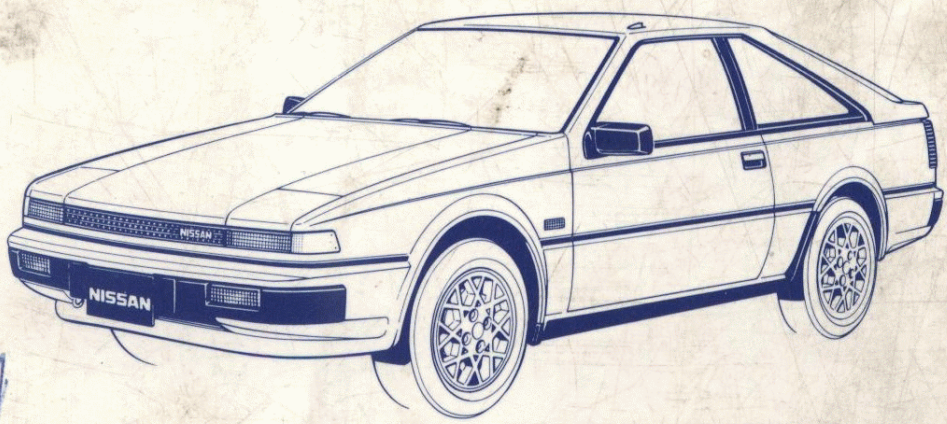
NISSAN

NISSAN 200SX

1986



SERVICE MANUAL

NISSAN 200SX

MODEL S12 SERIES

QUICK REFERENCE INDEX

GENERAL INFORMATION	GI
MAINTENANCE	MA
ENGINE MECHANICAL	EM
ENGINE LUBRICATION & COOLING SYSTEMS	LC
ENGINE FUEL & EMISSION CONTROL SYSTEM	EF & EC
ENGINE CONTROL, FUEL & EXHAUST SYSTEMS	FE
CLUTCH	CL
MANUAL TRANSMISSION	MT
AUTOMATIC TRANSMISSION	AT
PROPELLER SHAFT & DIFFERENTIAL CARRIER	PD
FRONT AXLE & FRONT SUSPENSION	FA
REAR AXLE & REAR SUSPENSION	RA
BRAKE SYSTEM	BR
STEERING SYSTEM	ST
BODY	BF
HEATER & AIR CONDITIONER	HA
ELECTRICAL SYSTEM	EL

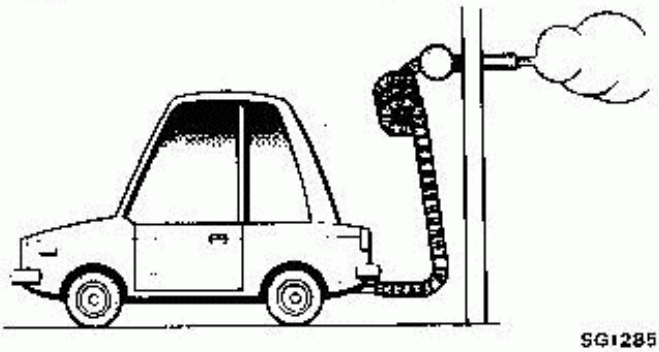
SECTION GI

CONTENTS

PRECAUTIONS ..... GI- 2
HOW TO USE THIS MANUAL ..... GI- 5
IDENTIFICATION INFORMATION ..... GI- 9
RECOMMENDED FUEL AND LUBRICANTS GI-14
LIFTING AND TOWING POINTS GI-16
TIGHTENING TORQUE OF STANDARD BOLT GI-19

The following precautions should be observed to ensure safe and proper service operations. These precautions are not described in each individual section.

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.

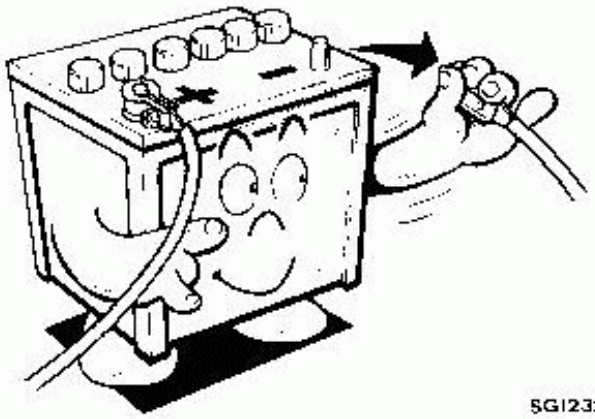


SGI285

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 before working on the vehicle.
   These operations should be done on a level surface.

SGI231

3. When removing a heavy component such as the engine or transaxle/transmission, take care not to lose your balance and drop it. Also do not allow it to hit against adjacent parts, especially the brake tube and brake master cylinder.
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.

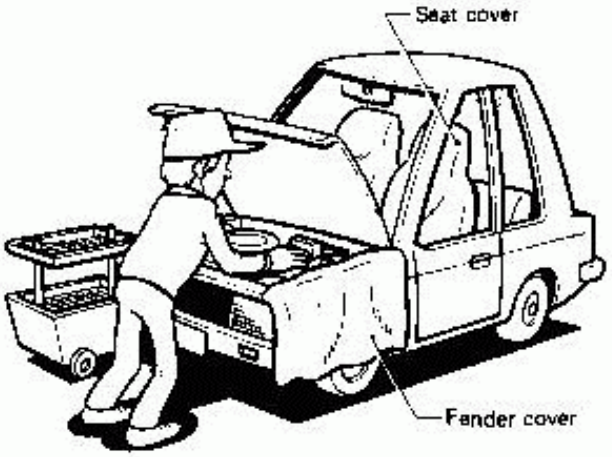


SGI232

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.

SGI233

6. To prevent scratches and soiling, protect fenders, upholstery and carpeting with appropriate covers before servicing.
   Take caution that keys, buckles or buttons on your person do not scratch the paint.



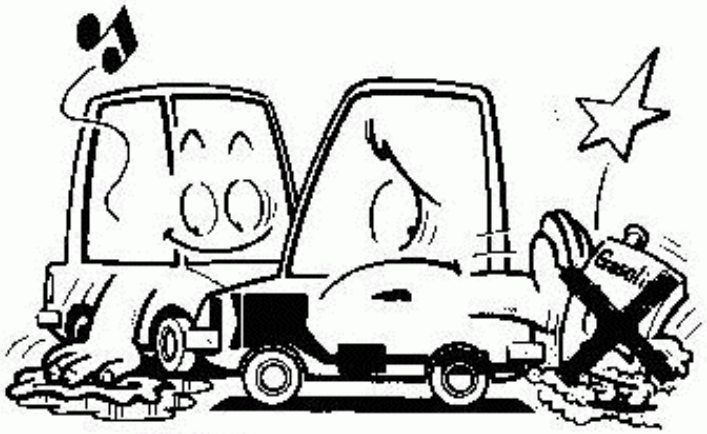
SGI234

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. as instructed and discard used ones.
9. Tapered roller bearings and needle bearings should be replaced as a set of inner and outer races.
10. Arrange the disassembled parts in accordance with their assembled locations and sequence.
11. Do not touch the terminals of electrical components which utilize microcomputers such as electronic control units. Static electrical charges stored in your body may damage internal electronic components.
12. After disconnecting vacuum hose or air hose, attach a tag which indicates the proper connection to prevent incorrect connection.
13. Use only the lubricants specified in the applicable section or those indicated under "Recommended Fuel and Lubricants".
14. Use approved bonding agents, sealants or their equivalents when required.
15. The use of the proper tools and recommended essential tools should be used where specified for proper, safe and efficient service repairs.
6. When effecting repairs on the fuel, oil, water, vacuum or exhaust systems, make certain to check all affected lines for leaks.
7. Dispose of drained oil or the solvent used for cleaning parts in an appropriate manner.

Precautions for a 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 catalytic converter.
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.



Clean floor

SGI290

Precautions for E.F.I. or E.C.C.S. Engine

1. Before connecting or disconnecting E.F.I. or E.C.C.S. harness connector to or from any E.F.I. or E.C.C.S. control unit, be sure to turn the ignition switch to the "OFF" position and disconnect the negative battery terminal.
   Otherwise, there may be damage to control unit.
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 control unit and air flow meter.

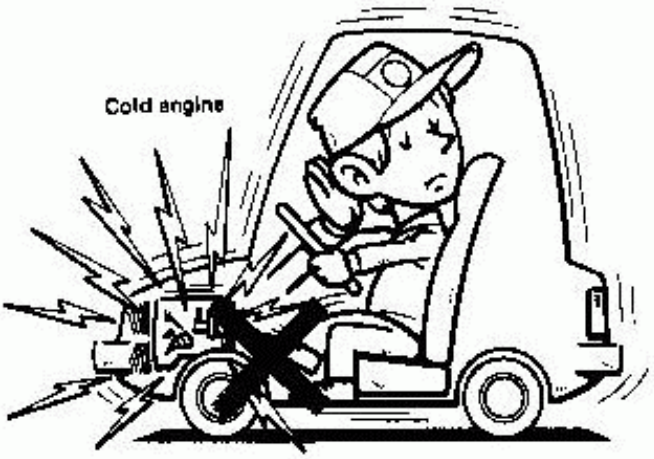
SGI291

Precautions for Turbocharger

The turbocharger system uses engine oil for lubrication and cooling of its rotating components. The turbocharger turbine turns at a speed in excess of 100,000 rpm at full throttle and its temperature can reach 870°C (1,600°F). It is essential to maintain a clean supply of oil flowing through the turbocharger system. Therefore, a sudden interruption of oil supply may cause a malfunction in the turbocharger.

For proper operation of the system, follow the procedure below.

1. Always use the recommended oil. Follow the instructions for proper time to change the oil and proper oil level.
2. Avoid accelerating engine to a high rpm immediately after starting.



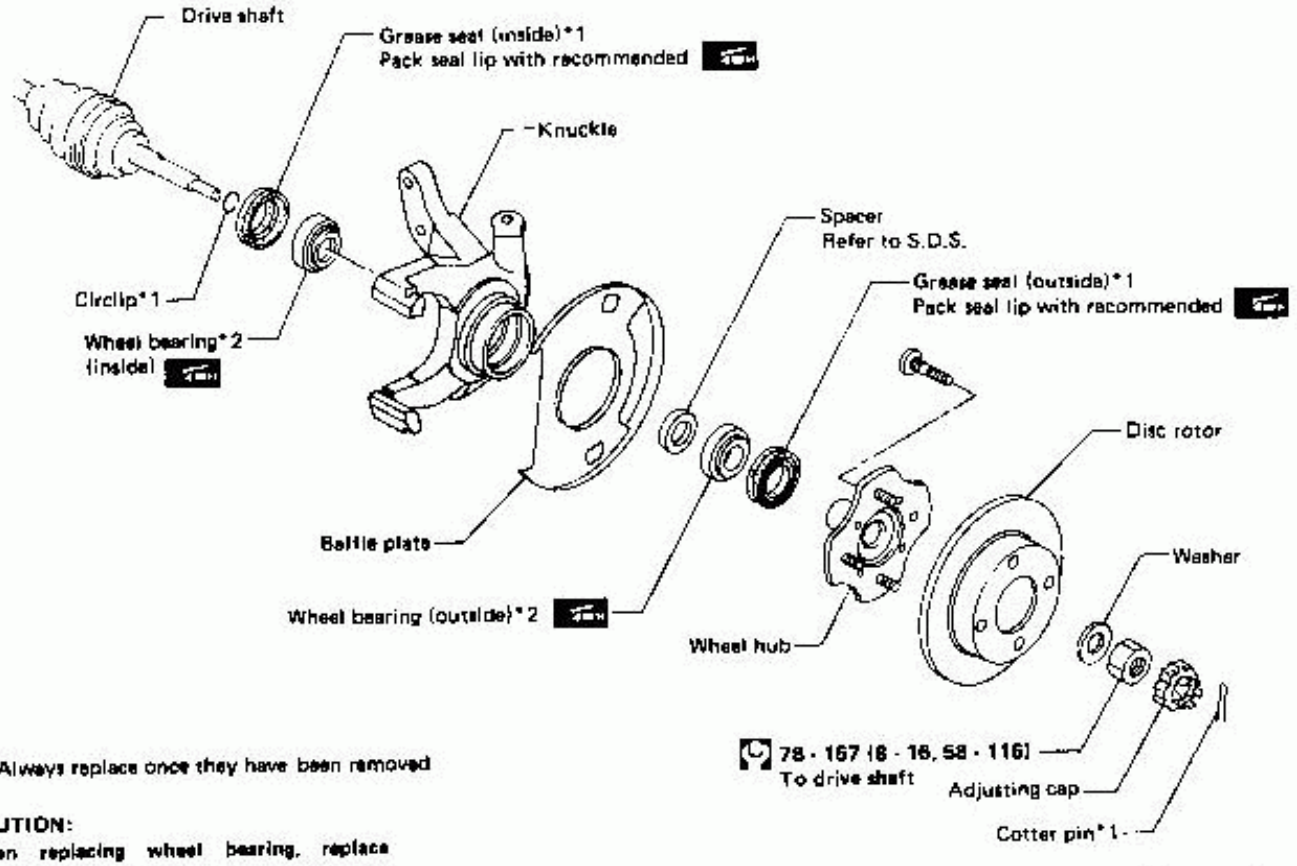
SGI292

3. If engine had been operating at high rpm for an extended period of time, let it idle for a few minutes prior to shutting it off.

1. **A QUICK REFERENCE INDEX**, a black tab (e.g. FA) is provided on the first page. You can quickly find the first page of each section by matching 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. "FA-5").
5. **THE FIRST LARGE ILLUSTRATION** of each section is an exploded view (See below) and contains tightening torques, lubrication points and other information necessary to perform repairs.

"Example"

FRONT AXLE — Wheel Hub and Knuckle



*1 Always replace once they have been removed

*2

CAUTION:

When replacing wheel bearing, replace inner and outer wheel bearings at the same time to prevent mix use of bearings of different brands.

: N·m (kg-m, ft-lb)

SFA494

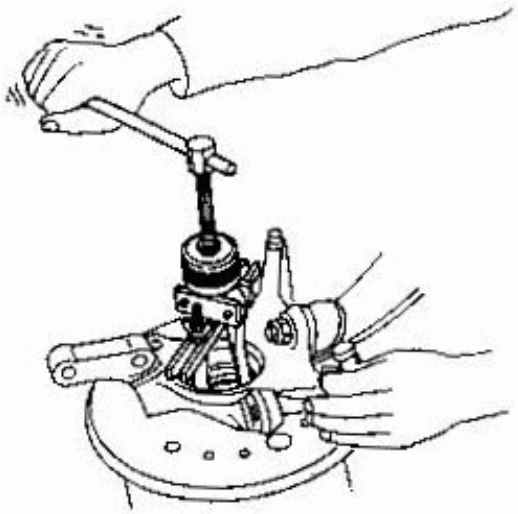
6. **THE FOLLOWING SMALL ILLUSTRATION** shows the important steps such as inspection, use of special tools, knacks of work and hidden or tricky steps which are not shown in the previous large illustration.
Assembly, inspection and adjustment procedures for the complicated units such as the automatic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

"Example"

KNUCKLE

- Remove wheel bearing outer races.

When replacing wheel bearing, replace as a set of outer and inner wheel bearing assembly.



SFA540

7. The followings **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.

S.D.S.:	Service Data and Specifications
L.H., R.H.:	Left-Hand, Right-Hand
M/T:	Manual Transaxle/Transmission
A/T:	Automatic Transaxle/Transmission
Tool:	Special Service Tools

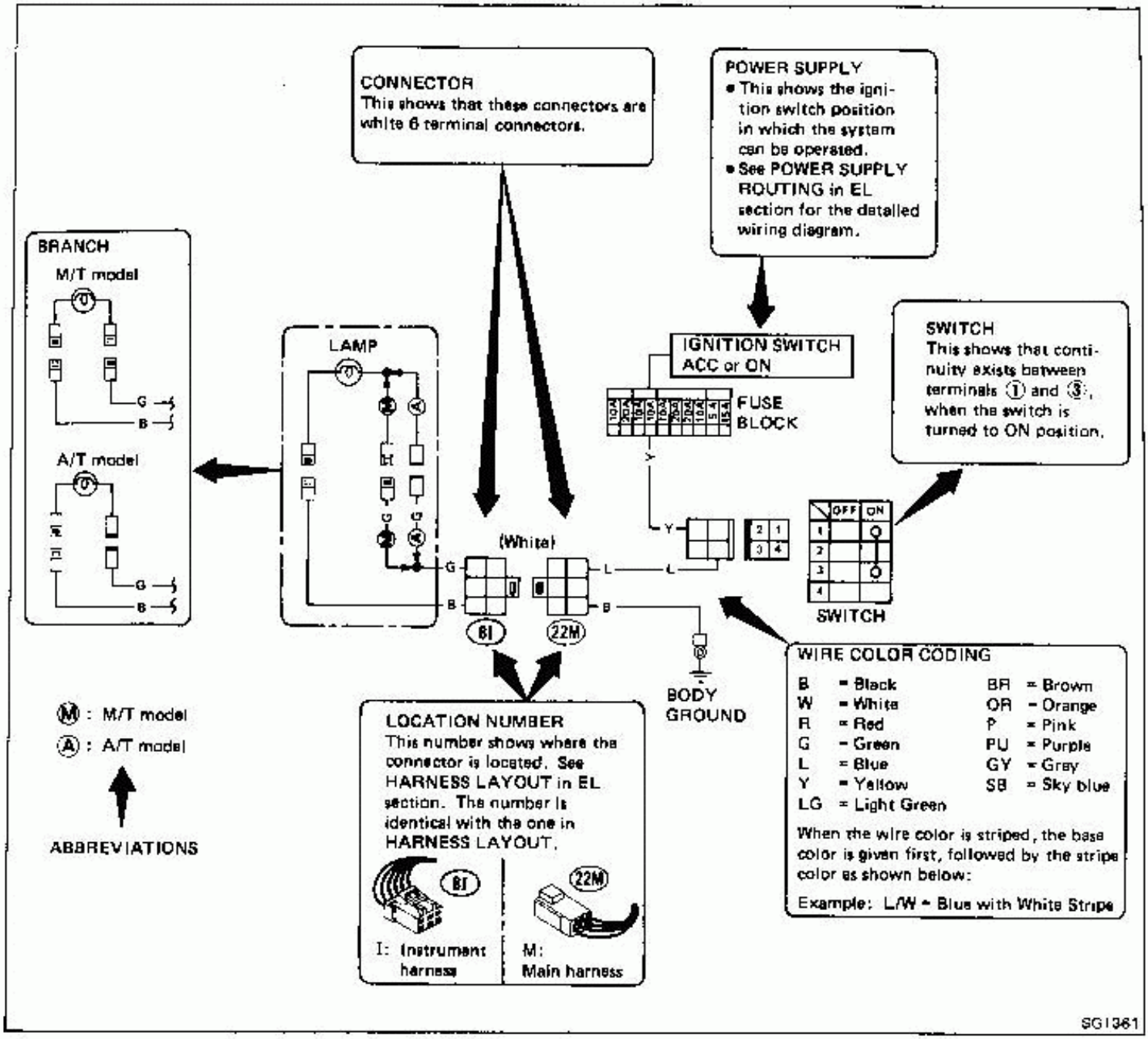
8. The UNIT given in this manual are primarily expressed with the SI UNIT (International System of Unit), and alternately expressed in the metric system and in the yard/pound system.

"Example"

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

9. Symbols used in **WIRING DIAGRAM** are shown below.

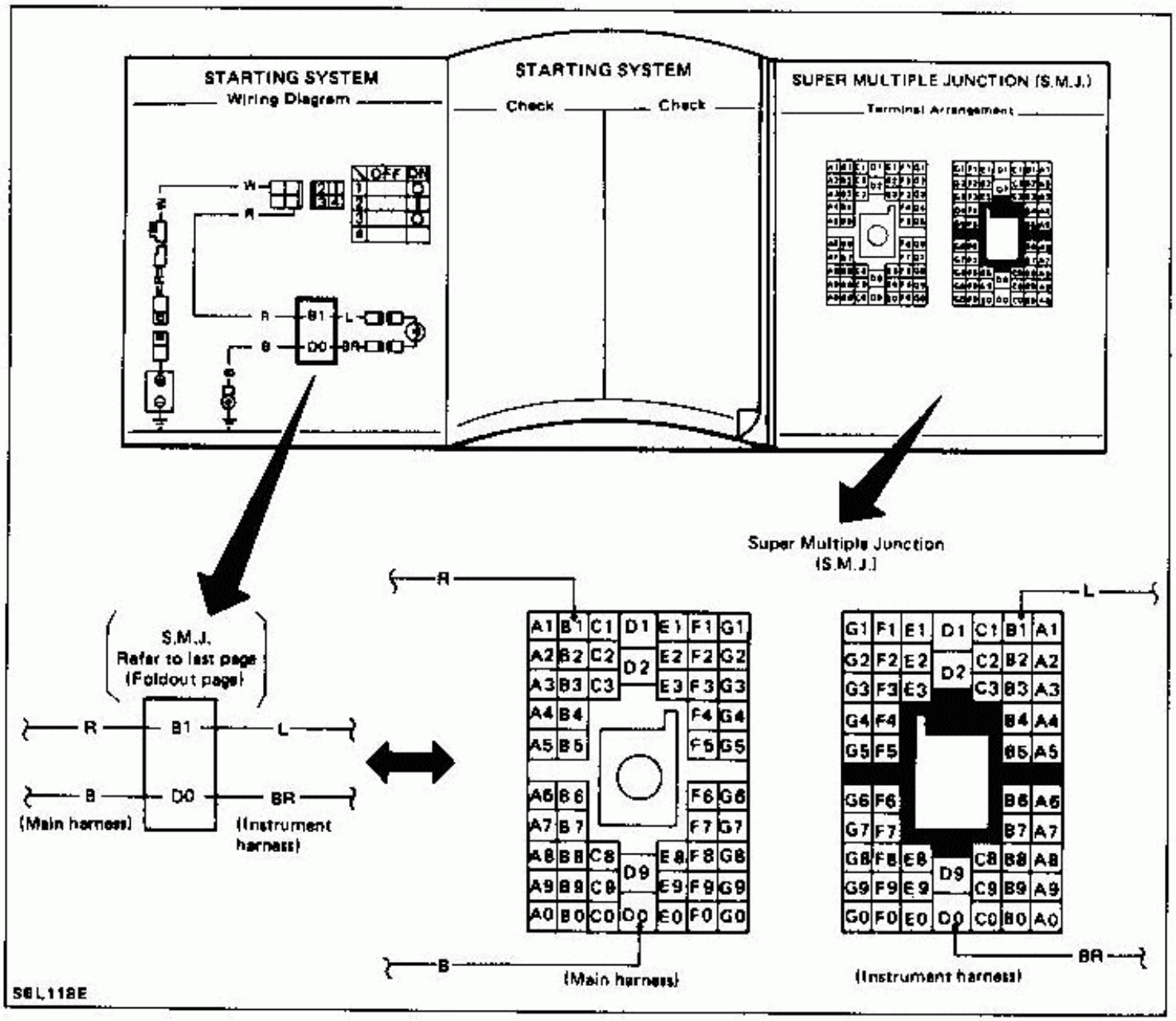
"Example"



10. SUPER MULTIPLE JUNCTION (S.M.J.)

- The "S.M.J." 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"



11. **TROUBLE DIAGNOSES AND CORRECTIONS** are included in sections dealing with complicated components.
12. **SERVICE DATA AND SPECIFICATIONS** and a list of **SPECIAL SERVICE TOOLS** are contained at the end of each section for quick reference of data and special tools.
13. 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.

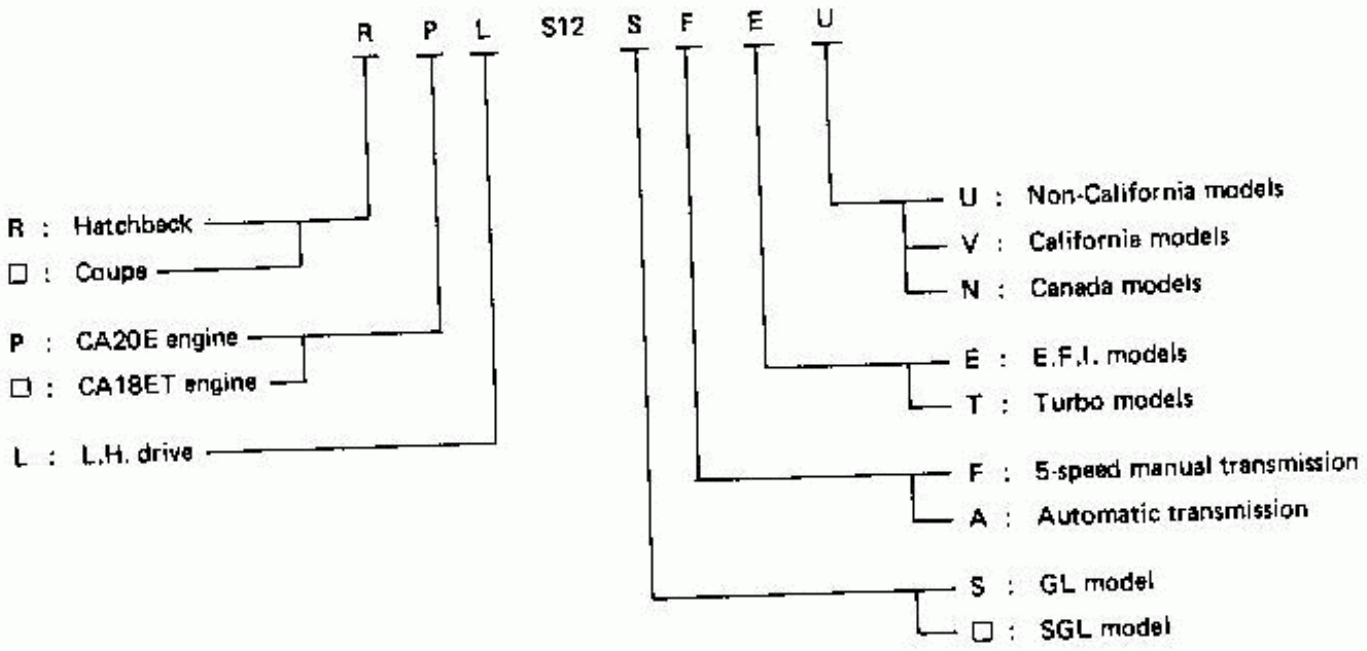
Model Variation

Destination	Body	Grade	Model	Engine	Transmission	Differential carrier	Road wheel*6 size ... off set mm (in)	Tire size
Non-California	Hatchback	SGL	RL-FTU	CA18ET	FS5W71B	R200	5J x 14*1 (Steel) ... 40 (1.57) 6JJ x 15*2 (Steel) ... 35 (1.38) 6JJ x 15*3 (Aluminum) ... 30 (1.18)*4 ... 35 (1.38) 4T x 15*5 ... 40 (1.57)	185/70SR 14*1 195/60R15 86H*2 205/60R15 89H*4 T135/70D15*5
	Coupe	GL	PL-SFEU	CA20E		R180		
			PL-SAEU		L4N71B			
		SGL	PL-FEU		FS5W71B			
			PL-AEU		L4N71B			
	Hatchback	GL	RPL-SFEU		FS5W71B			
			RPL-SAEU		L4N71B			
		SGL	RPL-FEU		FS5W71B			
			RPL-AEU		L4N71B			
California	Hatchback	SGL	RL-FTV	CA18ET	FS5W71B	R200		
	Coupe	GL	PL-SFEV	CA20E		R180		
			PL-SAEV		L4N71B			
		SGL	PL-FEV		FS5W71B			
			PL-AEV		L4N71B			
	Hatchback	GL	RPL-SFEV		FS5W71B			
			RPL-SAEV		L4N71B			
		SGL	RPL-FEV		FS5W71B			
			RPL-AEV		L4N71B			
Canada	Hatchback	SGL	RL-FTN	CA18ET	FS5W71B	R200		
	Coupe	GL	PL-SFEN	CA20E		R180		
			PL-SAEN		L4N71B			
		SGL	PL-FEN		FS5W71B			
			PL-AEN		L4N71B			
	Hatchback		RPL-FEN		FS5W71B			
			RPL-AEN		L4N71B			

*1: GL models
*2: Standard for SGL models, option for GL models.
*3: Standard for Turbo models, option for SGL models.
*4: Turbo models
*5: Spare tire
*6: Pitch circle diameter is 114.3 mm (4.50 in).

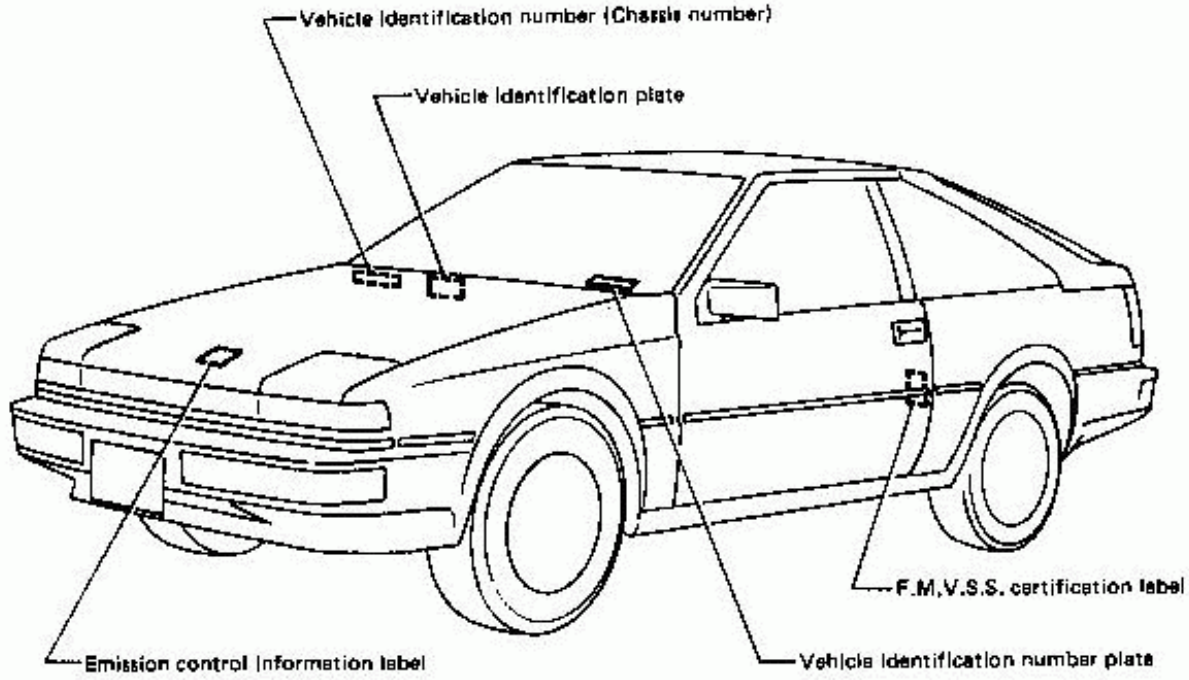
Model Variation (Cont'd)

Prefix and suffix designations:



Note: □ means no indication.

Identification Number



SG1342

VEHICLE IDENTIFICATION NUMBER ARRANGEMENT

JN1 P S 2 4 S * G W 000101

Manufacturer
JN1 : Nissan passenger vehicle

Engine type
P : CA20E
C : CA18ET

Vehicle line
S : NISSAN 200SX

Model change (0 to 9)

Body type
4 : 2-door Coupe
6 : 3-door Hatchback

Restraint system
S : Standard

Check digit (0 to 9 or X)
The code for the check digit is determined by mathematical computation.

Model year
G : 1986 year model

Manufacture plant
W : Kyushu

Vehicle serial number

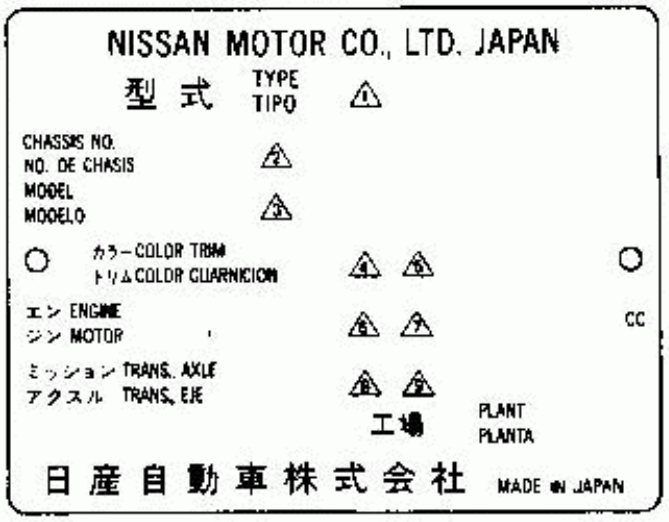
The production of the 1986 NISSAN 200SX starts with the following vehicle identification numbers:

JN1PS24S*GW000101
JN1PS26S*GW000101
JN1CS26S*GW000101

*: Check digit (0 to 9 or X)

Identification Number (Cont'd)

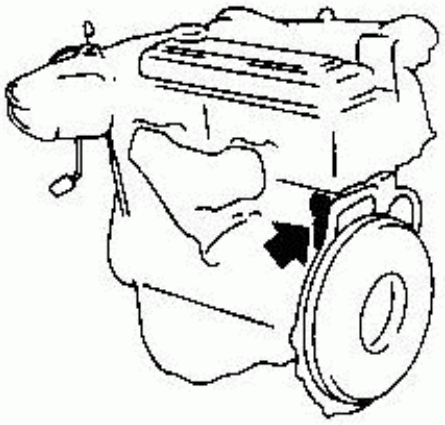
IDENTIFICATION PLATE



1 Type
2 Vehicle identification number (Chassis number)
3 Model
4 Body color code
5 Trim color code
6 Engine model
7 Engine displacement
8 Transmission model
9 Axle model

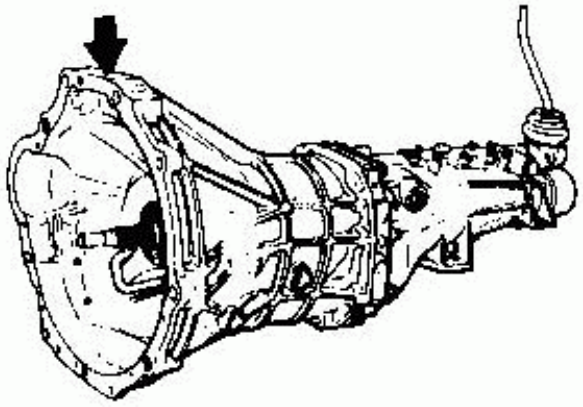
SGI315

ENGINE SERIAL NUMBER



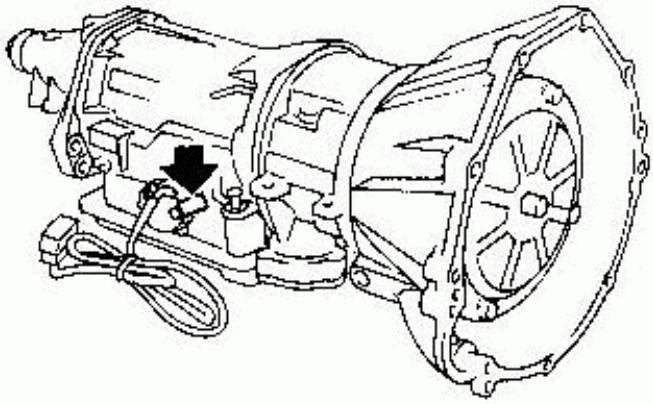
LC438

MANUAL TRANSMISSION NUMBER



TM238

AUTOMATIC TRANSMISSION NUMBER



SGI273

Dimension

			Non-turbo	Turbo
Overall length		mm (in)	4,430 (174.4)	
Overall width		mm (in)	1,660 (65.4)	
Overall height		mm (in)	1,330 (52.4)	
Wheelbase		mm (in)	2,425 (95.5)	
Tread	Front	mm (in)	1,390 (54.7)	1,400 (55.1)
	Rear	mm (in)	1,425 (56.1)	1,435 (56.5)
Min. ground clearance		mm (in)	155 (6.1)	
Over-hang	Front	mm (in)	940 (37.0)	
	Rear	mm (in)	1,065 (41.9)	

RECOMMENDED FUEL AND LUBRICANTS

Fuel

Use unleaded gasoline with an octane rating of at least A.K.I. (Anti-Knock Index) number 87 (Research octane number 91).

Approximate Refill Capacities

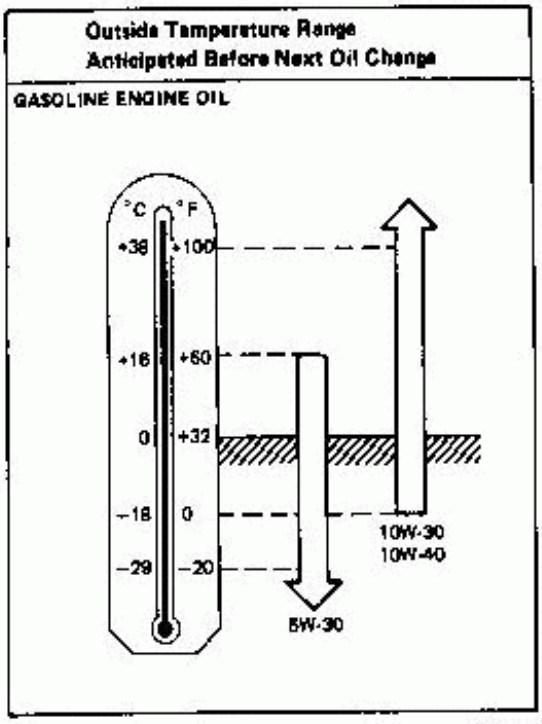
	Liter	US measure	Imp measure
Fuel tank	53	14 gal	11-5/8 gal
Coolant			
With heater	8.6	9-1/8 qt	7-5/8 qt
Engine			
With oil filter	3.6	3-7/8 qt	3-1/8 qt
Without oil filter	3.2	3-3/8 qt	2-7/8 qt
Transmission			
M/T	2.1	4-1/2 pt	3-3/4 pt
A/T	7.0	7-3/8 qt	6-1/8 qt
Differential carrier			
R180	1.0	2-1/8 pt	1-3/4 pt
R200	1.3	2-3/4 pt	2-1/4 pt
Power steering system	0.9	1 qt	3/4 qt
Windshield washer tank	3.5	3-3/4 qt	3-1/8 qt
Air conditioning system			
Refrigerant	1.0 kg	2.2 lb	2.2 lb

Lubricants

Lubricant		Specifications	Remarks
Engine oil	Non-turbo engine	API SF (Energy Conserving Oils)*	For further details, refer to the recommended SAE viscosity chart.
	Turbo engine	API SF/CC or SF/CD	
Gear oil	Transmission	API GL-4	
	Differential	API GL-5	
Automatic-T/M and power steering fluid		Type DEXRON®	–
Multi-purpose grease		NLGI No. 2	Lithium soap base
Brake and clutch fluid		DOT 3	US FMVSS No. 116
Anti-freeze		–	Ethylene glycol base

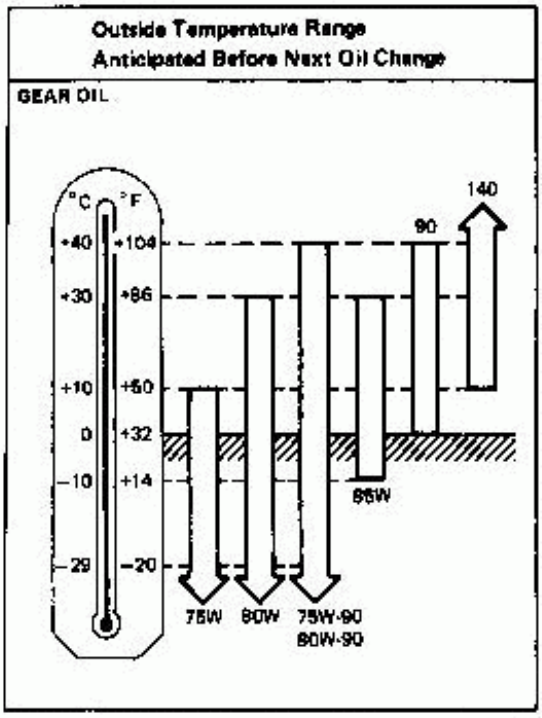
*: ENERGY CONSERVING OILS
In order to improve fuel economy and conserve energy, new lower friction engine oils have been developed. These oils are readily available and can be identified by such labels as energy conserving, energy saving, improved fuel economy, etc.

SAE Viscosity Number



TI0002

10W-30 is preferable if the ambient temperature is above −18°C (0°F). 20W-40 and 20W-50 are usable if the ambient temperature is above 10°C (50°F) for all seasons.



TI0003

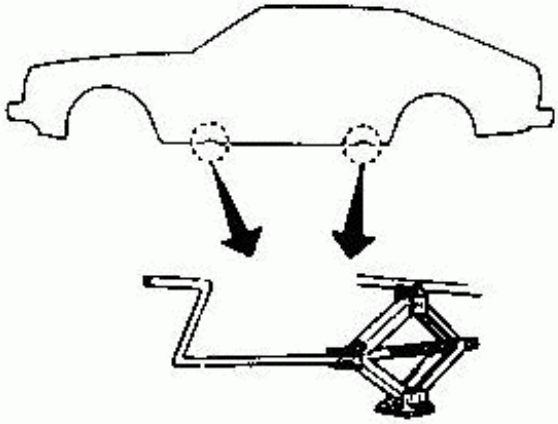
75W-90 (API GL-4) for transmission and 80W-90 (API GL-5) for differential are preferable if the ambient temperature is below 40°C (104°F).

WARNING:

a. **Never get under the vehicle while it is supported only by the jack. Always use safety stands to support the frame when you have to get under the vehicle.**

b. **Place wheel chocks at both front and back of the wheel which is diagonally opposite the jack position. Example: If the jack is positioned at the front L.H. wheel, place wheel chocks at the rear R.H. wheel.**

Pantograph Jack

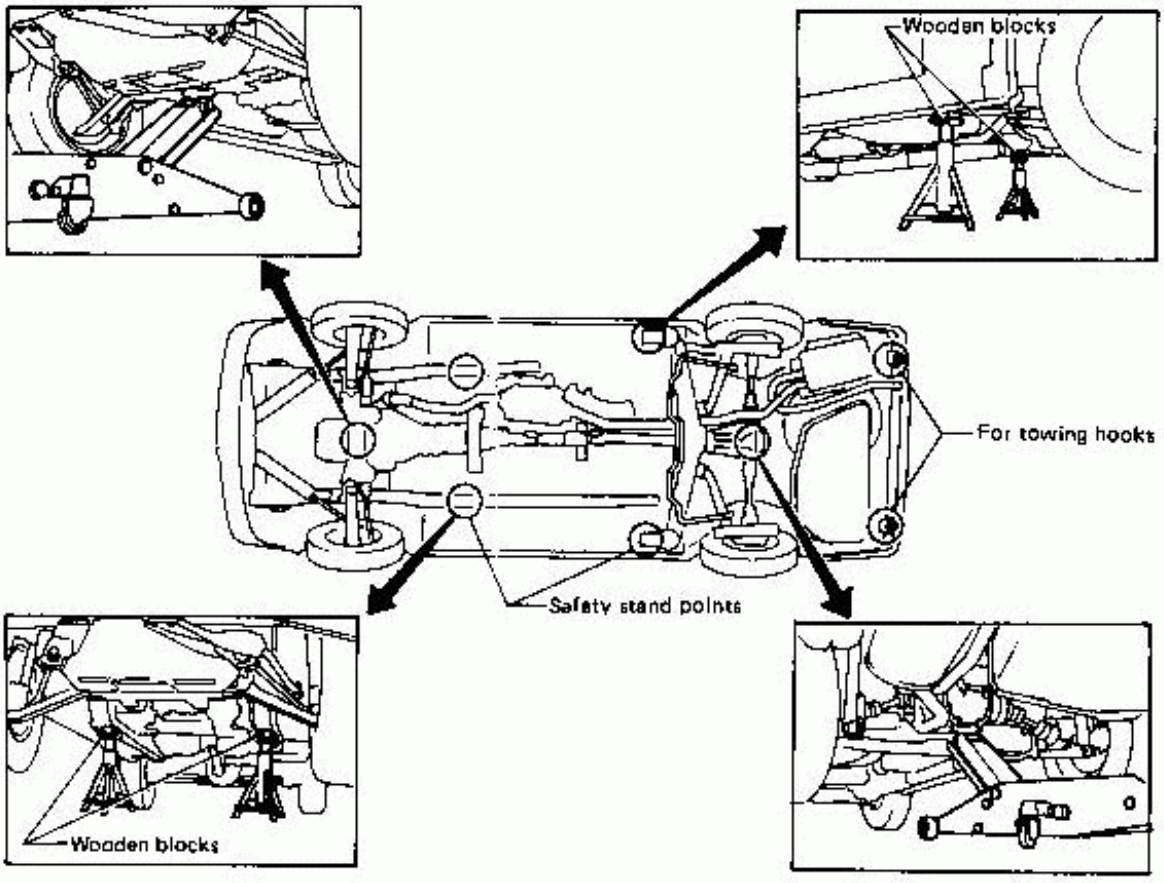


SGI154

Garage Jack and Safety Stand

CAUTION:

- **Place a wooden or rubber block between safety stand and vehicle body when the supporting body is flat.**

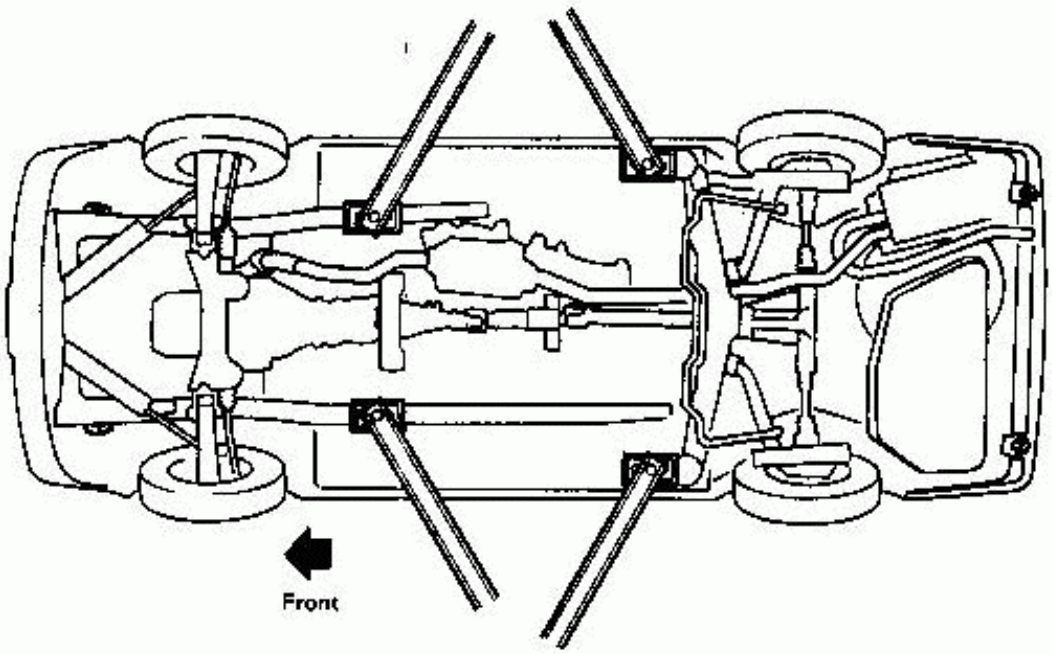


SGI391

LIFTING AND TOWING POINTS

2-point Lift

WARNING:
When lifting the vehicle, open the lift arms as wide as possible and ensure that the front and rear of the vehicle are well balanced.
When setting the lift arm, do not allow the arm to contact the brake tubes and fuel lines.

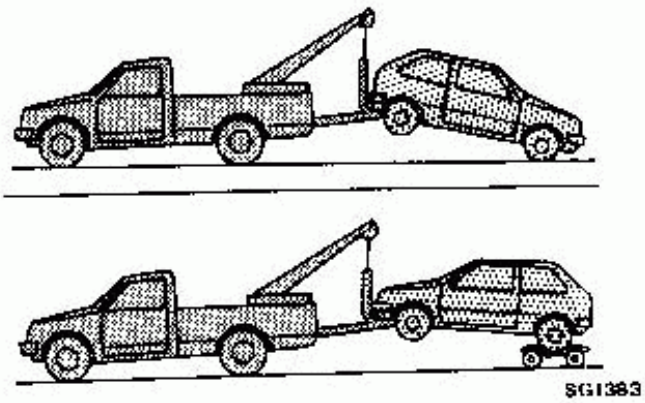


SGI307

Towing

CAUTION:

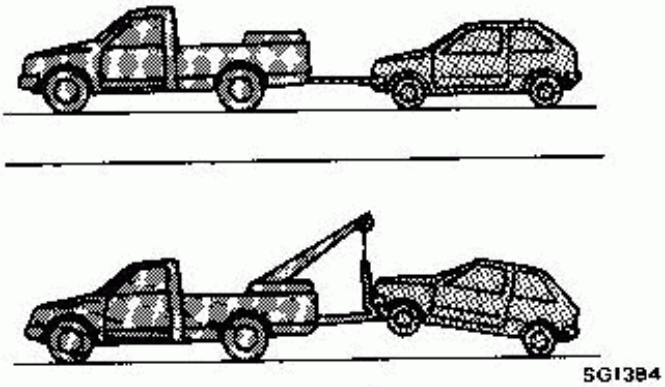
- All applicable State or Provincial (in Canada) laws and local laws regarding the towing operation must be obeyed.
- It is necessary to use proper towing equipment to avoid possible damage to the vehicle during a towing operation.
  Towing is in accordance with Towing Procedure Manual at dealer.
- Always observe posted speed limits.
- Before towing, make sure that the transmission, steering system and power train are in good order. If any unit is damaged, a dolly must be used or the vehicle must be towed with rear wheels off the ground.
- When towing with the front wheels on the ground:
  Turn the ignition key to the "OFF" position and secure the steering wheel in a straight-ahead position with a rope or similar device. Never place the ignition key in the "LOCK" position. This will result in damage to the steering lock mechanism.
- When towing with the rear wheels on the ground, release the parking brake and move the gearshift lever to neutral ("N" position).



SGI383

We recommend that vehicle be towed with the driving (rear) wheels off the ground as illustrated.

TOWING WITH FOUR WHEELS ON GROUND OR TOWING WITH FRONT WHEELS RAISED (With rear wheels on ground)



SGI384

Automatic transmission models

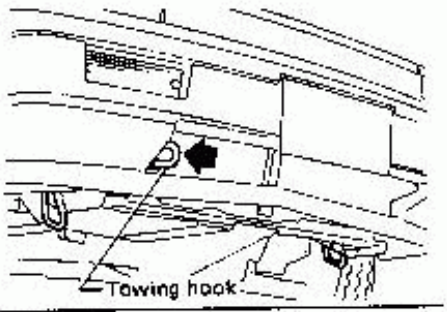
When towing as illustrated, observe the following restricted towing speeds and distances.

Speed	km/h (MPH)	Below 50 (30)
Distance	km (miles)	Less than 65 (40)

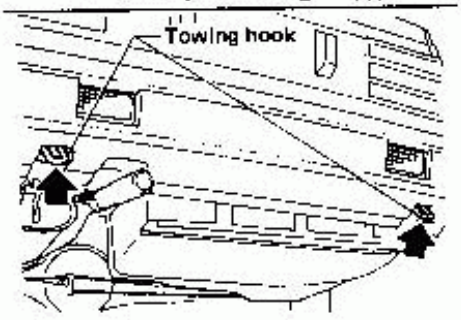
If the speed or distance must be greater, remove the propeller shaft beforehand to prevent damage to the transmission.

TOWING POINT

FRONT



REAR



SGI392

- Use only towing hooks. Otherwise, the vehicle body will be damaged.
- Do not apply force to the towing hook in a lateral direction. Keep the tow rope or similar device straight ahead, in line with the vehicle.