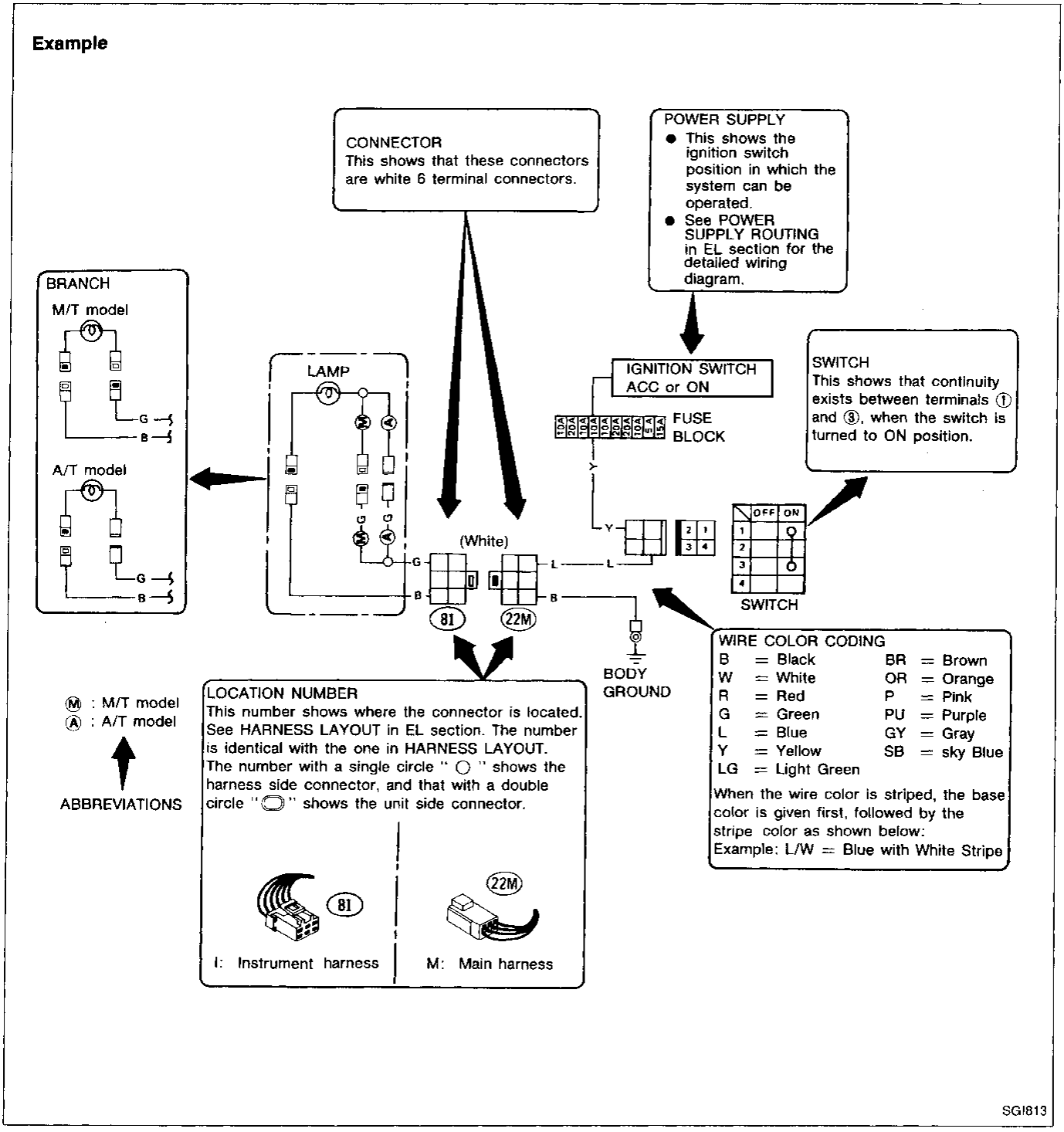
8. The **UNITS** given in this manual are primarily expressed as SI UNITS (International System of Unit), and alternately expressed in the metric system and in the yard/pound system.
   "Example"
   Tightening torque:
   59 - 78 N·m (6.0 - 8.0 kg-m, 43 - 58 ft-lb)
9. **TROUBLE DIAGNOSES** are included in sections dealing with complicated components.
10. **SERVICE DATA AND SPECIFICATIONS** are contained at the end of each section for quick reference of data.
11. 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.

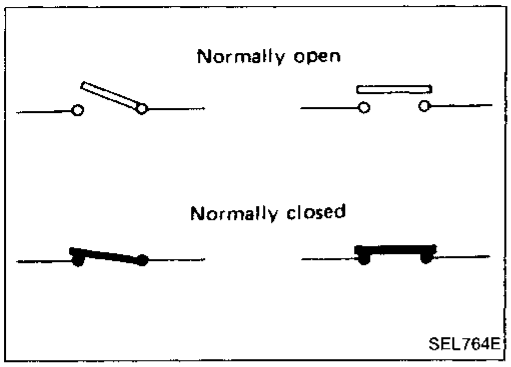
- **WARNING** indicates the possibility of personal injury if instructions are not followed.
- **CAUTION** indicates the possibility of component damage if instructions are not followed.
- **BOLD TYPED STATEMENTS** except **WARNING** and **CAUTION** give you helpful information.

WIRING DIAGRAM

Symbols used in WIRING DIAGRAM are shown below:

Example

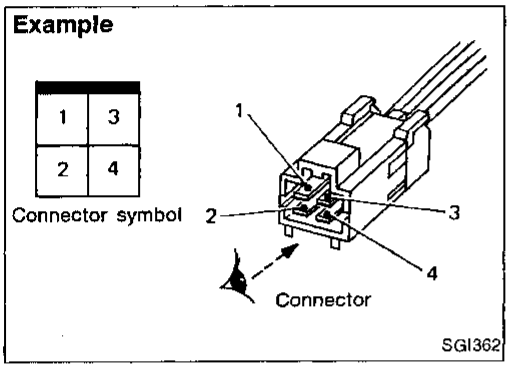




SWITCH POSITIONS

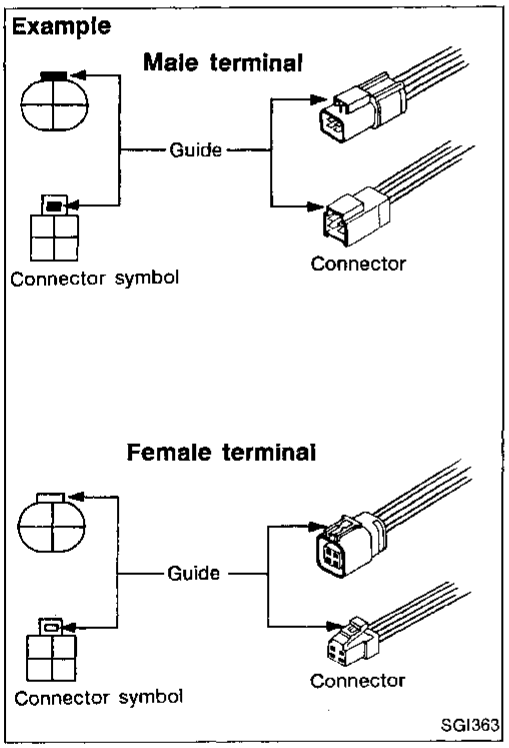
Wiring diagram switches are shown with the vehicle in the following condition.

- Ignition switch "OFF".
- Doors, hood and trunk lid/back door closed.
- Pedals are not depressed and parking brake is released.



CONNECTOR SYMBOLS

- All connector symbols in wiring diagrams are shown from the terminal side.

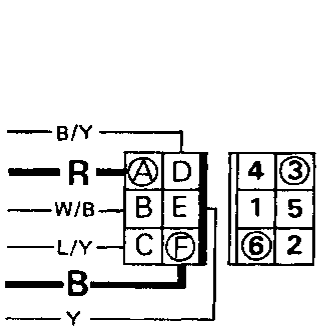


- Male and female terminals
  Connector guides for male terminals are shown in black and female terminals in white in wiring diagrams.

MULTIPLE SWITCH

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

Example



WIPER SWITCH

	OFF	INT	LO	HI	WASH
1					○
2				○	
③	○	○	◍		
4	○	○			
5		○			
⑥		○	◍	○	○

Continuity circuit of wiper switch

SWITCH POSITION	CONTINUITY CIRCUIT
OFF	3 - 4
INT	3 - 4, 5 - 6
LO	3 - 6
HI	2 - 6
WASH	1 - 6

Example: Wiper switch in LO position

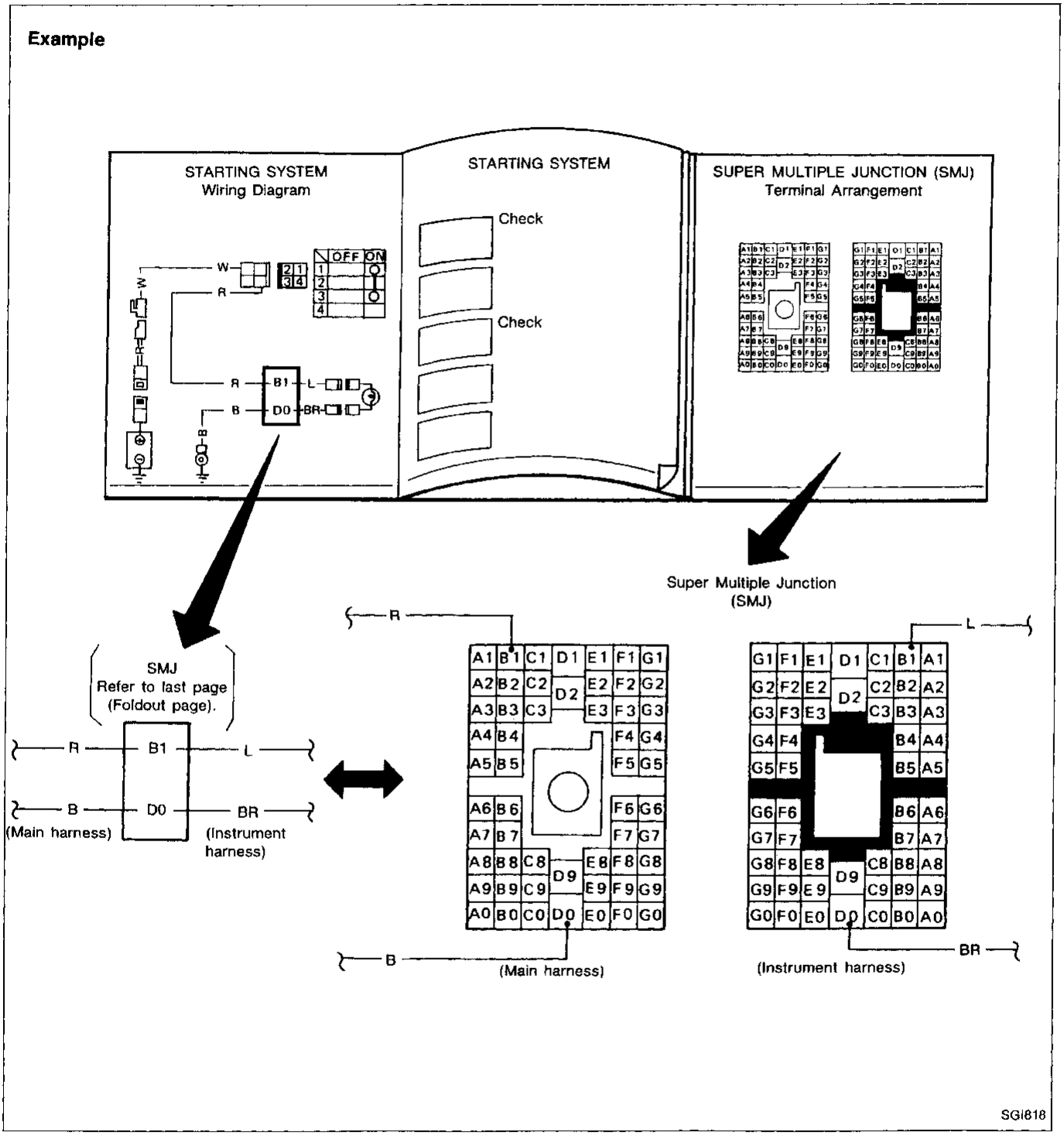
Continuity circuit: Red wire – Ⓐ terminal – ③ terminal – Wiper switch (◍ – ◍: LO) – ⑥ terminal – Ⓕ terminal – Black wire

SGI365

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.

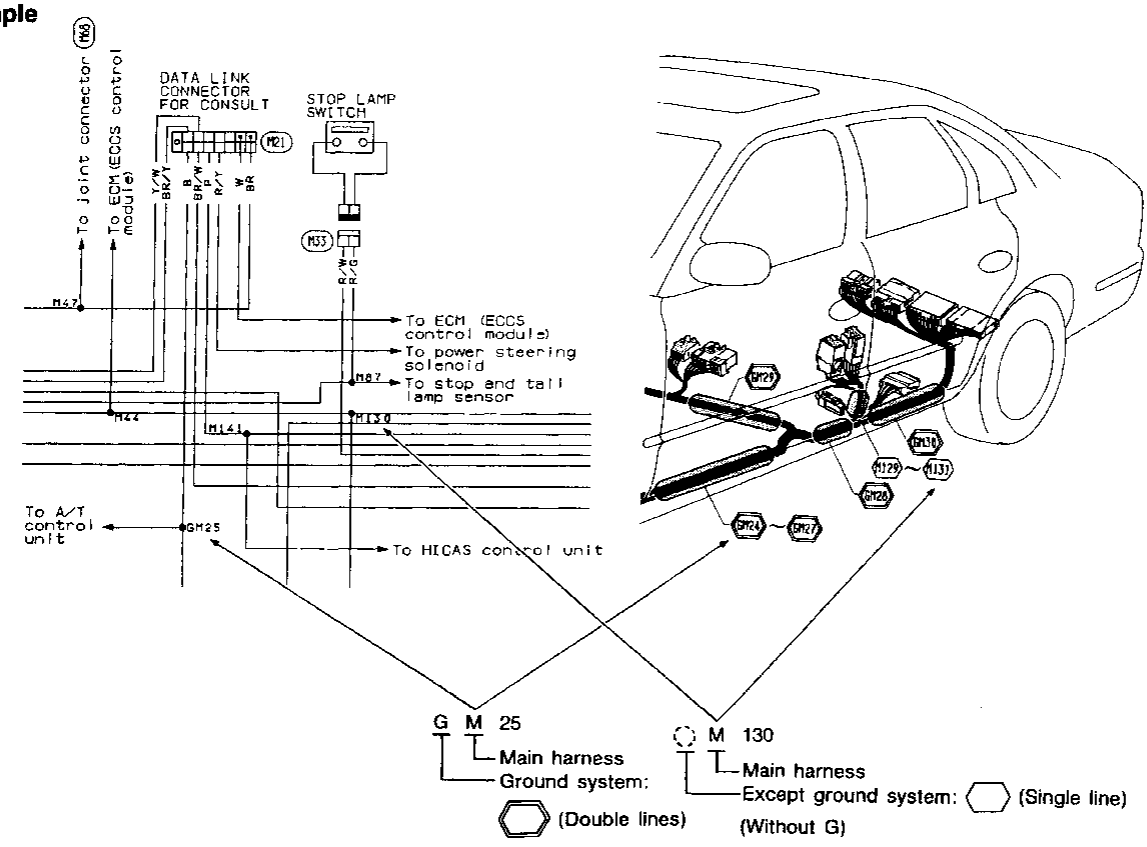
Example



SPLICE LOCATION

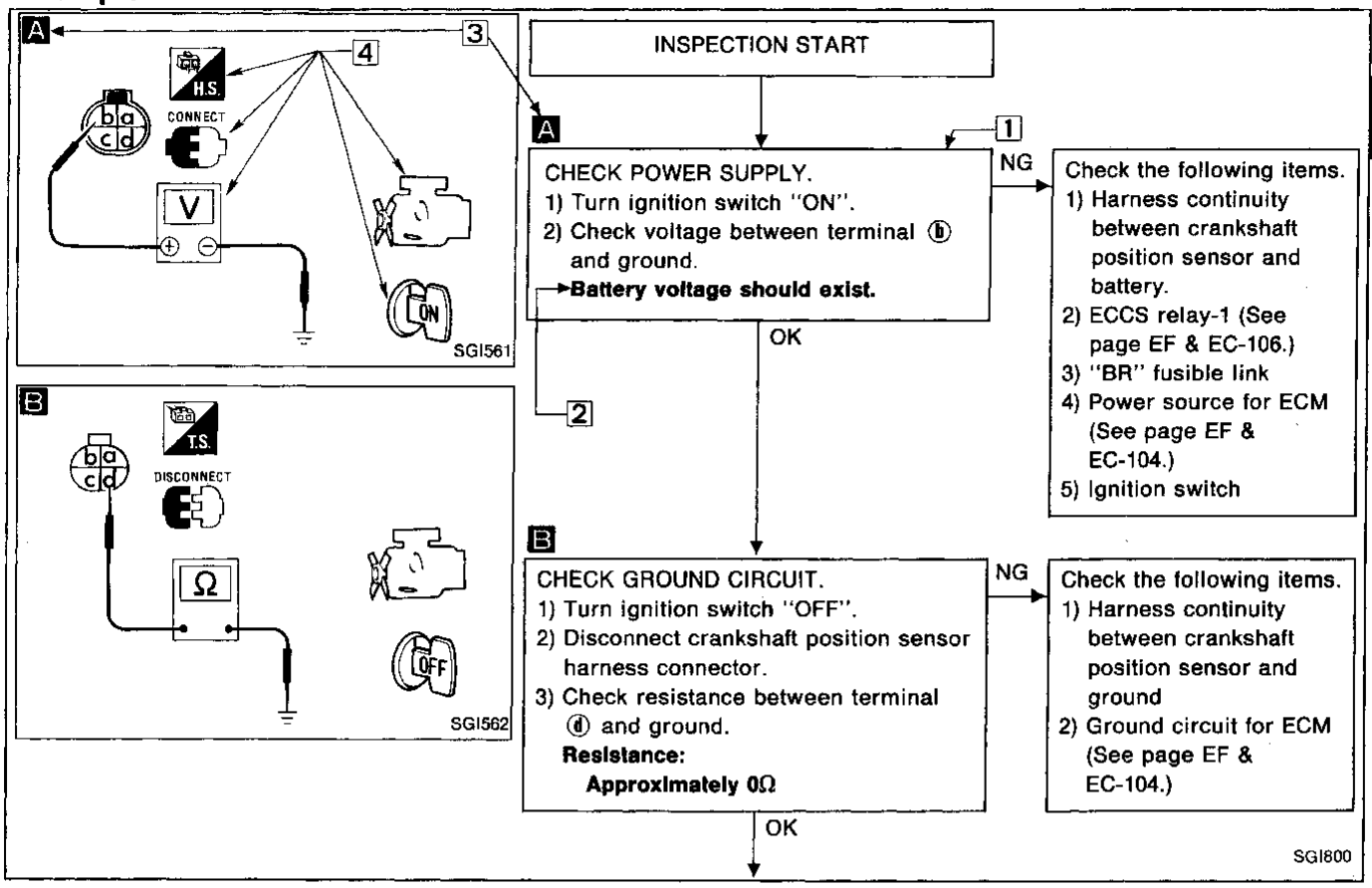
- "GM25", "M130" etc., which are shown in the wiring diagram, refer to wiring harness splice points. These points are located in shaded areas "GM25", "M130", etc. in illustrations under the title "SPLICE LOCATION".
- Wiring harness splice points are subject to change without prior notice.

Example



SEL192Q

Example



NOTICE

The flow chart indicates work procedures required to diagnose problems effectively. Observe the following instructions before diagnosing.

1) **Use the flow chart after locating probable causes of a problem following the "Preliminary Check" or the "Symptom Chart".**
2) **After repairs, re-check that the problem has been completely eliminated.**
3) **Refer to Component Parts Location and Harness Layout for the Systems described in each section for identification/ location of components and harness connectors.**
4) **Refer to the Circuit Diagram for Quick Pinpoint Check. If you must check circuit continuity between harness connectors in more detail, such as when a sub-harness is used, refer to Wiring Diagram and Harness Layout in EL section for identification of harness connectors.**
5) **When checking circuit continuity, ignition switch should be "OFF".**
6) **Before checking voltage at connectors, check battery voltage.**
7) **After accomplishing the Diagnostic Procedures and Electrical Components Inspection, make sure that all harness connectors are reconnected as they were.**

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.

HOW TO FOLLOW THIS FLOW CHART

1 Work and diagnostic procedure

Start to diagnose a problem using procedures indicated in enclosed blocks, as shown in the following example.

A

CHECK POWER SUPPLY.
1) Turn ignition switch "ON".
2) Check voltage between terminal ⓑ and ground.
Battery voltage should exist.

← Check item being performed.

Procedure, steps or measurement results

2 Measurement results

Required results are indicated in bold type in the corresponding block, as shown below:
These have the following meanings:

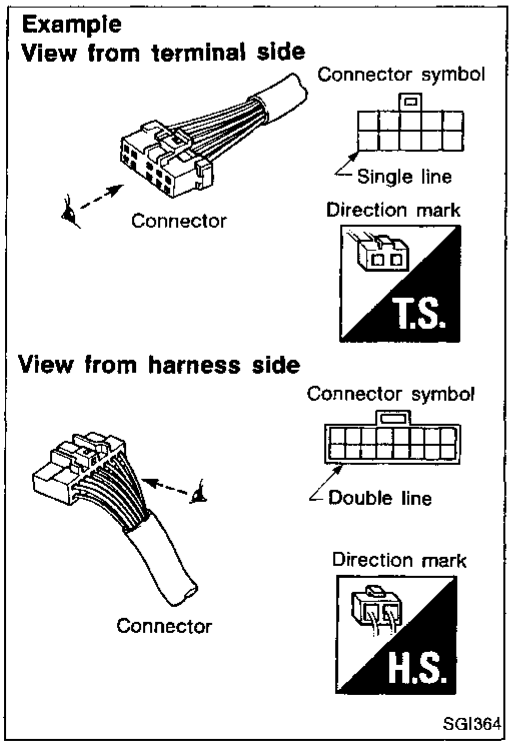
Battery voltage → 11 - 14V or approximately 12V
Voltage: Approximately 0V → Less than 1V

3 Cross reference of work symbols in the text and illustrations

Illustrations are provided as visual aids for work procedures. For example, symbol A indicated in the left upper portion of each illustration corresponds with the symbol in the flow chart for easy identification. More precisely, the procedure under the "CHECK POWER SUPPLY" outlined previously is indicated by an illustration A .

4 Symbols used in illustrations

Symbols included in illustrations refer to measurements or procedures. Before diagnosing a problem, familiarize yourself with each symbol.



Direction mark

A direction mark is shown to clarify the side of connector (terminal side or harness side).
Direction marks are mainly used in the illustrations indicating terminal inspection.

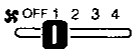
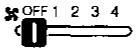
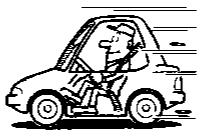
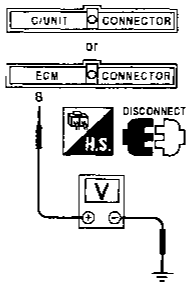
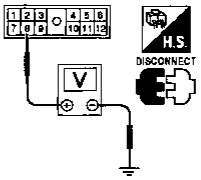
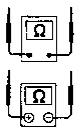
T.S. : **View from terminal side ... TS**

- **All connector symbols shown from the terminal side are enclosed by a single line.**

H.S. : **View from harness side ... HS**

- **All connector symbols shown from the harness side are enclosed by a double line.**

Key to symbols signifying measurements or procedures

Symbol	Symbol explanation	Symbol	Symbol explanation
	Check after disconnecting the connector to be measured.		Current should be measured with an ammeter.
	Check after connecting the connector to be measured.		Procedure with CONSULT
	Insert key into ignition switch.		Procedure without CONSULT
	Remove key from ignition switch.		A/C switch is "OFF".
	Turn ignition switch to "OFF" position.		A/C switch is "ON".
	Turn ignition switch to "ON" position.		Fan switch is "ON". (At any position except for "OFF" position)
	Turn ignition switch to "START" position.		Fan switch is "OFF".
	Turn ignition switch from "OFF" to "ACC" position.		Apply positive voltage from battery with fuse directly to components.
	Turn ignition switch from "ACC" to "OFF" position.		Drive vehicle.
	Turn ignition switch from "OFF" to "ON" position.		Disconnect battery negative cable.
	Turn ignition switch from "ON" to "OFF" position.		Depress brake pedal.
	Do not start engine, or check with engine stopped.		Release brake pedal.
	Start engine, or check with engine running.		Depress accelerator pedal.
	Apply parking brake.		Release accelerator pedal.
	Release parking brake.		Pin terminal check for SMJ type ECM, A/T control unit, full-active suspension control unit and TCS control unit connectors. **For details regarding the terminal arrangement, refer to the foldout page.** 
	Check after engine is warmed up sufficiently.		
	Voltage should be measured with a voltmeter.		
	Circuit resistance should be measured with an ohmmeter.		