

MAINTENANCE

SECTION **MA**

MA

CONTENTS

PRE-DELIVERY INSPECTION ITEMS	MA- 2
GENERAL MAINTENANCE	MA- 3
PERIODIC MAINTENANCE (Except for Europe)	MA- 4
PERIODIC MAINTENANCE (For Europe except U.K.)	MA- 6
PERIODIC MAINTENANCE (For U.K.)	MA- 8
RECOMMENDED FLUIDS AND LUBRICANTS	MA-10
ENGINE MAINTENANCE	MA-12
CHASSIS AND BODY MAINTENANCE	MA-21
SERVICE DATA AND SPECIFICATIONS (S.D.S.)	MA-31

PRE-DELIVERY INSPECTION ITEMS

Shown below are Pre-delivery Inspection Items required for the new vehicle. It is recommended that necessary items other than those listed here be added, paying due regard to the conditions in each country.

Perform applicable items on each model. Consult text of this section for specifications.

UNDER HOOD — engine off

- Radiator coolant level and coolant hose connections for leaks
- Battery fluid level, specific gravity and conditions of battery terminals
- Drive belts tension
- Fuel filter for water or dusts, and fuel lines and connections for leaks
- Engine oil level and oil leaks
- Clutch and brake reservoir fluid level and fluid lines for leaks
- Windshield and rear window washer and headlamp cleaner reservoir fluid level
- Power steering reservoir fluid level and hose connections for leaks

ON INSIDE AND OUTSIDE

- Remove front spring/strut spacer (If applicable)
- Operation of all instruments, gauges, lights and accessories
- Operation of horn(s), wiper and washer
- Steering lock for operation
- Check air conditioner for gas leaks
- Front and rear seats, and seat belts for operation
- All moldings, trims and fittings for fit and alignment
- All windows for operation and alignment
- Hood, trunk lid, door panels for fit and alignment
- Latches, keys and locks for operation
- Weatherstrips for adhesion and fit
- Headlamp aiming
- Tighten wheel nuts (Inc. inner nuts if applicable)
- Tire pressure (Inc. spare tire)
- Check front wheels for toe-in
- Install clock/voltmeter/room lamp fuse (If applicable)
- Install deodorizing filter to air purifier (If applicable)
- Remove wiper blade protectors (If applicable)

UNDER BODY

- Manual transmission/transaxle, transfer and differential gear oil level
- Brake and fuel lines and oil/fluid reservoirs for leaks
- Tighten bolts and nuts of steering linkage and gear box, suspension, propeller shafts and drive shafts
- Tighten rear body bolts and nuts (Models with wooden bed only)

ROAD TEST

- Clutch operation
- Parking brake operation
- Service brake operation
- Automatic transmission/transaxle shift timing and kickdown
- Steering control and returnability
- Engine performance
- Squeaks and rattles

ENGINE OPERATING AND HOT

- Adjust idle mixture and speed (and ignition timing*1)
- Automatic transmission/transaxle fluid level
- Engine idling and stop knob operation (Diesel only)

FINAL INSPECTION

- Install necessary parts (outside mirror, wheel covers, seat belts, mat, carpet or mud flaps)
- Inspect for interior and exterior metal and paint damage
- Check for spare tire, jack, tools (wheel chock), and literature
- Wash, clean interior and exterior

*1: Not required on models with a direct ignition system

ix: Not applicable to this model.

GENERAL MAINTENANCE

General maintenance includes those items which should be checked during the normal day-to-day operation of the vehicle. They are essential if the vehicle is to continue operating properly. The owners can perform the checks and inspections themselves or they can have their NISSAN dealers do them for a nominal charge.

Item	Reference pages
OUTSIDE THE VEHICLE	
The maintenance items listed here should be performed from time to time, unless otherwise specified.	
Tires Check the pressure with a gauge periodically when at a service station, including the spare, and adjust to the specified pressure if necessary. Check carefully for damage, cuts or excessive wear.	—
Windshield wiper blades Check for cracks or wear if they do not wipe properly.	—
Doors and engine hood Check that all doors, the engine hood, the trunk lid and back door operate properly. Also ensure that all latches lock securely. Lubricate if necessary. Make sure that the secondary latch keeps the hood from opening when the primary latch is released. When driving in areas using road salt or other corrosive materials, check for lubrication frequently.	MA-29
Tire rotation Tires should be rotated every 10,000 km (6,000 miles) for non-turbo models.	MA-26
INSIDE THE VEHICLE	
The maintenance items listed here should be checked on a regular basis, such as when performing periodic maintenance, cleaning the vehicle, etc.	
Lights Make sure that the headlights, stop lights, tail lights, turn signal lights, and other lights are all operating properly and installed securely. Also check headlight aim.	—
Warning lights and chimes Make sure that all warning lights and chimes are operating properly.	—
Steering wheel Check for change in the steering conditions, such as excessive free play, hard steering or strange noises. Free play: Less than 35 mm (1.38 in)	—
UNDER THE HOOD AND VEHICLE	
The maintenance items listed here should be checked periodically e.g. each time you check the engine oil or refuel.	
Windshield washer fluid Check that there is adequate fluid in the tank.	—
Engine coolant level Check the coolant level when the engine is cold.	MA-14
Engine oil level Check the level after parking the vehicle on a level spot and turning off the engine.	MA-17
Brake and clutch fluid level Make sure that the brake and clutch fluid level is between the "MAX" and "MIN" lines on the reservoir.	MA-21, 24
Battery Check the fluid level in each cell. It should be between the "MAX" and "MIN" lines.	—

PERIODIC MAINTENANCE (Except for Europe)

The following tables show the normal maintenance schedule. Depending upon weather and atmospheric conditions, varying road surfaces, individual driving habits and vehicle usage, additional or more frequent maintenance may be required.

Periodic maintenance beyond the last period shown on the tables requires similar maintenance.

MAINTENANCE OPERATION	MAINTENANCE INTERVAL										Reference page
	km x 1,000 (Miles x 1,000) Months	1 (0.6)	10 (6)	20 (12)	30 (18)	40 (24)	50 (30)	60 (36)	70 (42)	80 (48)	
ENGINE AND EMISSION CONTROL Underhood and under vehicle											
Check drive belts for cracks, fraying, wear & tension						X				X	MA-12
Change engine anti-freeze coolant (Ethylene glycol base, LLC)						X				X	MA-13
Check cooling system			X		X		X		X		MA-14
Check fuel lines					X					X	MA-15
Replace air cleaner filter (Viscous paper type)*					X					X	MA-16
Change engine oil (Use API SF or SG oil)*		X	X	X	X	X	X	X	X	X	MA-16
Change engine oil filter*		X	X	X	X	X	X	X	X	X	MA-17
Replace fuel filter*					X					X	MA-18
Replace spark plugs (PLATINUM-TIPPED type)					Every 100,000 km (60,000 miles)						MA-18
Check exhaust gas sensor						X				X	MA-20
Check vapor lines						X				X	MA-19
Replace timing belt					Every 100,000 km (60,000 miles)						EM-13
CHASSIS AND BODY Underhood											
Check brake, clutch & automatic transmission fluid level & leaks*		X	X	X	X	X	X	X	X	X	MA-21, 22, 24
Change brake fluid*						X				X	MA-25
Check brake booster vacuum hoses, connections & check valve						X				X	MA-25
Check power steering fluid & lines			X		X		X			X	MA-27
Under vehicle											
Check brake, clutch & exhaust systems for proper attachment, leaks, cracks, chafing, abrasion, deterioration, etc.		X	X	X	X	X	X	X	X	X	MA-21, 24, 28
Check oil level in manual transmission & differential gear*			X		X		X			X	MA-21, 24
Check steering gear & linkage, axle & suspension parts & propeller shaft for damage, loose & missing parts & lubrication*	X		X		X		X			X	MA-23, 27 FA-6, RA-5
Outside and inside											
Check wheel alignment, if necessary, rotate & balance wheels			X		X		X			X	MA-26, FA-7
Check brake pads, discs & other brake components for wear, deterioration & leaks*		X	X	X	X	X	X	X	X	X	MA-25
Lubricate locks, hinges & hood latch			X		X		X			X	MA-28
Check seat belts, buckles, retractors, anchors & adjuster			X		X		X			X	MA-29
Check foot brake, parking brake & clutch for free play, stroke & operation			X		X		X			X	CL-7, BR-7, 22

NOTE: Maintenance items with "★" should be performed more frequently according to "Maintenance under Severe Driving Conditions".

Check: Check. Correct or replace if necessary.

PERIODIC MAINTENANCE (Except for Europe)

Maintenance under Severe Driving Conditions

The maintenance intervals shown on the preceding page are for normal operating conditions. If the vehicle is mainly operated under severe driving conditions as shown below, more frequent maintenance must be performed on the following items as shown in the table.

SEVERE DRIVING CONDITIONS

- A — Driving under dusty conditions
- B — Driving repeatedly short distances
- C — Towing a trailer
- D — Extensive idling
- E — Driving in extremely adverse weather conditions or in areas where ambient temperatures are either extremely low or extremely high
- F — Driving in high humidity areas or in mountainous areas
- G — Driving in areas using salt or other corrosive materials
- H — Driving on rough and/or muddy roads or in the desert
- I — Driving with frequent use of braking or in mountainous areas

Driving condition	Maintenance item	Maintenance operation	Maintenance interval	Reference page
A	Air cleaner filter	Replace	More frequently	MA-16
A B C D	Engine oil & oil filter	Replace	Every 5,000 km (3,000 miles) or 3 months	MA-16, 17
A E	Fuel filter	Replace	Every 20,000 km (12,000 miles) or 12 months	MA-16
. F	Brake fluid	Replace	Every 20,000 km (12,000 miles) or 12 months	MA-25
. . . C H	Automatic & manual transmission oil, & differential gear oil	Replace	Every 40,000 km (24,000 miles) or 24 months	MA-22, 23, 24
. G H	Steering gear & linkage, axle & suspension parts & propeller shaft	Check	Every 10,000 km (6,000 miles) or 6 months	MA-23, 27 FA-6, RA-5
. G	Locks, hinges & hood latch	Lubricate	Every 10,000 km (6,000 miles) or 6 months	MA-29
A . C G H I	Brake pads, discs & other brake components	Check	Every 5,000 km (3,000 miles) or 3 months	MA-25

Maintenance operation: Check = Check. Correct or replace if necessary.

PERIODIC MAINTENANCE (For Europe except U.K.)

The following tables show the normal maintenance schedule. Depending upon weather and atmospheric conditions, varying road surfaces, individual driving habits and vehicle usage, additional or more frequent maintenance will be required.

Periodic maintenance beyond the last period shown on the tables requires similar maintenance.

STANDARD & THE FIRST FREE SERVICES

MAINTENANCE OPERATION	MAINTENANCE INTERVAL						Reference page
	Months	—	12	24	36	48	
Perform the standard service on a yearly basis, but on a mileage basis when driving more than 20,000 km (12,000 miles) a year.	km x 1,000 (Miles x 1,000)	1 (0.6)	20 (12)	40 (24)	60 (36)	80 (48)	
Engine	Underhood and under vehicle						
Check drive belts for cracks, fraying, wear & tension				X		X	MA-12
Change engine anti-freeze coolant (Ethylene glycol base)				X		X	MA-13
Check cooling system		X	X	X	X	X	MA-14
Check fuel lines				X		X	MA-15
Replace air cleaner filter (Viscous paper type)★				X		X	MA-16
Replace timing belt			Every 100,000 km (60,000 miles)				EM-13
Replace toe filter★				X		X	MA-16
Replace spark plugs (Use PLATINUM-TIPPED type.)			Every 100,000 km (60,000 miles)				MA-18
Check exhaust gas sensor (Except models for Sweden)				X		X	MA-20
Check vapor lines	See NOTE (1)			X		X	MA-19
Chassis and body	Underhood						
Check brake & clutch fluid level & leaks			X	X	X	X	MA-21, 24
Check automatic transmission fluid level & leaks★				X		X	MA-22
Change brake fluid★				X		X	MA-25
Check brake booster vacuum hoses, connections & check valve				X		X	MA-25
Check power steering fluid & lines		X	X	X	X	X	MA-26
Check A.S.C.D. vacuum hoses		X	X	X	X	X	MA-21
	Under vehicle						
Check brake & clutch for proper attachment, leaks, cracks, chafing, abrasion, deterioration, etc.			X	X	X	X	MA-21, 24
Check oil level in manual transmission & differential gear★				X		X	MA-21, 24
Check steering gear & linkage, axle & suspension parts, propeller shaft, drive shafts & exhaust system for damage, loose & missing parts, lubrication & leaks★	X			X		X	MA-23, 26, 27, 28 FA-6, RA-5, 7
Check SUPER HICAS linkage★				X		X	MA-27
	Outside and inside						
Check wheel alignment. If necessary balance wheels		X	X	X	X	X	MA-26 FA-7
Check brake pads, discs & other brake components for wear, deterioration & leaks★		X	X	X	X	X	MA-25
Check seat belts, buckles, retractors, anchors & adjuster				X		X	MA-29
Check foot brake, parking brake & clutch for free play, stroke & operation		X	X	X	X	X	CL-7, BR-7, 22
Check body corrosion				Annually			MA-30

NOTE: (1) For models for Sweden perform at the first 80,000 km (48,000 miles), and then every 40,000 km (24,000 miles) or 24 months, whichever comes first.

(2) Maintenance items with "★" should be performed more frequently according to "Maintenance under severe driving conditions".

Check: Check. Correct or replace if necessary.

PERIODIC MAINTENANCE (For Europe except U.K.)

ENGINE OIL SERVICE

MAINTENANCE OPERATION	MAINTENANCE INTERVAL									
Perform at the specified time generally, but perform at the specified mileage when driving more than 10,000 km (6,000 miles) a year.	Months	12	24	36	48	60	72	84	96	Reference page
	km x 1,000	10	20	30	40	50	60	70	80	
	(Miles x 1,000)	(6)	(12)	(18)	(24)	(30)	(36)	(42)	(48)	

Underhood

Change engine oil (Use API SG oil only)*	X	X	X	X	X	X	X	X	X	MA-16
Change engine oil filter (Use Nissan PREMIUM type or equivalent.)*	X	X	X	X	X	X	X	X	X	MA-17

NOTE: Maintenance items with "★" should be performed more frequently according to "Maintenance under severe driving conditions".

MAINTENANCE UNDER SEVERE DRIVING CONDITIONS

The maintenance intervals shown on the preceding pages are for normal operating conditions. If the vehicle is mainly operated under severe driving conditions as shown below, more frequent maintenance must be performed on the following items as shown in the table.

Severe driving conditions

- A — Driving under dusty conditions
- B — Driving repeatedly short distances
- C — Towing a trailer
- D — Extensive idling
- E — Driving in extremely adverse weather conditions or in areas where ambient temperatures are either extremely low or extremely high
- F — Driving in high humidity areas or in mountainous areas
- G — Driving in areas using salt or other corrosive materials
- H — Driving on rough and/or muddy roads or in the desert
- I — Driving with frequent use of braking or in mountainous areas

Driving condition	Maintenance item	Maintenance operation	Maintenance interval	Reference page
Standard service				
A	Air cleaner filter	Replace		MA-16
A E	Fuel filter	Replace		MA-16
. F	Brake fluid	Replace	Every 12 months or 20,000 km (12,000 miles)	MA-25
. G H	Steering gear & linkage, axle & suspension parts, propeller shaft, drive shafts, exhaust system & SUPER HICAS linkage	Check		MA-23, 26, 27, 28 FA-6, RA-5, 7
. . . . C H	Automatic & manual transmission oil, & differential gear oil	Replace	Every 24 months or 40,000 km (24,000 miles)	MA-22, 23, 24
A C G H I	Brake pads, discs & other brake components	Check	Every 6 months or 10,000 km (6,000 miles)	MA-25
Engine oil service				
A B C D	Engine oil	Replace	Every 6 months or 5,000 km (3,000 miles)	MA-16
A B C D	Engine oil filter	Replace	5,000 km (3,000 miles)	MA-17

Maintenance operation: Check = Check. Correct or replace if necessary.

PERIODIC MAINTENANCE (For U.K.)

The following tables show the normal maintenance schedule. Depending upon weather and atmospheric conditions, varying road surface, individual driving habits and vehicle usage, additional or more frequent maintenance will be required.

Periodic maintenance beyond the last period shown on the tables requires similar maintenance.

MAINTENANCE OPERATION Perform either at number of miles (kilometers) or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	MAINTENANCE INTERVAL										Reference page
		0.6	9	18	27	36	45	54	63	72		
		(1)	(15)	(30)	(45)	(60)	(75)	(90)	(105)	(120)		
		—	6	12	18	24	30	36	42	48		
ENGINE MAINTENANCE		Under bonnet and under vehicle										
Replace timing belt											Every 60,000 miles (100,000 km)	EM-13
Change engine anti-freeze coolant (Ethylene glycol base)						X					X	MA-13
Check cooling system			X		X			X			X	MA-14
Check fuel lines						X					X	MA-15
Check drive belts for cracks, fraying, wear & tension			X		X			X			X	MA-12
Replace air cleaner filter (Viscous paper type)*						X					X	MA-15
Change engine oil (Use API SG oil only)*											Every 6,000 miles (10,000 km) or 12 months	MA-16
Change engine oil filter (Use Nissan PREMIUM type or equivalent)*											Every 6,000 miles (10,000 km) or 12 months	MA-17
Replace fuel filter			X		X			X			X	MA-16
Replace spark plugs (Use PLATINUM-TIPPED type)											Every 60,000 miles (100,000 km)	MA-18
CHASSIS AND BODY MAINTENANCE		Under bonnet										
Check brake & clutch fluid level & leaks*			X	X	X	X	X	X	X	X	X	MA-21, 24
Check automatic transmission fluid level & leaks*				X		X		X			X	MA-22
Change brake fluid				X		X		X			X	MA-25
Check brake booster vacuum hoses, connections & check valve						X					X	MA-25
Check power steering fluid & lines			X	X	X	X	X	X	X	X	X	MA-26
Check A.S.C.D. hoses				X		X		X			X	MA-21
		Under vehicle										
Check brake & clutch for proper attachment, leaks, cracks, chafing, abrasion, deterioration, etc.			X	X	X	X	X	X	X	X	X	MA-21, 24
Check oil level in manual transmission & differential gear*				X		X		X			X	MA-21, 24
Check steering gear & linkage, axle & suspension parts, propeller shaft, drive shafts & exhaust system for damaged, loose & missing parts, lubrication & leaks*			X		X		X		X		X	MA-23, 26, 27, 28 FA-6, FA-5, 7
Check SUPER HICAS linkage*				X		X		X			X	MA-27
		Outside and inside										
Check wheel alignment, if necessary balance wheels				X		X		X			X	MA-26 FA-7
Check brake pads, disc & other brake components for wear, deterioration & leaks*			X	X	X	X	X	X	X	X	X	MA-25
Check seat belts, buckles, retractors & adjuster				X		X		X			X	MA-29
Check foot brake, hand brake & clutch for free play, stroke & operation			X	X	X	X	X	X	X	X	X	CL-7, BR-7, 22
Check body corrosion											Annually	MA-30

NOTE: Maintenance items with "*" should be performed more frequently according to "Maintenance under severe driving conditions".

Check: Check. Correct or replace if necessary.

PERIODIC MAINTENANCE (For U.K.)

MAINTENANCE UNDER SEVERE DRIVING CONDITIONS

The maintenance intervals shown on the preceding page are for normal operating conditions. If the vehicle is mainly operated under severe driving conditions as shown below, more frequent maintenance must be performed on the following items as shown in the table.

Severe driving conditions

- A — Driving under dusty conditions
- B — Driving repeatedly short distances
- C — Towing a trailer
- D — Extensive idling
- E — Driving in areas using salt or other corrosive materials
- F — Driving on rough and/or muddy roads or in the desert
- G — Driving with frequent use of braking or in mountainous areas

Driving condition	Maintenance item	Maintenance operation	Maintenance interval	Reference page
A	Air cleaner filter	Replace	More frequently	MA-16
A B C D	Engine oil & oil filter	Replace	Every 3,000 miles (5,000 km) or 6 months	MA-16, 17
. . . G . . . F . . .	Automatic & manual transmission oil, differential gear oil	Replace	Every 36,000 miles (60,000 km) or 24 months	MA-22, 23, 24
. E F . . .	Steering gear & linkage, axle & suspension parts, propeller shaft, drive shafts, exhaust system & SUPER HICAS linkage	Check	Every 9,000 miles (15,000 km) or 6 months	MA-23, 26, 27, 28 FA-6, RA-5, 7
A . . C . . E F G	Brake pads, discs & other brake components	Check	Every 4,500 miles (7,500 km) or 3 months	MA-25

Maintenance operation: Check = Check. Correct or replace if necessary.

RECOMMENDED FLUIDS AND LUBRICANTS

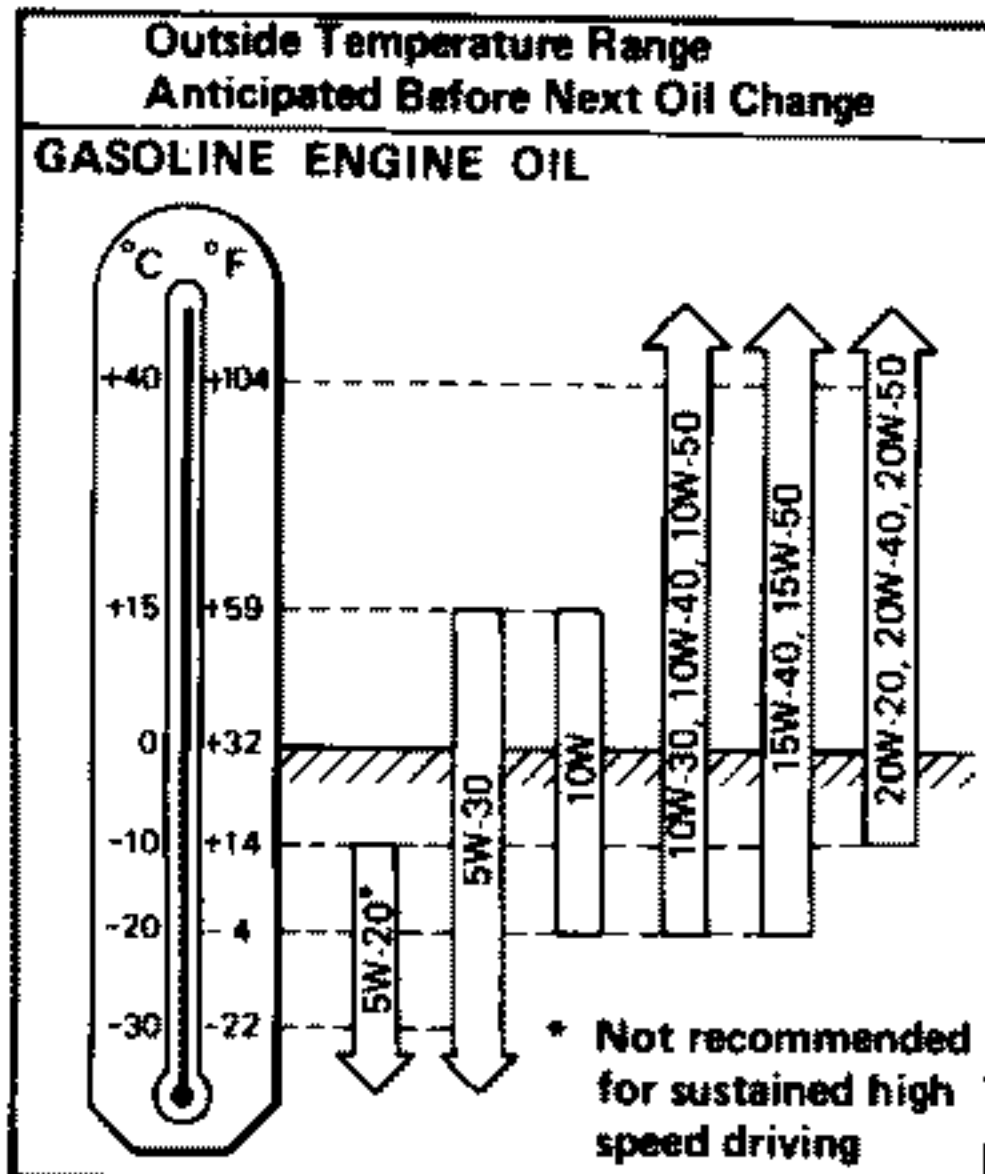
Fluids and Lubricants

	Capacity (Approximate)		Recommended fluids and lubricants
	Liter	Imp measure	
Engine oil (Refill)			
With oil filter	3.4	3 qt	For models for Europe: API SG*
Without oil filter	3.0	2-5/8 qt	Except for models for Europe: API SF or SG*
Cooling system (With reservoir)	10.0	8-3/4 qt	Anti-freeze coolant (Ethylene glycol base)
Manual transmission gear oil	2.8	4-7/8 pt	API GL-4*
Europe model	3.1	5-1/2 pt	
Differential gear oil	1.5	2-5/8 pt	API GL-5*
Europe model	2.1	3-3/4 pt	
Automatic transmission fluid	7.7	6-3/4 qt	Type DEXRON™
Europe model	8.7	7-5/8 qt	
Power steering fluid	1.3	1-1/8 qt	Type DEXRON™
With SUPER HICAS	2.0	1-3/4 qt	
Brake and clutch fluid	—	—	DOT 3 (US FMVSS No. 118)
Multi-purpose grease	—	—	NLGI No. 2 (Lithium soap base)

*For further details, see "Recommended SAE viscosity number".

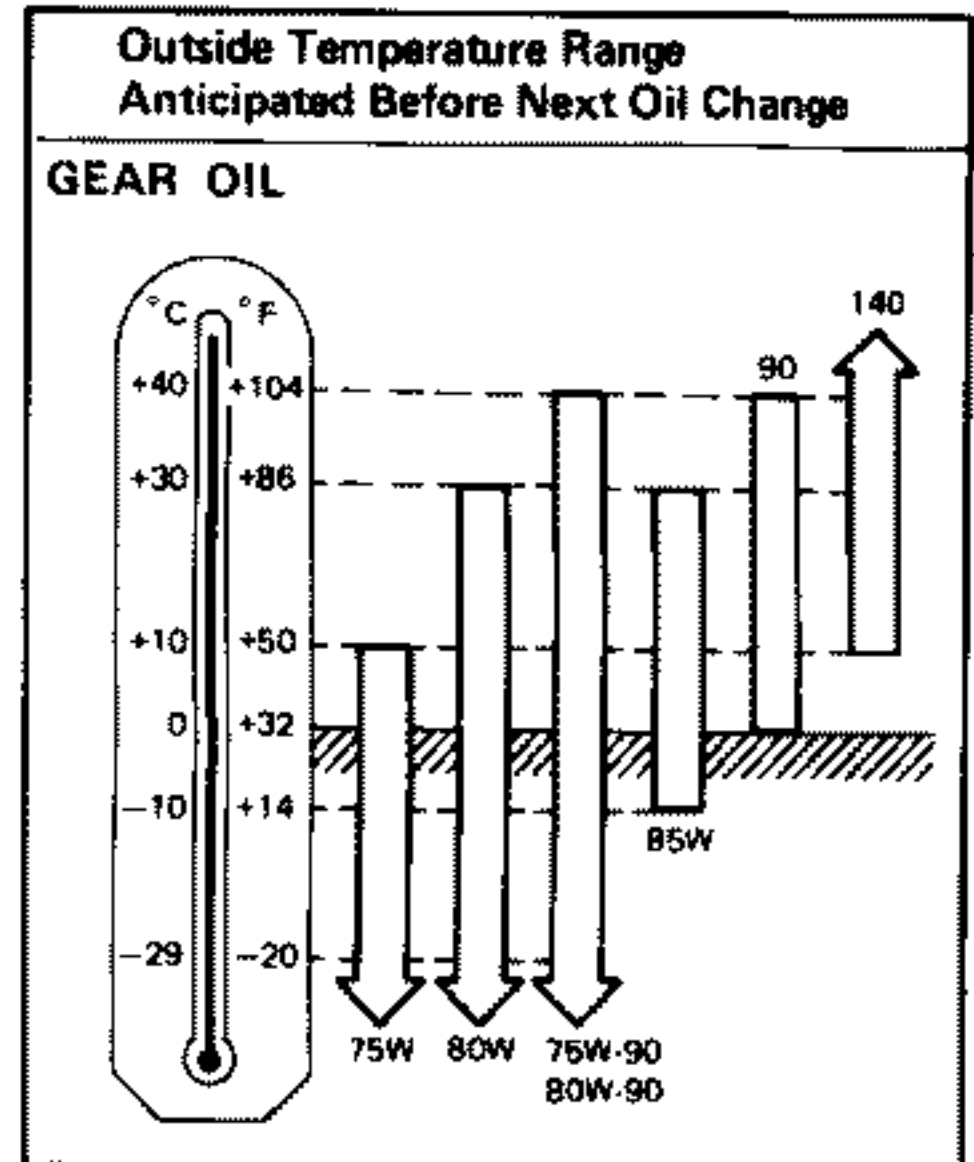
RECOMMENDED FLUIDS AND LUBRICANTS

SAE Viscosity Number



T10005

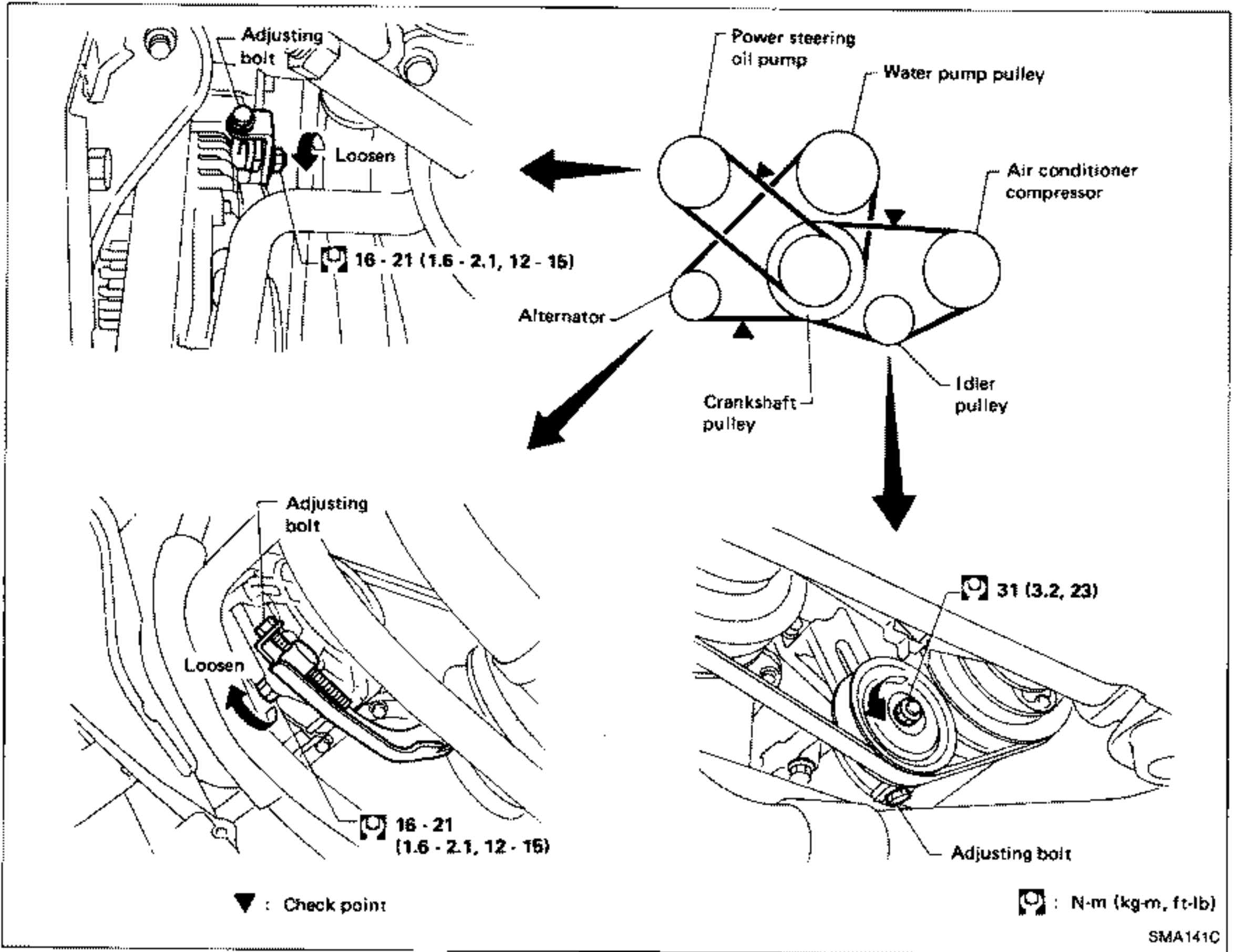
- For warm and cold areas: 10W-30 is preferable for ambient temperatures above -20°C (-4°F).
- For hot areas: 20W-40 and 20W-50 are suitable.
- On turbo engines, 5W-20 is not recommended. 5W-30 should be used only under extremely cold conditions.



T10003

- For warm and cold areas: 75W-90 for the transmission and 80W-90 for the differential gear are preferable.
- For hot areas: 90 is suitable for ambient temperatures below 40°C (104°F).

Checking Drive Belts



1. Inspect for cracks, fraying, wear or oil adhesion. If necessary, replace with a new one.
2. Inspect drive belt deflection by pushing on the belt midway between pulleys.

Adjust if belt deflection exceed the limit.

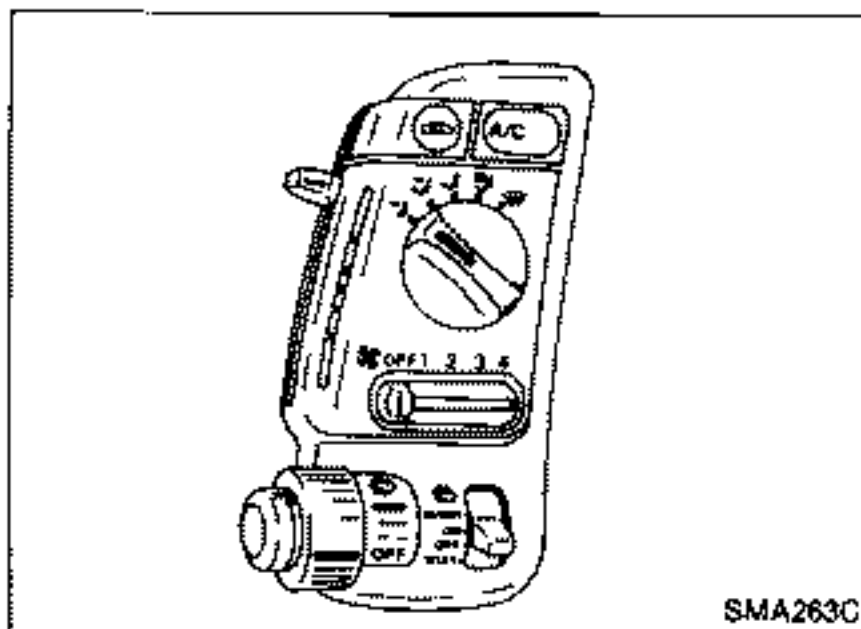
Belt deflection:

Unit: mm (in)

	Used belt deflection		Deflection of new belt
	Limit	Deflection after adjustment	
Alternator	11.5 (0.453)	7 - 8 (0.28 - 0.31)	6.5 - 7.5 (0.256 - 0.295)
Air conditioner compressor	12.5 (0.492)	8 - 9 (0.31 - 0.35)	7 - 8 (0.28 - 0.31)
Power steering oil pump	19 (0.75)	12 - 13.5 (0.472 - 0.531)	10.5 - 11.5 (0.413 - 0.453)
Applied pushing force	98 N (10 kg, 22 lb)		

Inspect drive belt deflection when engine is cold.

ENGINE MAINTENANCE



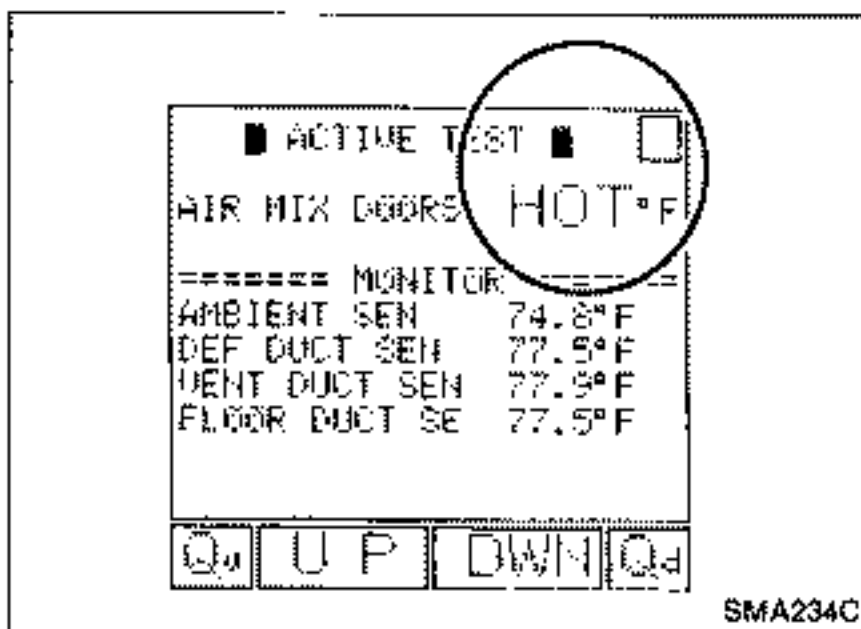
Changing Engine Coolant

WARNING:

To avoid the danger of being scalded, never change the coolant when the engine is hot.

MANUAL CONTROL

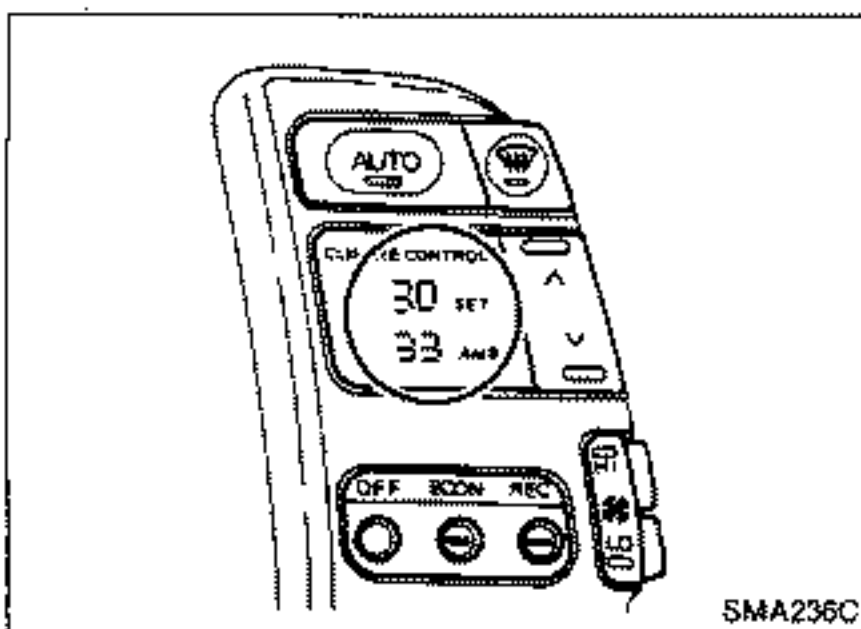
1. Turn ignition switch "ON" and set temperature control lever of manual air conditioner to maximum hot position.



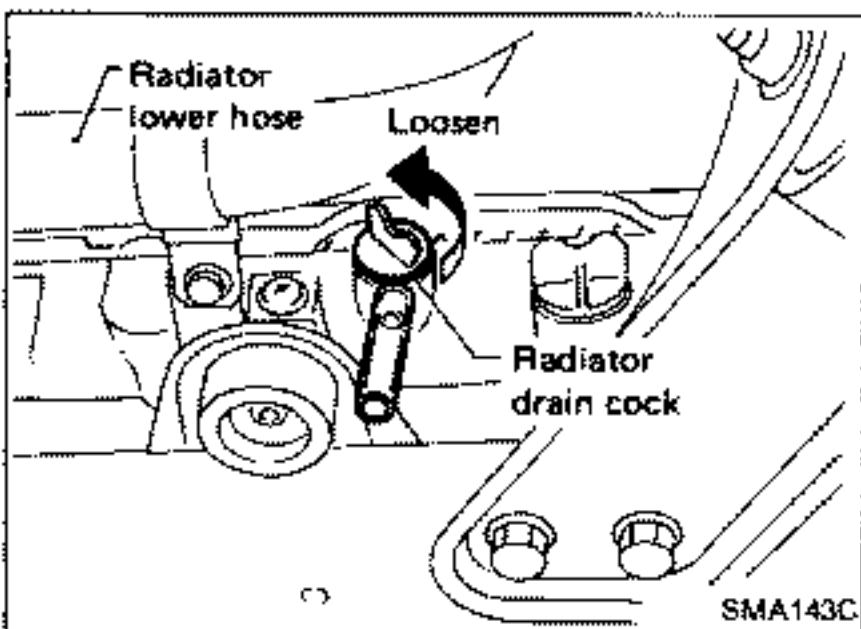
AUTOMATIC CONTROL



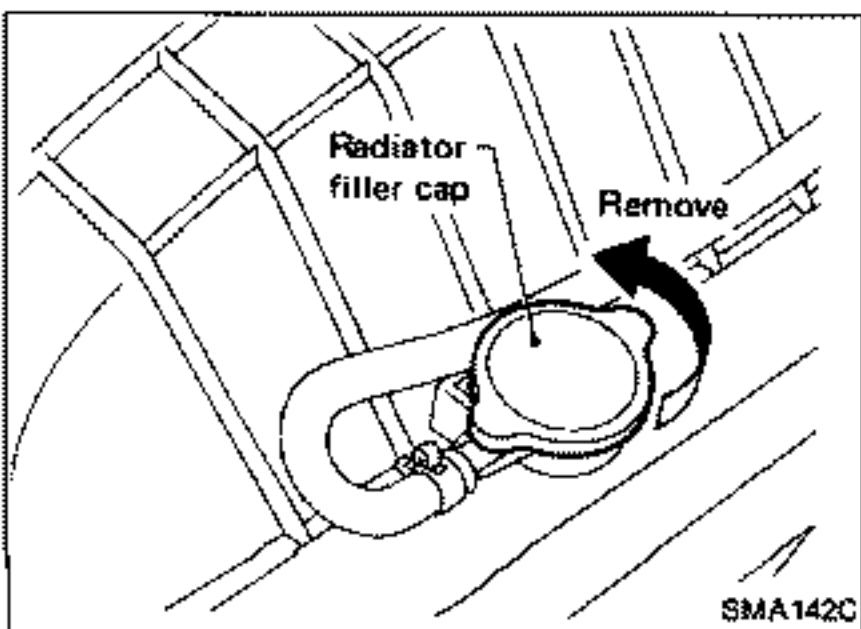
1. Perform "AIR MIX DOORS" test in "ACTIVE TEST" mode of "AUTO A/C" (Automatic Air Conditioner) system.
Set "AIR MIX DOORS" at (full) HOT and wait 10 seconds before turning ignition switch off.



1. Perform self-diagnosis step 2 of Automatic Air Conditioner system, referring to the following notes:
 - 1) Turn ignition switch from "OFF" to "ON".
 - 2) Press both "AUTO" and "OFF" switches for at least 5 seconds.
 - 3) Press "AUTO" switch 2 times.
 - 4) Confirm indication of the A/C display shown at left.
 - 5) Wait 10 seconds before turning ignition switch off.

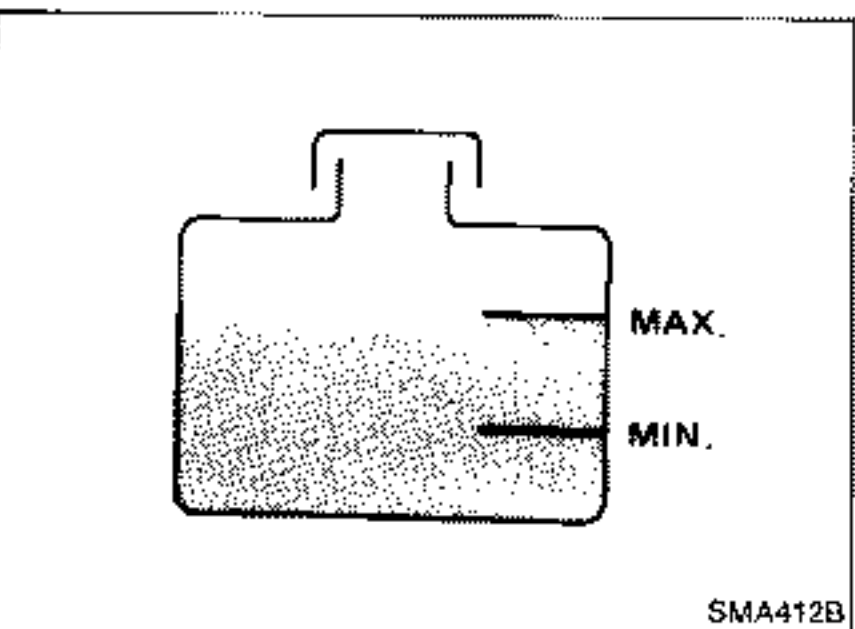
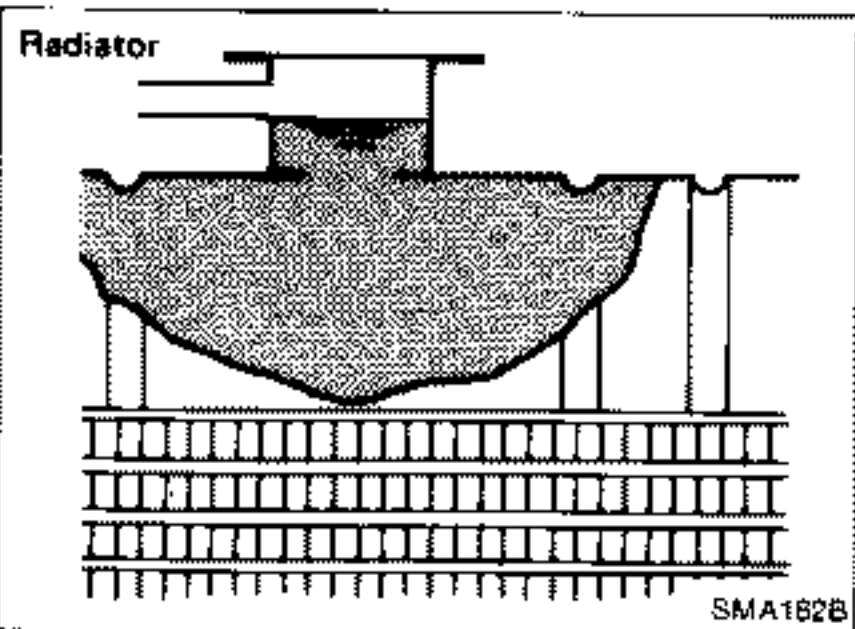
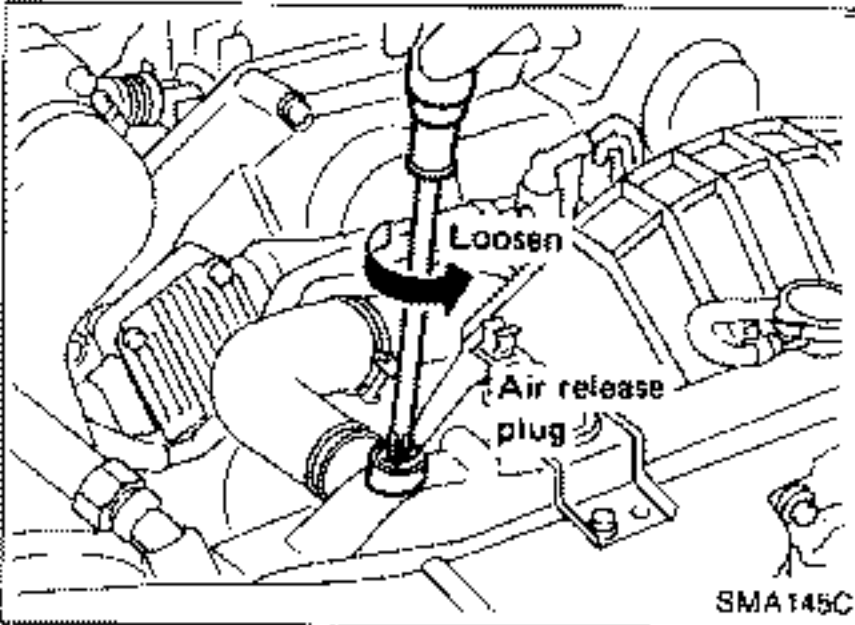
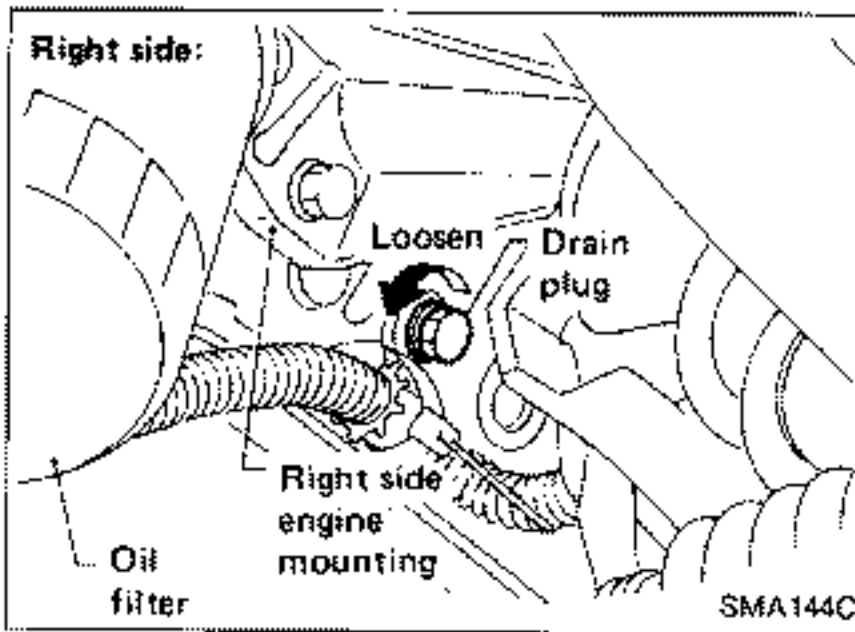


2. Open drain cock at the bottom of radiator, and remove radiator cap.



ENGINE MAINTENANCE

Changing Engine Coolant (Cont'd)



3. Open drain plugs on both sides of cylinder block.
 - **Left side drain plug is located beside the left side engine mounting.**

4. Open air release plug to drain coolant.
5. Flush cooling system by running fresh water through radiator.
6. Close drain cock and tighten drain plugs securely.
 - **Apply sealant to the drain plug thread.**
☞: 34 - 44 N·m
(3.5 - 4.5 kg-m, 25 - 33 ft-lb)

7. Fill radiator slowly with proper mixture of coolant and water. Fill reservoir tank up to the "H" level. Then install radiator cap and close air release plug.

Coolant capacity (With reservoir tank):

10.0ℓ (8-3/4 Imp qt)

Reservoir tank:

0.6ℓ (1/2 Imp qt)

- Pour coolant through coolant filler neck slowly to allow air in system to escape.**

8. Start engine and warm it up until it reaches normal operating temperature. Then race engine 2 or 3 times under no-load. Watch coolant temperature gauge for signs of overheating.
9. Stop engine. After it completely cools down, refill radiator up to filler opening. Fill reservoir tank up to the "H" level.
10. Check drain cock and drain plug for any sign of leakage.

Checking Cooling System

CHECKING HOSES

Check hoses for improper attachment and for leaks, cracks, damage, loose connections, chafing and deterioration.

ENGINE MAINTENANCE

Checking Cooling System (Cont'd)

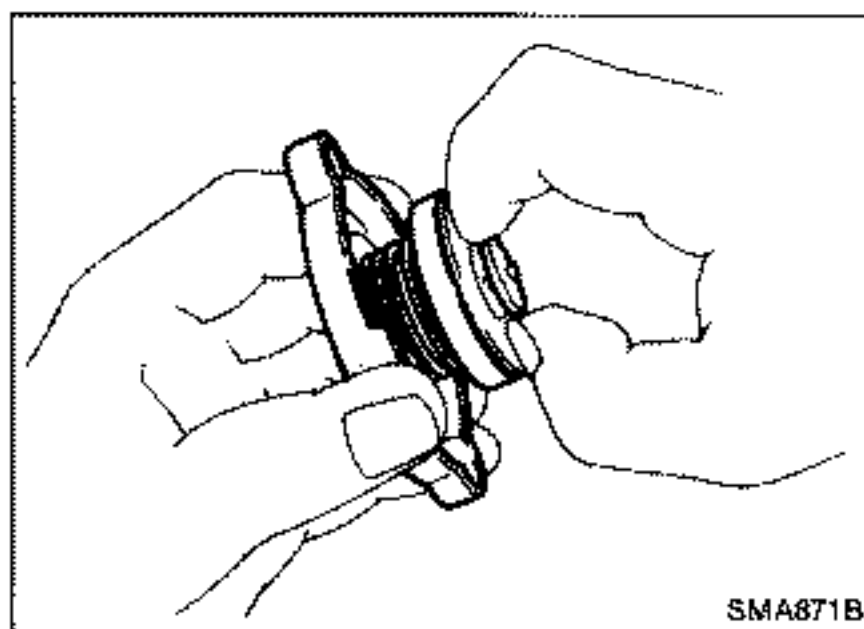
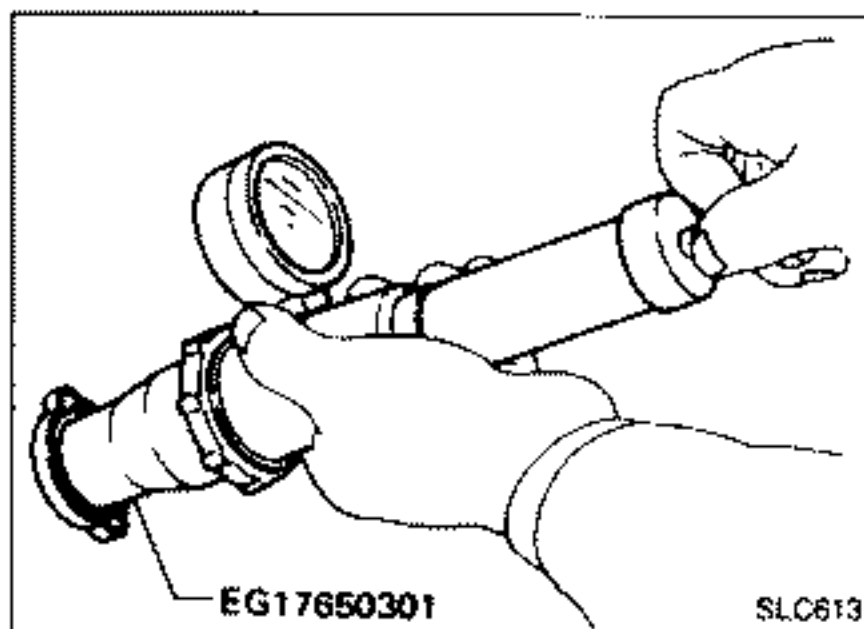
CHECKING RADIATOR CAP

Apply pressure to radiator cap with cap tester to see if it is satisfactory.

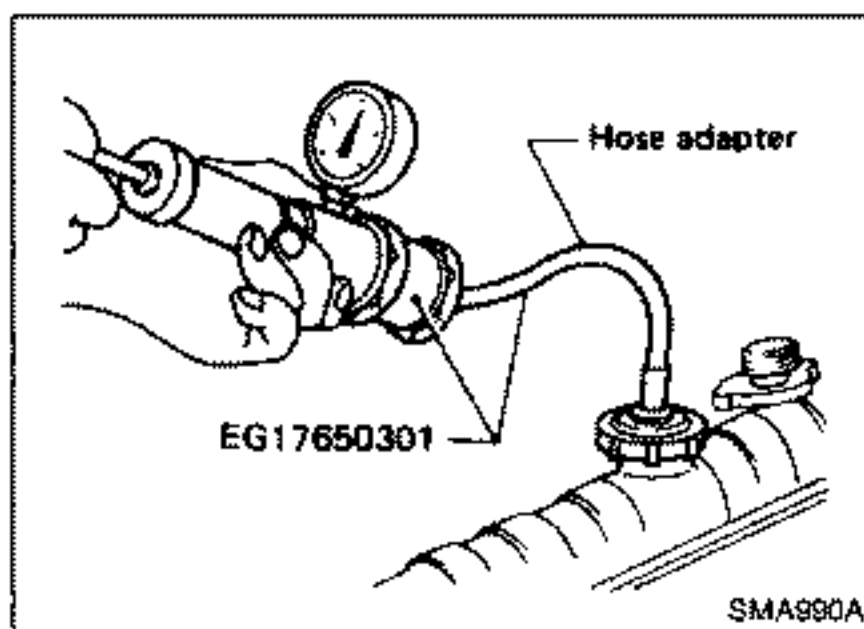
Radiator cap relief pressure:

78 - 98 kPa

(0.78 - 0.98 bar, 0.8 - 1.0 kg/cm², 11 - 14 psi)



Pull the negative-pressure valve to open it. Check that it closes completely when released.



CHECKING COOLING SYSTEM FOR LEAKS

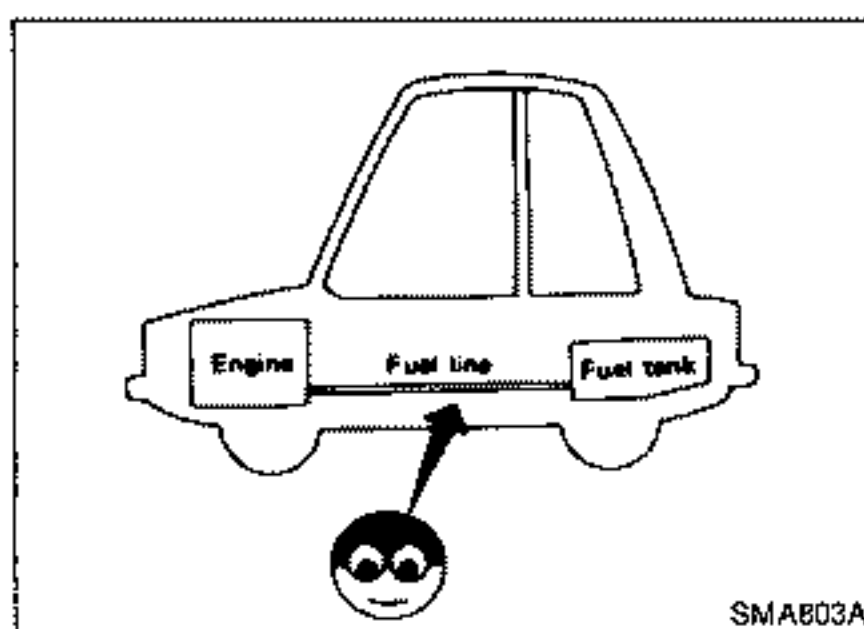
Apply pressure to the cooling system with cap tester to check for leakage.

Testing pressure:

98 kPa (0.98 bar, 1.0 kg/cm², 14 psi)

CAUTION:

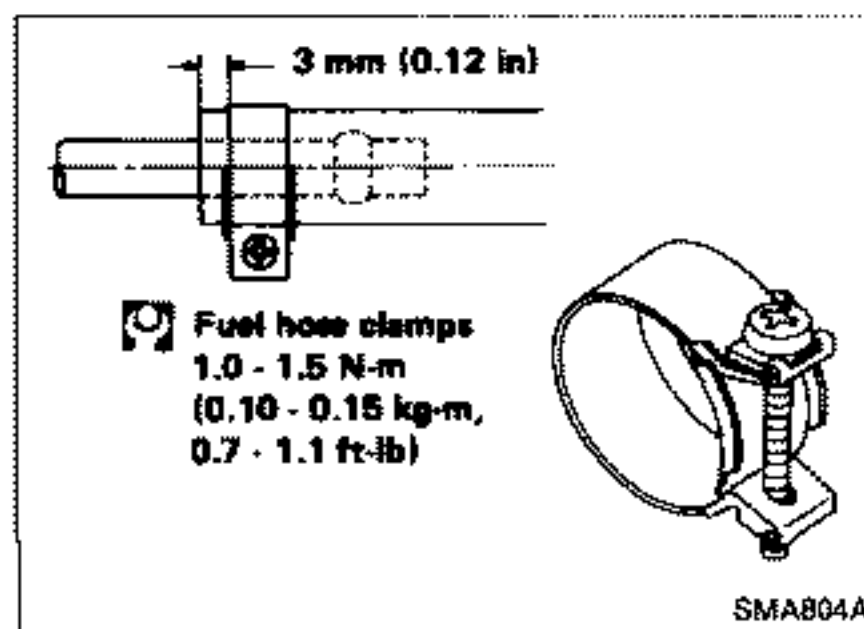
Higher pressure than the specified value may cause damage to radiator.



Checking Fuel Lines

Inspect fuel lines and tank for improper attachment and for leaks, cracks, damage, loose connections, chafing and deterioration.

If necessary, repair or replace faulty parts.



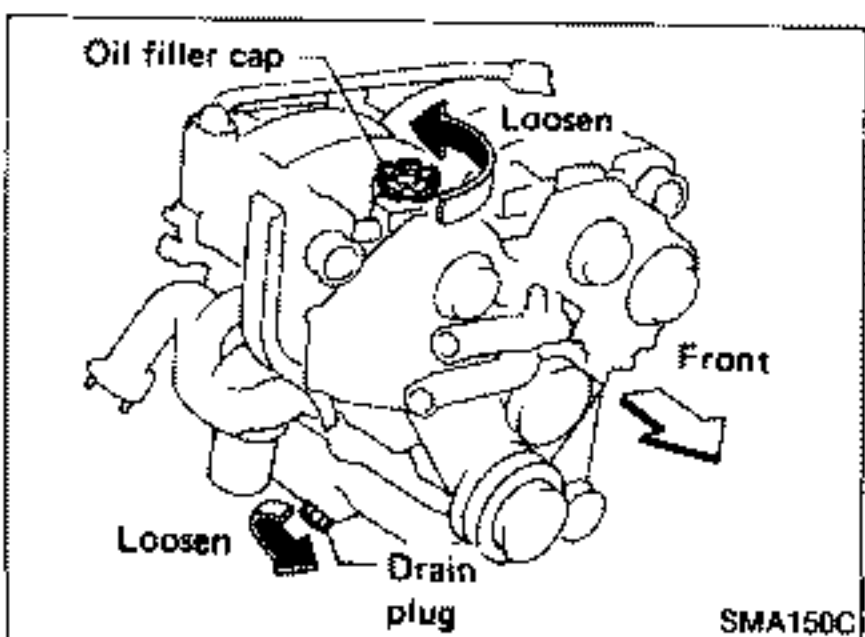
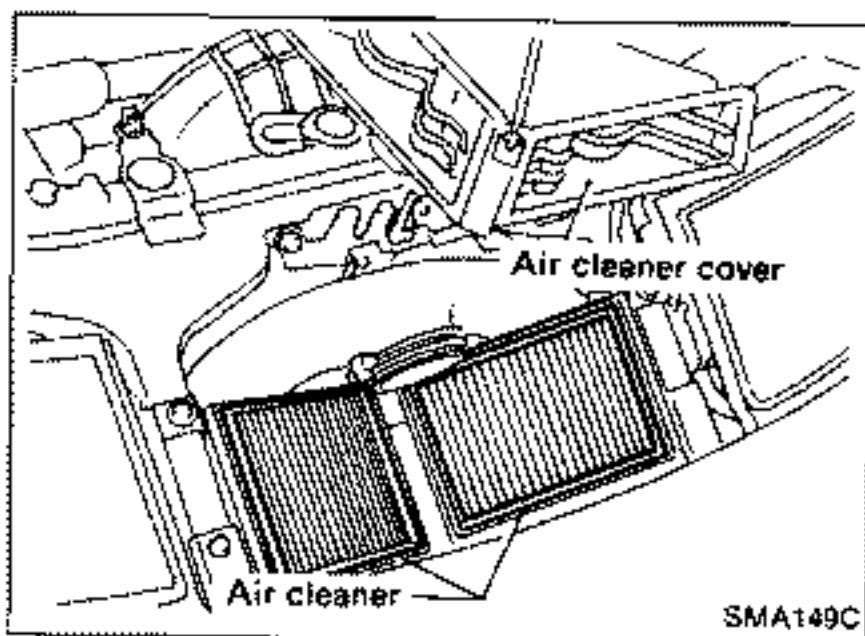
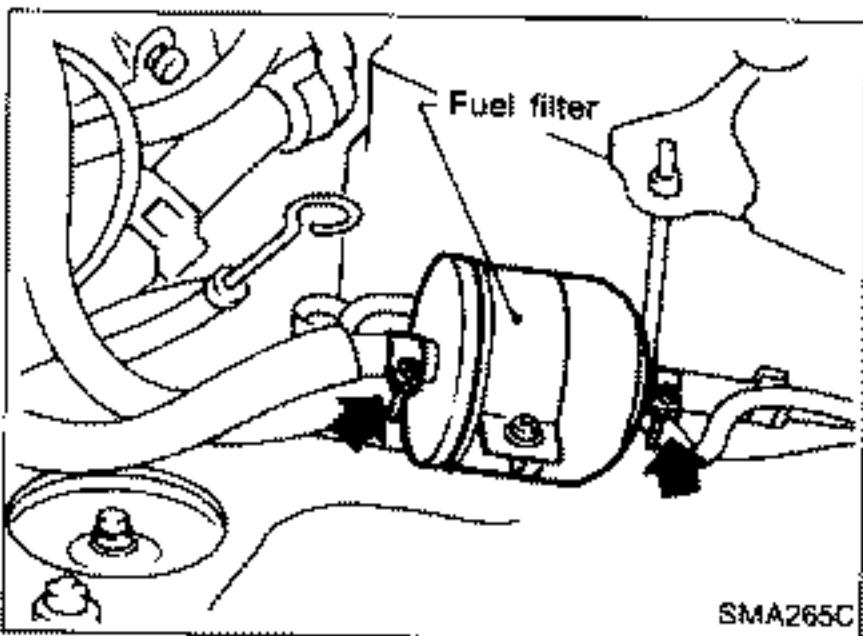
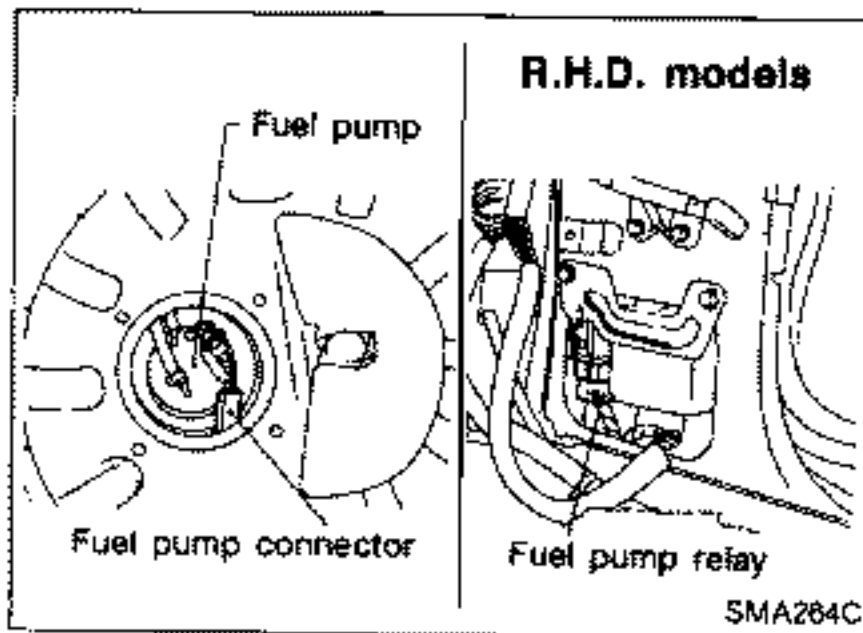
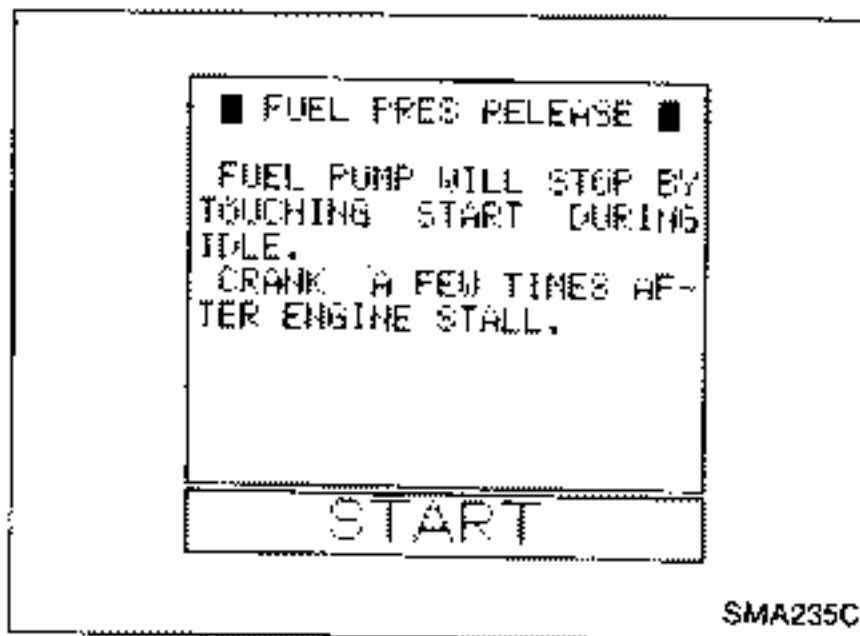
CAUTION:

Tighten high-pressure rubber hose clamp so that clamp end is 3 mm (0.12 in) from hose end.

Tightening torque specifications are the same for all rubber hose clamps.

Ensure that screw does not contact adjacent parts.

ENGINE MAINTENANCE



Changing Fuel Filter

WARNING:

Before removing fuel filter, release fuel pressure from fuel line to eliminate danger.



1. Perform "FUEL PRESSURE RELEASE" in "WORK SUPPORT" mode and release fuel pressure to zero.
2. Turn ignition switch off.



1. Disconnect fuel pump relay or fuel pump connector.
2. Start engine.
3. After engine stalls, crank engine two or three times to make sure that fuel pressure is released. Then turn ignition switch off and reconnect fuel pump relay or fuel pump connector.

4. Loosen fuel hose clamps.

5. Replace fuel filter.

- Be careful not to spill fuel over engine compartment. Place a shop towel to absorb fuel.
- Use a high-pressure type fuel filter. Do not use a synthetic resinous fuel filter.
- When tightening fuel hose clamps, refer to "Checking Fuel Lines".

Changing Air Cleaner Filter

The viscous paper type filter does not need cleaning between renewals.

Changing Engine Oil

WARNING:

Be careful not to burn yourself, as the engine oil is hot.

1. Warm up engine, and check for oil leakage from engine components.
2. Remove drain plug and oil filler cap.

ENGINE MAINTENANCE

Changing Engine Oil (Cont'd)

3. Drain oil and refill with new engine oil.

Oil capacity (Refill): *ℓ* (Imp qt)

Non-Turbo

With oil filter

3.4 (3)

Without oil filter

3.0 (2-5/8)

Turbo (Without oil cooler)

With oil filter

3.4 (3)


Without oil filter

3.0 (2-5/8)

CAUTION:

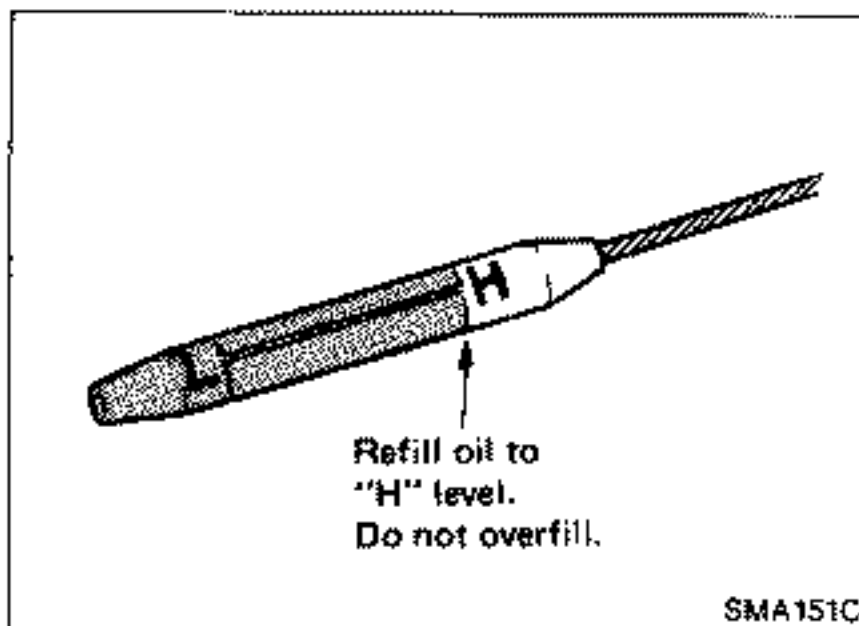
- Be sure to clean drain plug and install with new washer.

Oil pan drain plug:

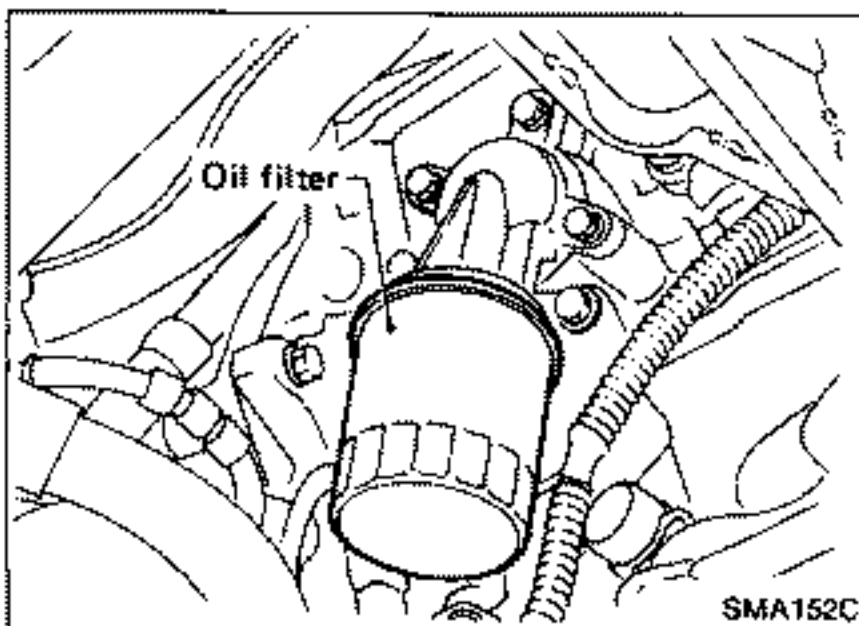
: 29 - 39 N·m

(3.0 - 4.0 kg-m, 22 - 29 ft-lb)

- Use recommended engine oil "API SG".
- Since the oil refill capacity changes depending on the oil temperature and drain time (more than 2 minutes is recommended), use these values as a reference and be certain to check with the dipstick when changing the oil.



4. Check oil level.
5. Start engine and check area around drain plug and oil filter for oil leakage.
6. Run engine for a few minutes, then turn it off. After several minutes, confirm oil level again.



Changing Oil Filter

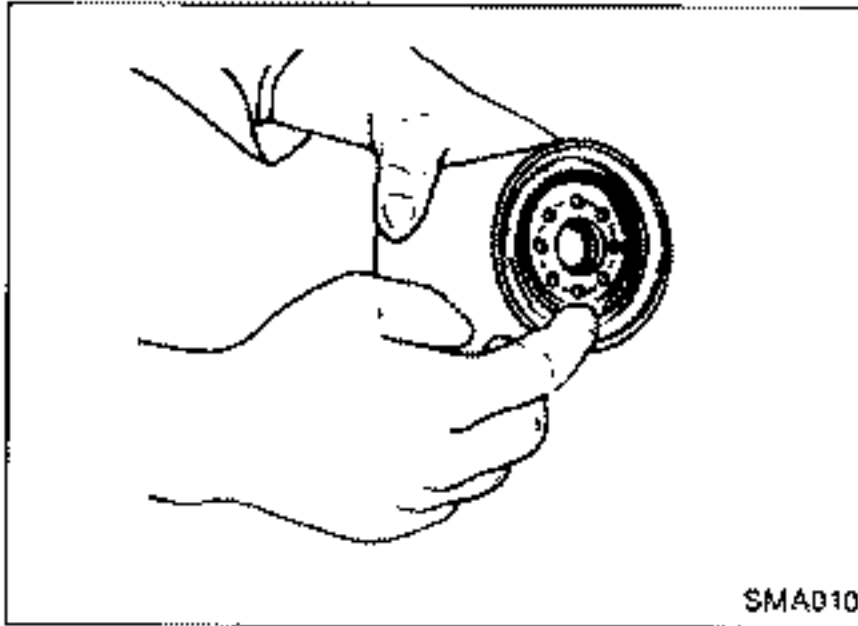
1. Remove oil filter with a suitable tool.

WARNING:

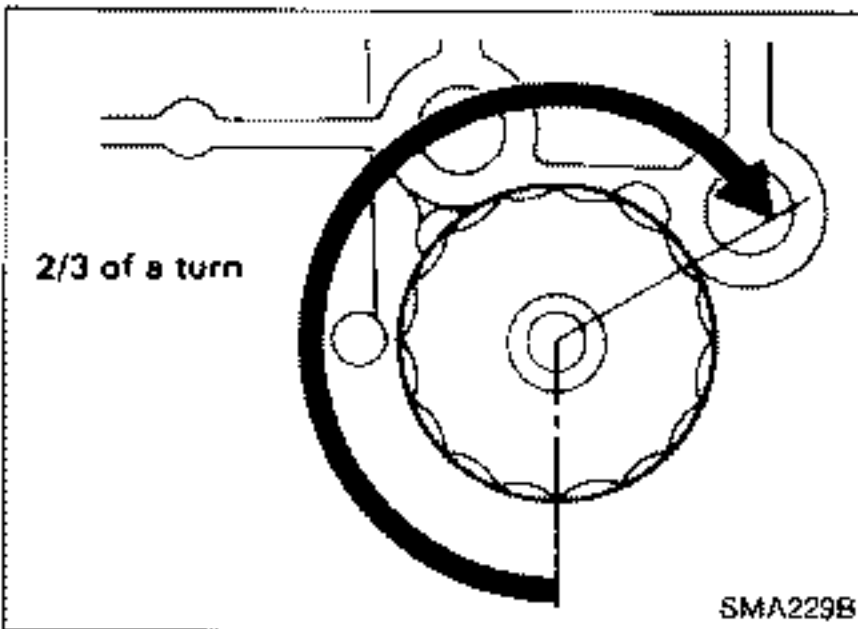
Be careful not to burn yourself, as the engine and engine oil are hot.

ENGINE MAINTENANCE

Changing Oil Filter (Cont'd)

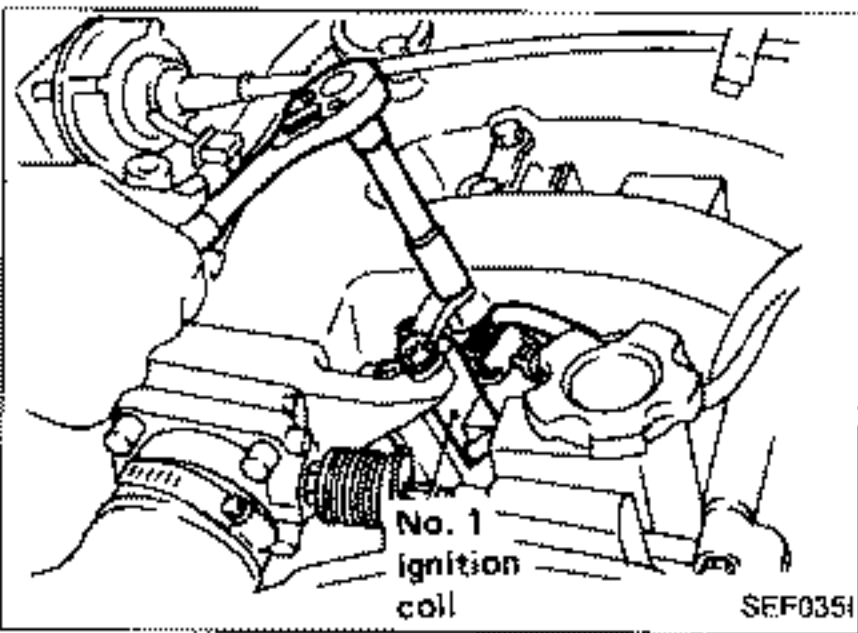


2. Before installing a new oil filter, clean the oil filter mounting surface on cylinder block, and coat the oil filter rubber seal with a little engine oil.



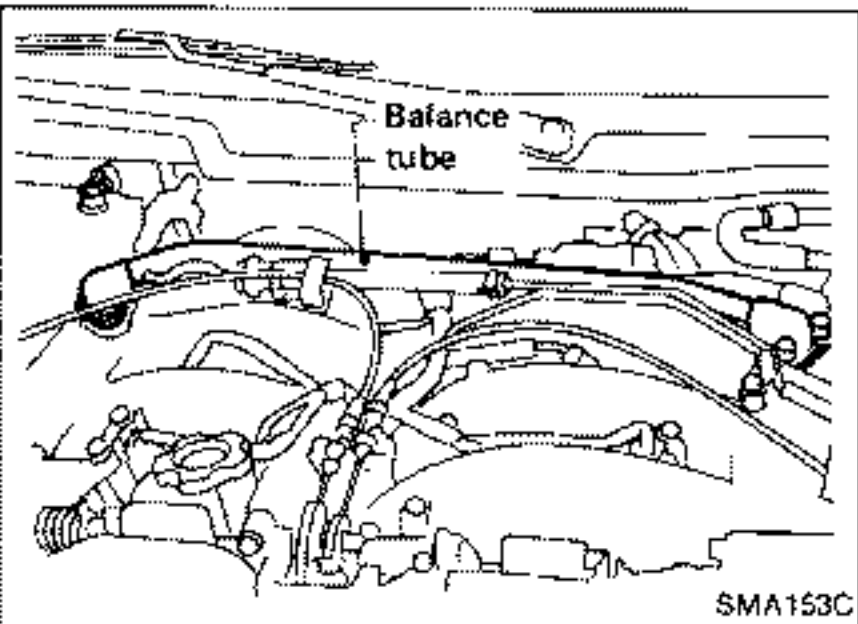
3. Screw in the oil filter until a slight resistance is felt, then tighten an additional 2/3 turn.
4. Add engine oil.

Refer to Changing Engine Oil.

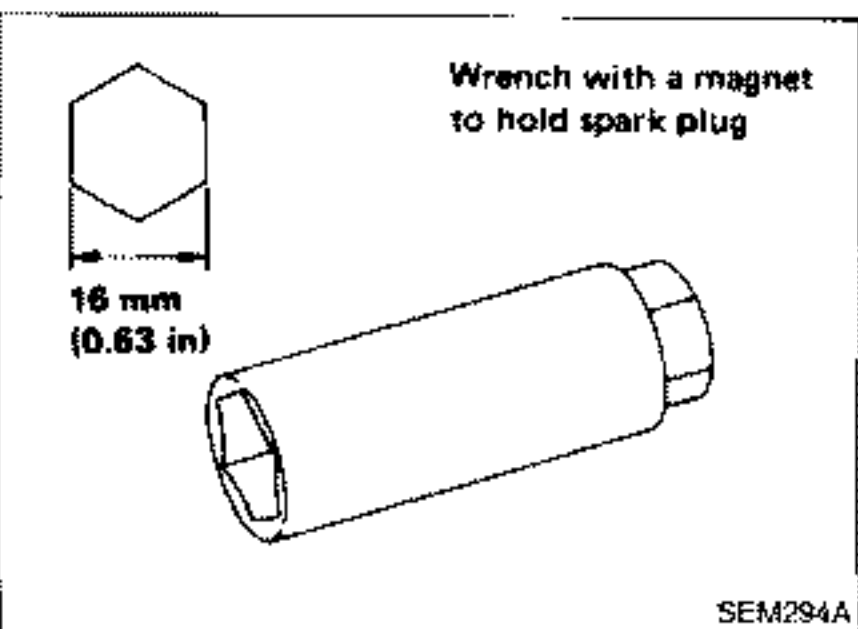


Changing Spark Plugs

1. Disconnect ignition coil harness connector.
2. Loosen ignition coil fixing bolts and pull out coil from intake manifold collector.



- When changing No. 5 and No. 6 cylinder spark plugs, remove balance tube first. (O-rings of balance tube may be reused, if they are not worn.)



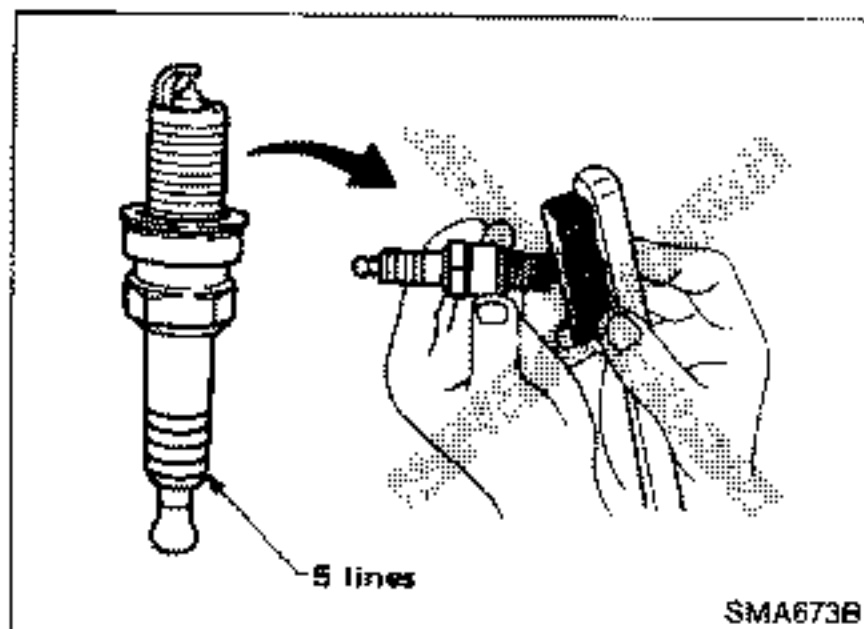
3. Remove spark plugs with suitable spark plug wrench.
- Spark plug (Platinum-tipped type):**

	Non-turbo	Turbo
Standard type	PFR6B-11	PFR6B-11C
Hot type	PFR5B-11	PFR5B-11C
Cold type	PFR7B-11	PFR7B-11C

⚙️: 20 - 29 N·m (2 - 3 kg-m, 14 - 22 ft-lb)

ENGINE MAINTENANCE

Changing Spark Plugs (Cont'd)



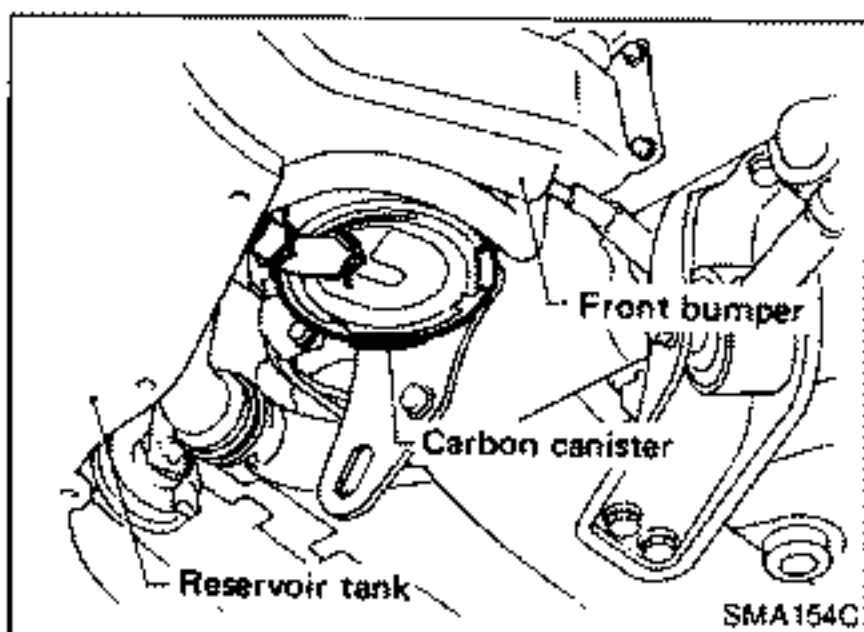
- Checking and adjusting plug gap are not required between renewals.
- Do not use a wire brush for cleaning.
- If plug tip is covered with carbon, spark plug cleaner may be used.

Cleaner air pressure:

Less than 588 kPa (5.9 bar, 6 kg/cm², 85 psi)

Cleaning time:

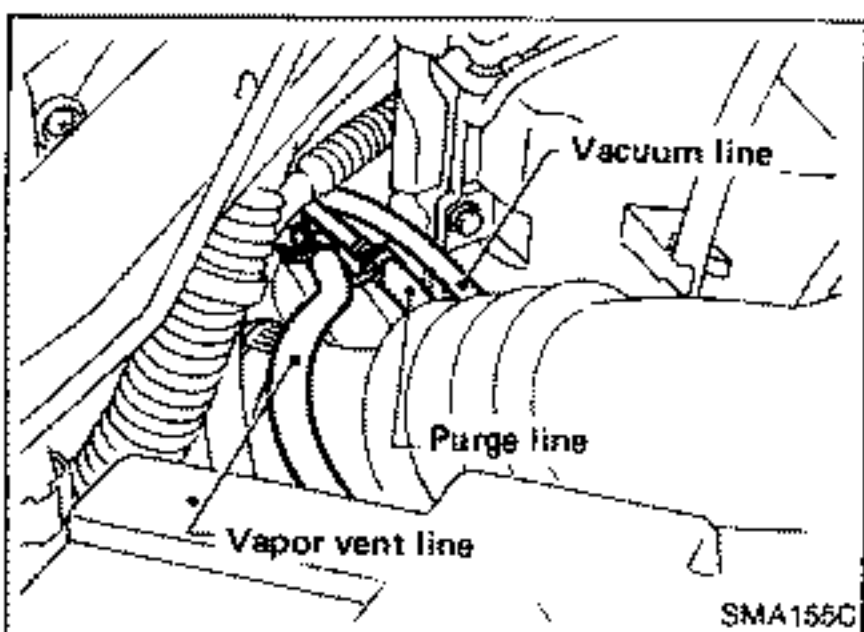
Less than 20 seconds



Checking Vapor Lines

1. Visually inspect vapor lines for improper attachment and for cracks, damage, loose connections, chafing and deterioration.
2. Inspect vacuum relief valve of fuel tank filler cap for clogging, sticking, etc.

Refer to "EVAPORATIVE EMISSION CONTROL SYSTEM" in EF & EC section.

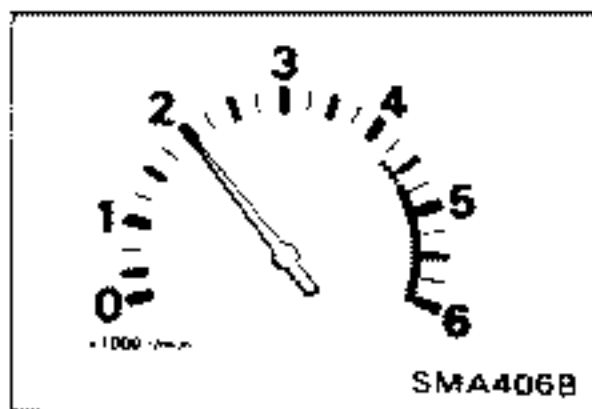


ENGINE MAINTENANCE

Checking Exhaust Gas Sensor

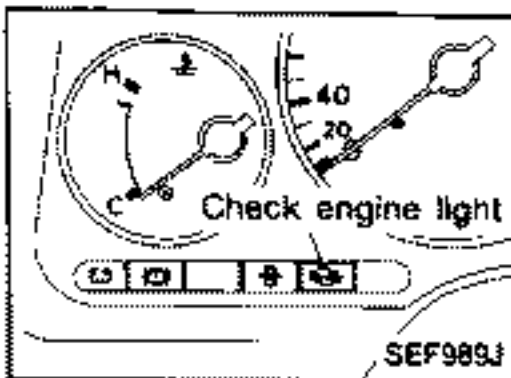
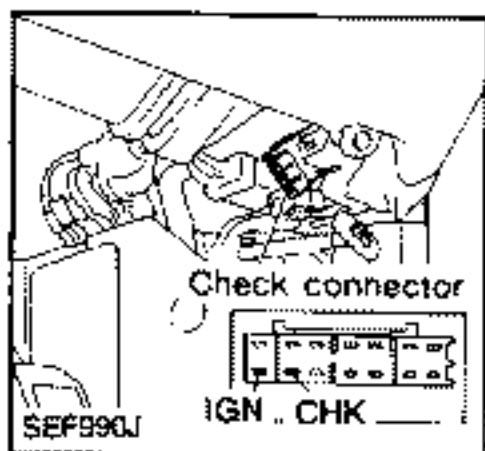
Checking procedure

- The check engine light normally blinks 5 times at 0.4 second intervals and 5 times at 0.2 second intervals. (No malfunction in Self-diagnostic results mode)
Refer to Self-diagnosis in EF & EC section.



- The light normally indicates left side exhaust gas sensor operation.
- The check engine light blinks twice, then indicates right side exhaust gas sensor operation.
Refer to Self-diagnosis in EF & EC section.

R.H.D. models



INSPECTION START

Turn ignition switch to "ON".

Switch to Mode II.

* Connect "CHK" and "IGN" terminals with a suitable harness for more than 2 seconds; the mode will change to the self-diagnosis mode.

Start engine and warm it up until water temperature indicator points to the middle of the gauge.

Run engine at about 2,000 rpm for about 2 minutes under no-load.

Make sure that the check engine light goes on and off at 2,000 rpm under no-load.

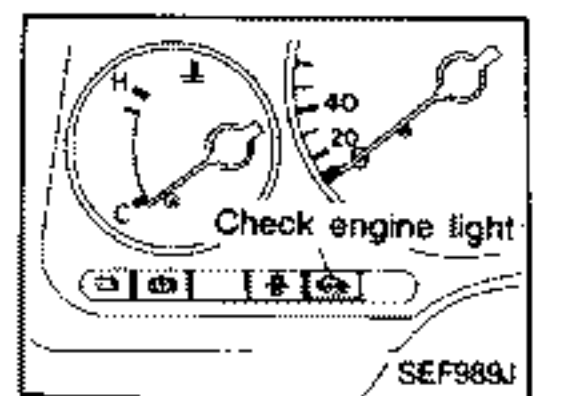
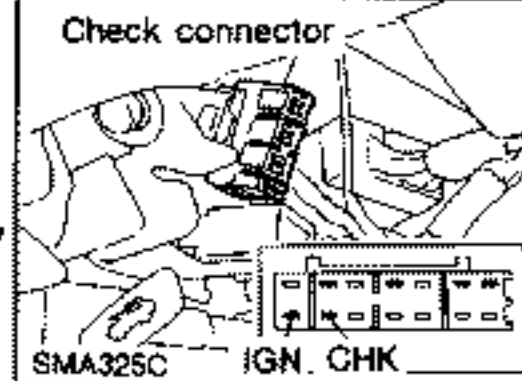
Return to idle speed and switch to monitor right side exhaust gas sensor operation.

* Connect "CHK" and "IGN" terminals with a suitable harness for more than 2 seconds.

Make sure that the check engine light goes on and off at 2,000 rpm under no-load.

INSPECTION END.

L.H.D. models



N.G.

O.K.

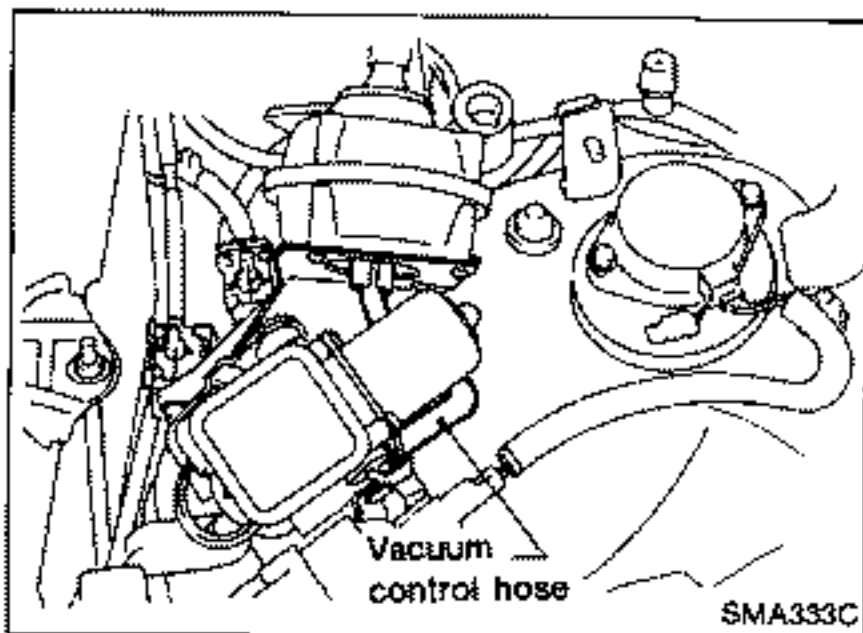
N.G.

O.K.

Check and adjustment should be made by referring to TROUBLE DIAGNOSES-EXHAUST GAS SENSOR and IDLE SPEED/IGNITION TIMING/IDLE MIXTURE RATIO INSPECTION in EF & EC section.

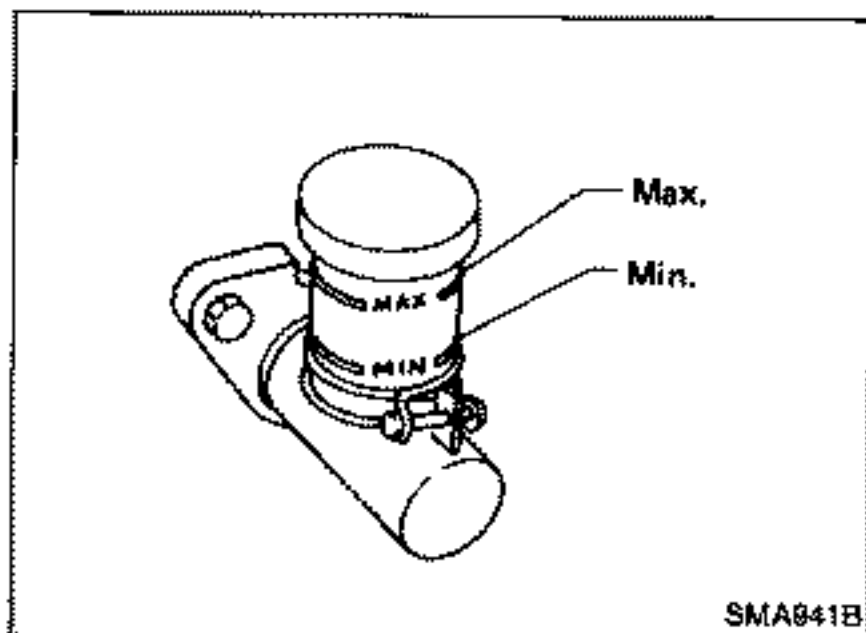
- For help in the checking procedure, refer to Self-diagnosis in EF & EC section.

CHASSIS AND BODY MAINTENANCE



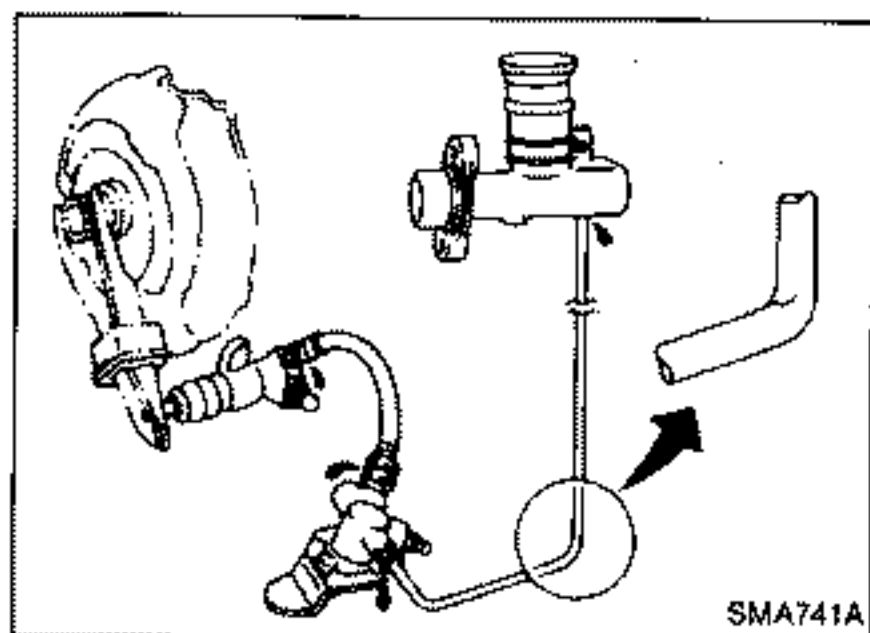
Checking A.S.C.D. Vacuum Line

Check vacuum control hose and connections for airtightness, improper attachment, breakage, chafing, cracks, clogging, deformation and deterioration.
If necessary, replace A.S.C.D. actuator assembly.



Checking Clutch Fluid Level and Leaks

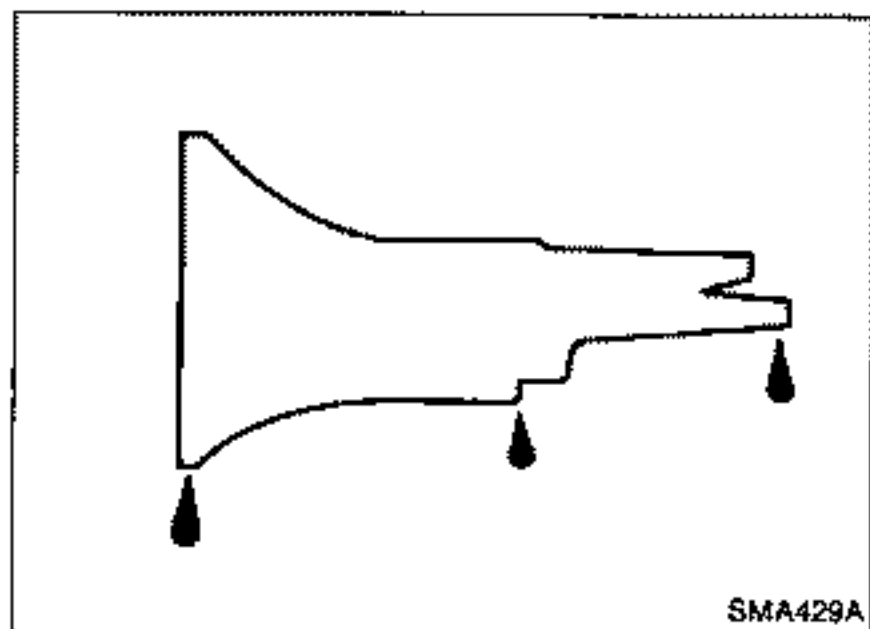
If fluid level is extremely low, check clutch system for leaks.



Checking Clutch System

HYDRAULIC TYPE

Check fluid lines and operating cylinder for improper attachment, cracks, damage, loose connections, chafing and deterioration.



Checking M/T Oil

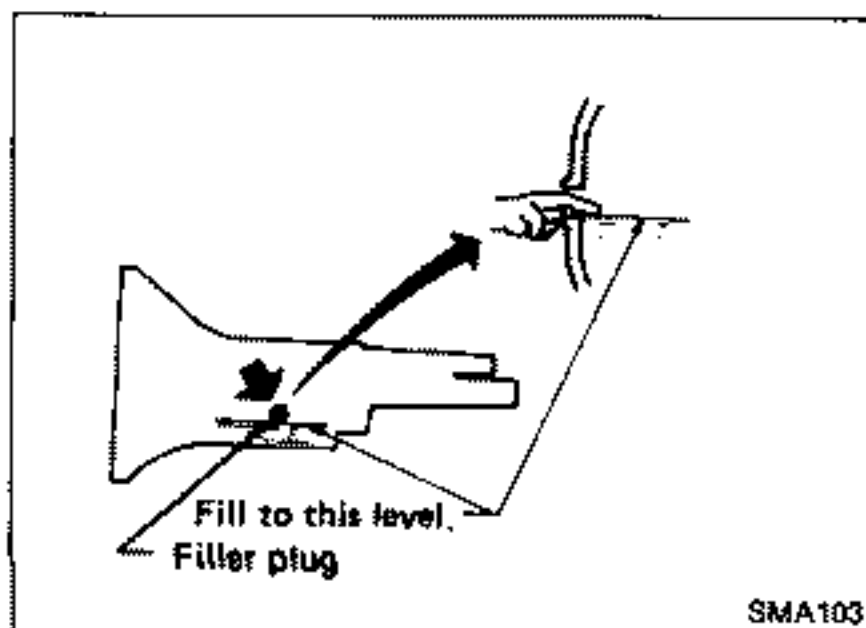
1. Check for oil leakage.

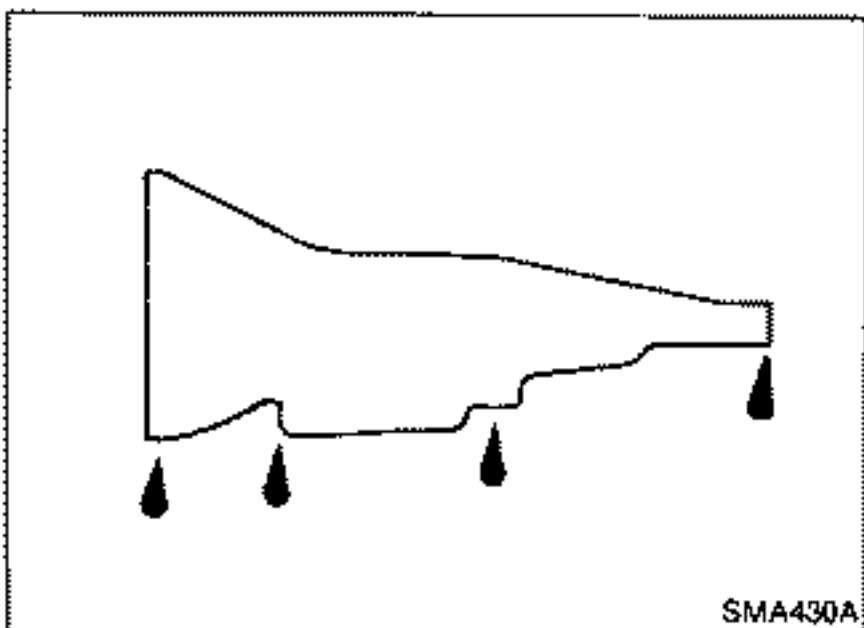
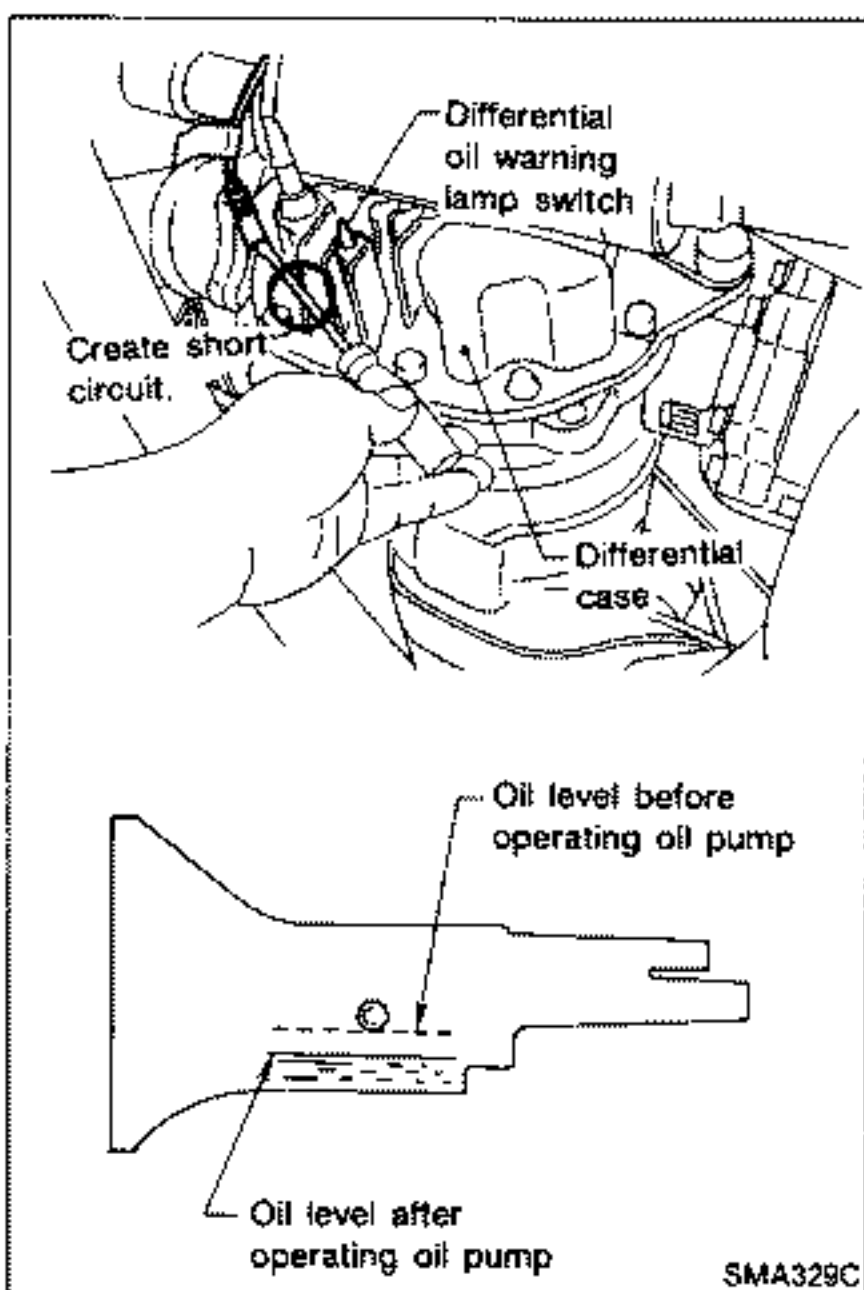
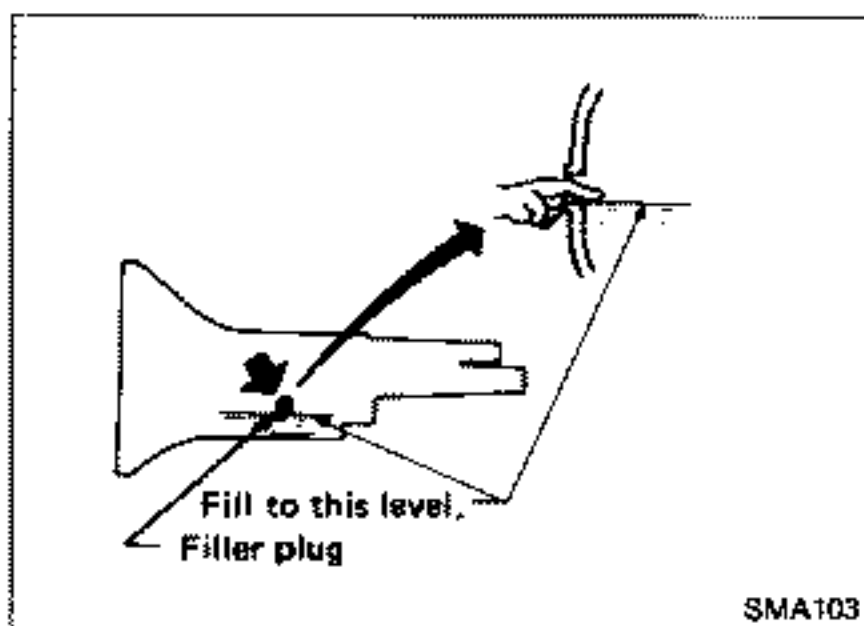
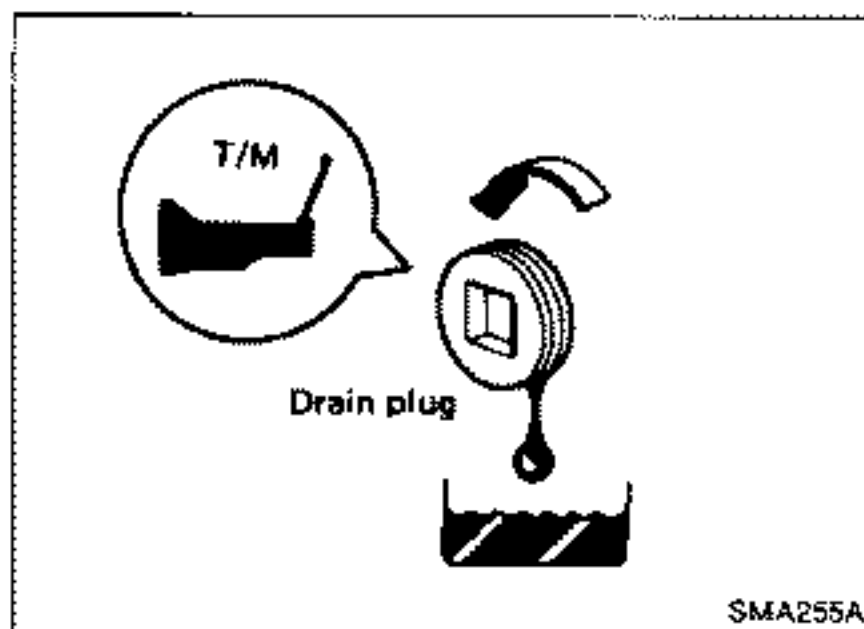
2. If leakage is found, check oil level.

Never start engine while checking oil level.

Filler plug:

⌘: 25 - 34 N·m (2.5 - 3.5 kg·m, 18 - 25 ft·lb)





Changing M/T Oil

1. Drain oil.
2. Refill with recommended new gear oil and check oil level.

For turbo models

3. Turn ignition switch ON and short the circuit between the terminals for differential oil warning lamp switch on differential case.

Keep oil pump operating for 1 minute to circulate oil in transmission oil cooler system. (Oil pump for differential oil cooling system operates at the same time.)

4. Top up with recommended new gear oil.
5. Check oil level.

Oil capacity:

For turbo

3.1 ℓ (5-1/2 Imp pt)

For non-turbo

2.8 ℓ (4-7/8 Imp pt)

Filler and drain plugs:

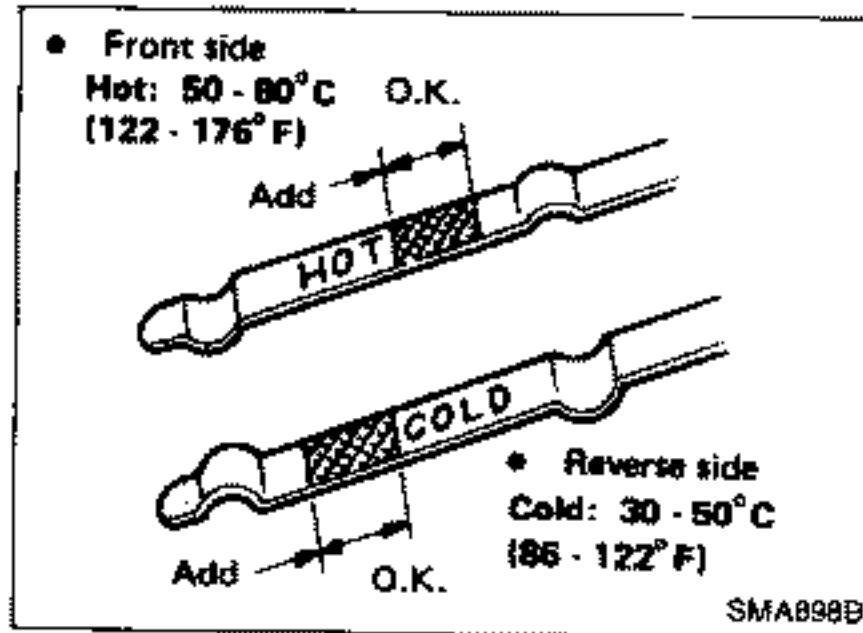
⌘: 25 - 34 N·m (2.5 - 3.5 kg-m, 18 - 25 ft-lb)

Checking A/T Fluid

1. Check for fluid leakage.

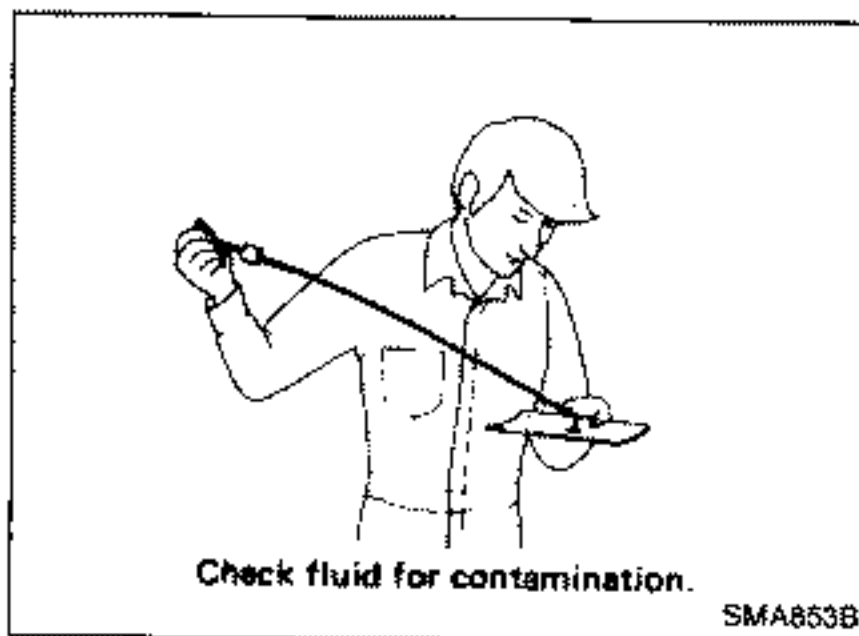
CHASSIS AND BODY MAINTENANCE

Checking A/T Fluid (Cont'd)

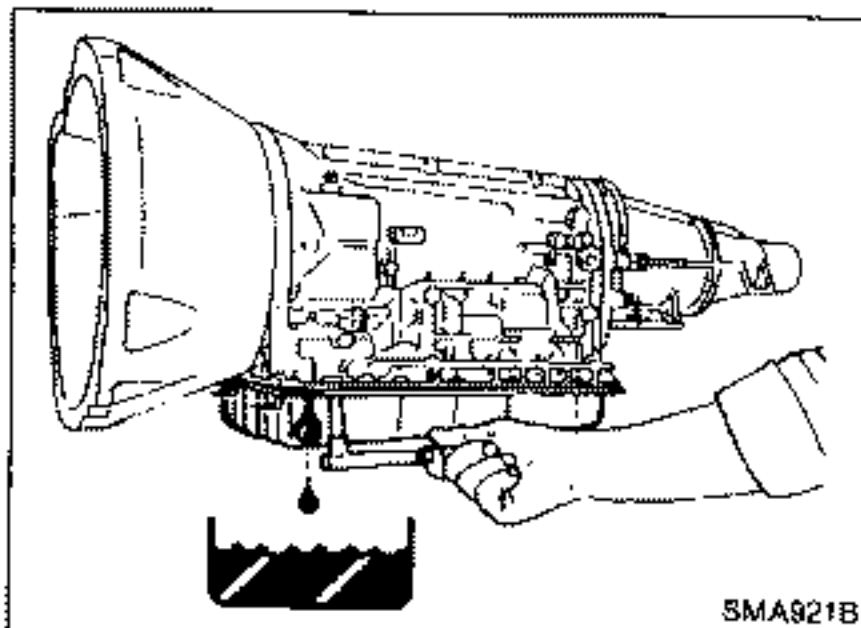


2. If leakage is found, check fluid level.
Fluid level should be checked using "HOT" range on dipstick at fluid temperatures of 50 to 80°C (122 to 176°F) after vehicle has been driven approximately 5 minutes in urban areas after engine is warmed up. But it can be checked at fluid temperatures of 30 to 50°C (86 to 122°F) using "COLD" range on dipstick for reference after engine is warmed up and before driving. However, fluid level must be rechecked using "HOT" range.
- 1) Park vehicle on level surface and set parking brake.
- 2) Start engine and then move selector lever through each gear range, ending in "P".
- 3) Check fluid level with engine idling.
- 4) Remove dipstick and wipe it clean with lint-free paper.
- 5) Reinsert dipstick into charging pipe as far as it will go.
- 6) Remove dipstick and note reading. If level is at low side of either range, add fluid to the charging pipe.

Do not overfill.



3. Check fluid condition.
Check fluid for contamination. If fluid is very dark or smells burned, or contains frictional material (clutches, band, etc.), check operation of A/T.
Refer to section AT for checking operation of A/T.



Changing A/T Fluid

1. Drain fluid by removing oil pan.
2. Replace gasket with a new one.
3. Refill with recommended A/T fluid and then check fluid level.

Oil capacity (With torque converter):

VG30DE

8.3 l (7-1/4 Imp qt)

VG30DETT

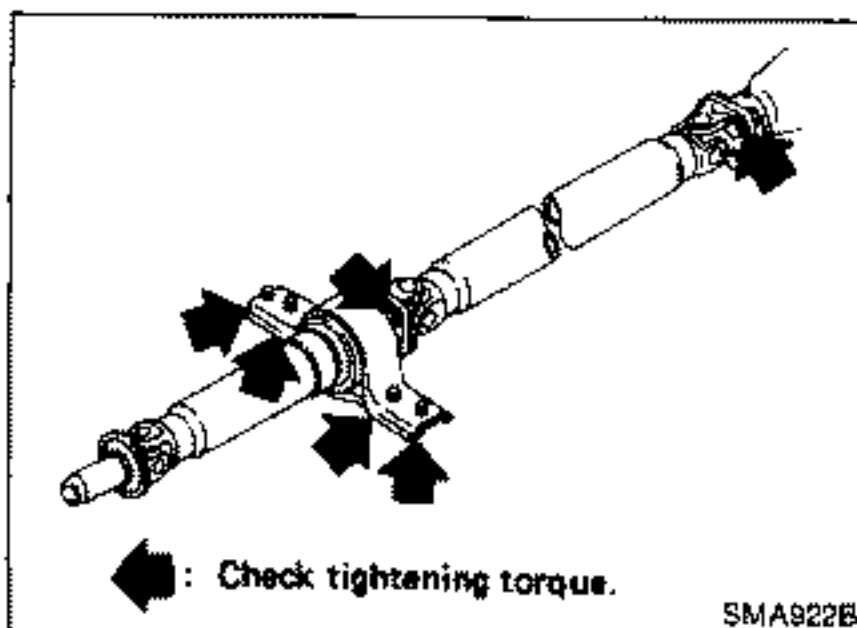
8.7 l (7-5/8 Imp qt)

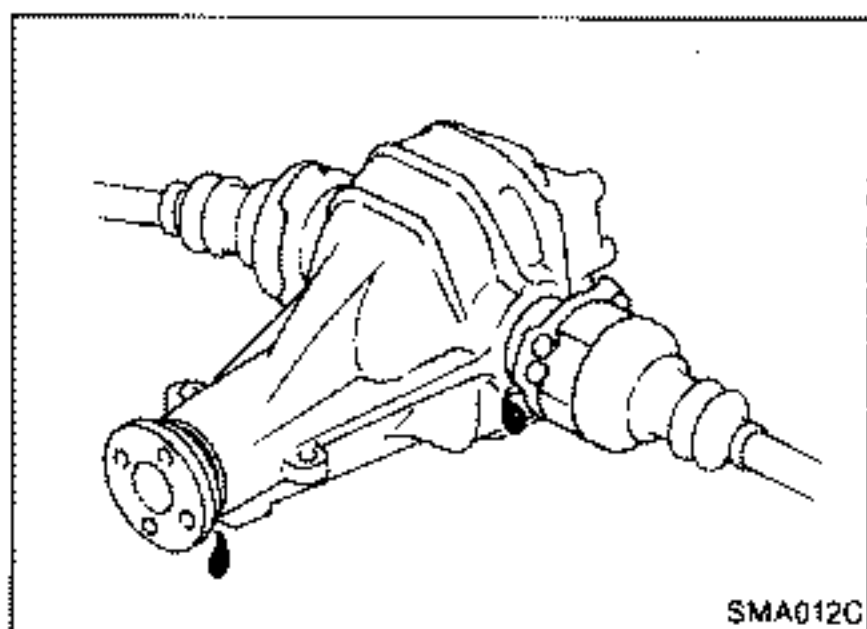
Checking Propeller Shaft

Check propeller shaft and center bearing for damage, looseness or grease leakage.

If greasing points are provided, supply grease as necessary.

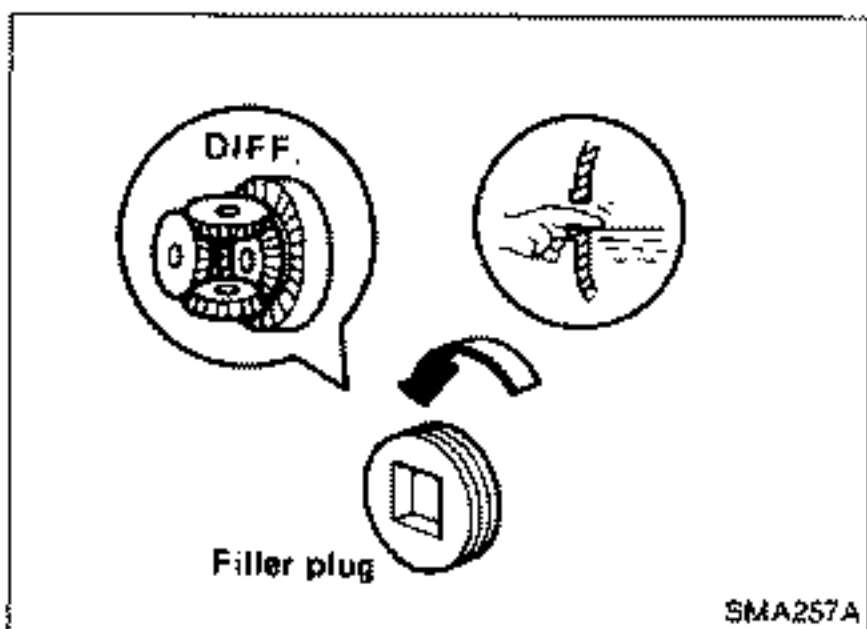
Refer to section PD.





Checking Differential Gear Oil

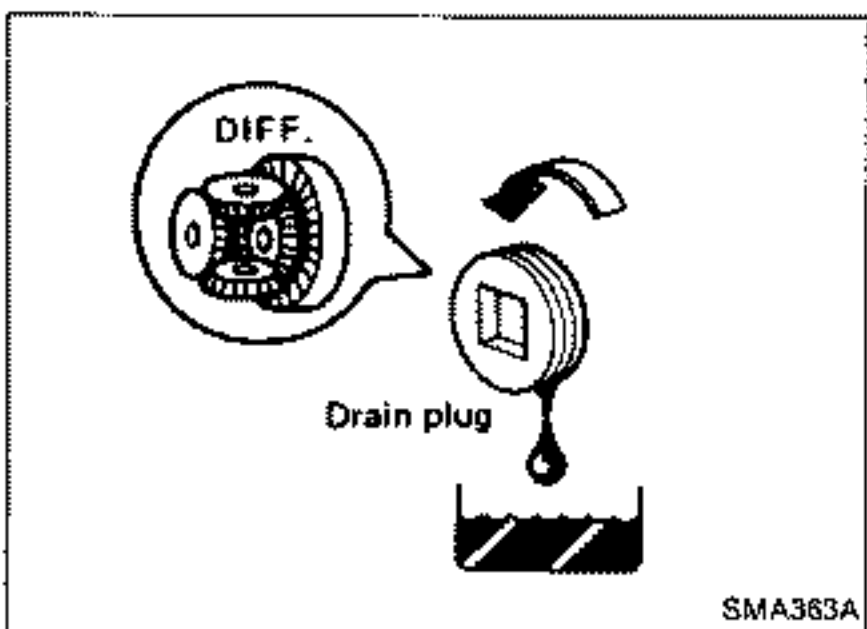
1. Check differential carrier for oil leakage.



2. If leakage is found, check oil level.

Filler plug:

\square : 39 - 59 N·m (4 - 6 kg-m, 29 - 43 ft-lb)



Changing Differential Gear Oil

1. Drain oil and refill with recommended new gear oil.
2. Check oil level.

Oil capacity:

For non-turbo

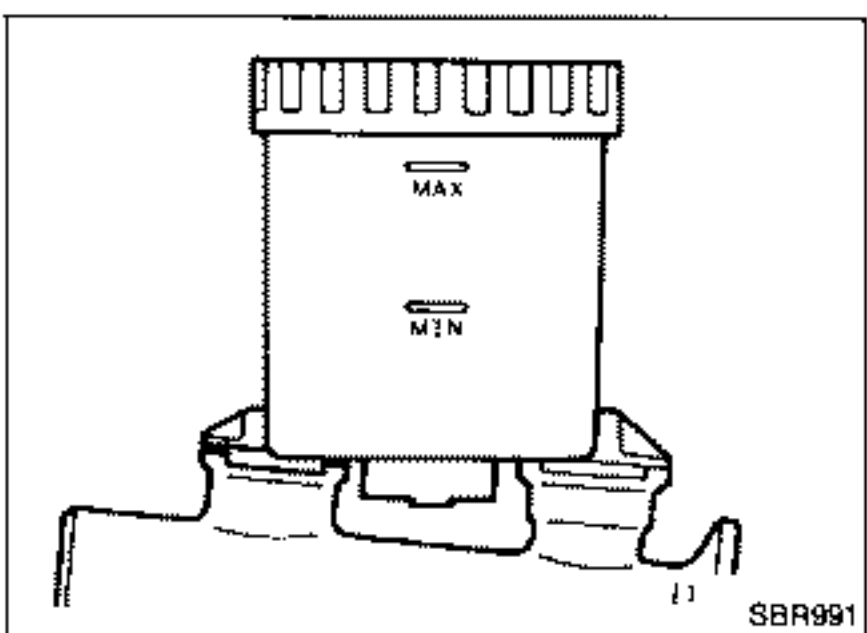
1.5 l (2-5/8 Imp pt)

For turbo

2.1 l (3-3/4 Imp pt)

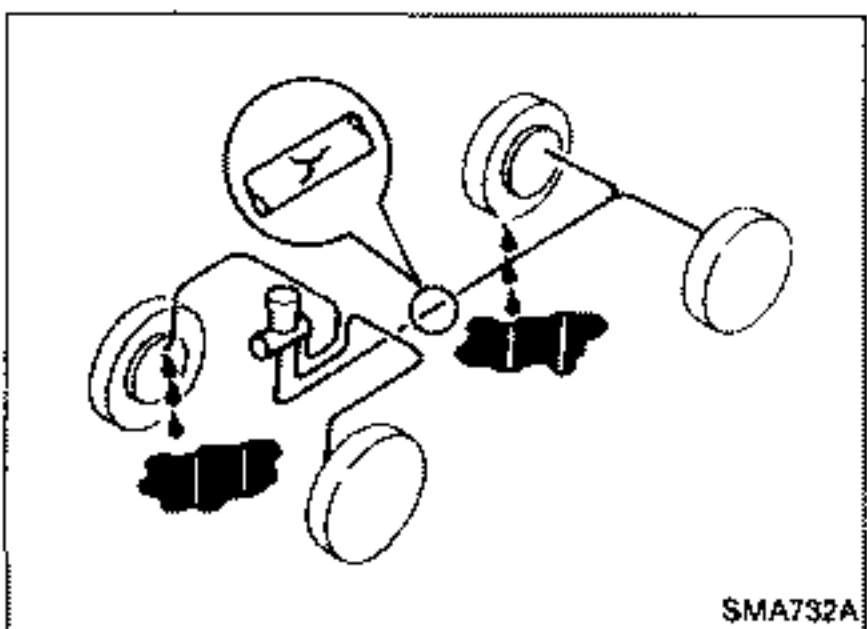
Drain plug:

\square : 39 - 59 N·m (4 - 6 kg-m, 29 - 43 ft-lb)



Checking Brake Fluid Level and Leaks

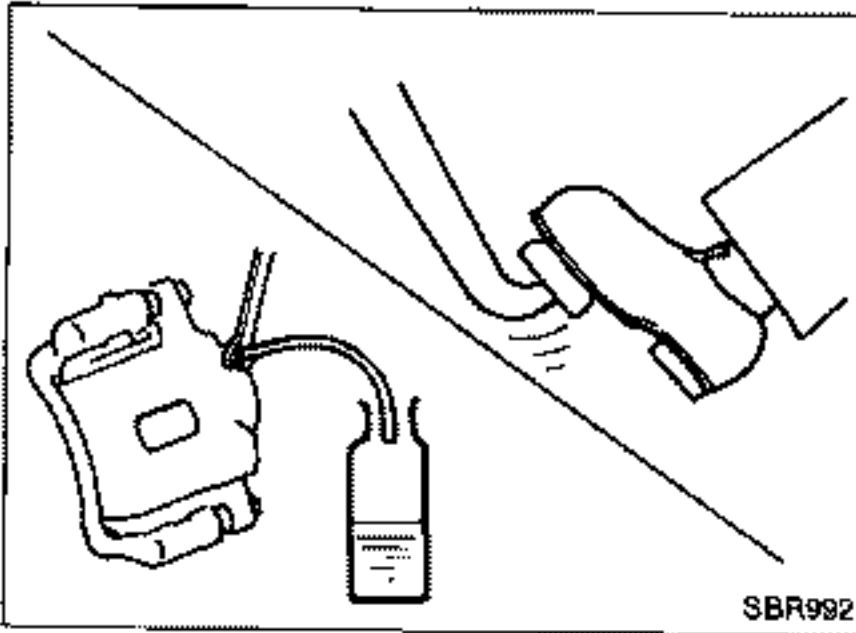
- If fluid level is extremely low, check brake system for leaks.



Checking Brake Lines and Cables

- Check brake fluid lines and parking brake cables for improper attachment and for leaks, chafing, abrasions, deterioration, etc.

CHASSIS AND BODY MAINTENANCE



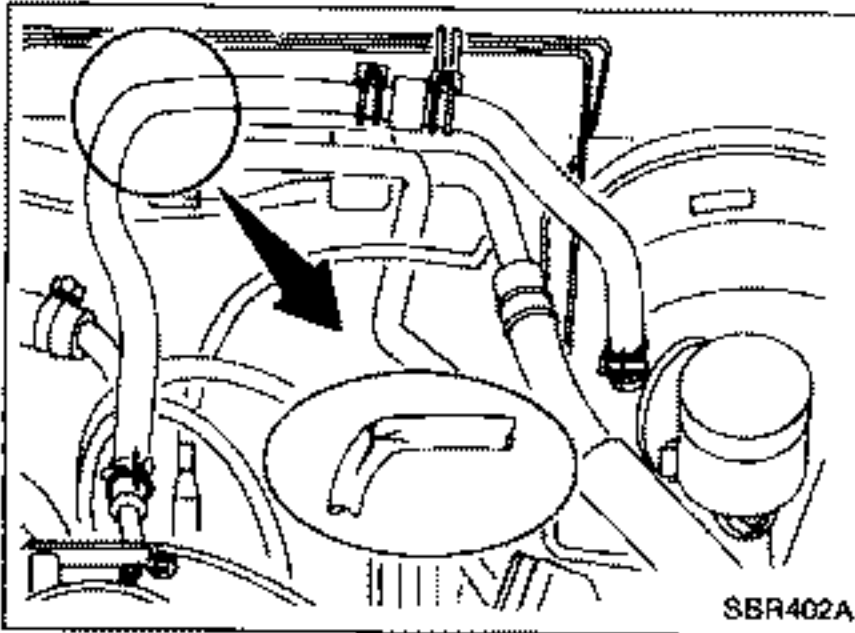
Changing Brake Fluid

1. Drain brake fluid from each air bleeder valve.
2. Refill until new brake fluid comes out from each air bleeder valve.

Use same procedure as in bleeding hydraulic system to refill brake fluid.

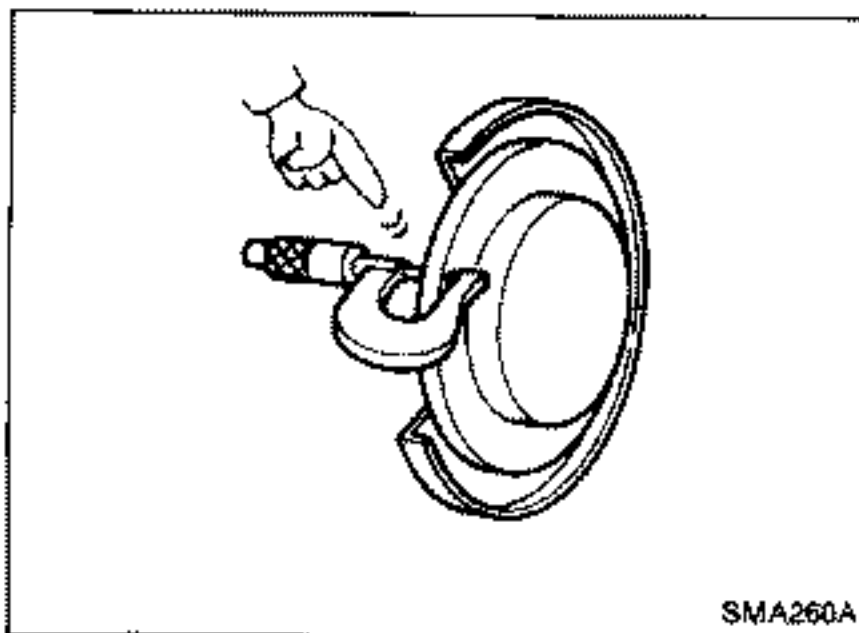
Refer to section BR.

- Refill with recommended brake fluid "DOT 3".
- Never reuse drained brake fluid.
- Be careful not to splash brake fluid on painted areas.



Checking Brake Booster Vacuum Hoses, Connections and Check Valve

Check vacuum lines, connections and check valve for improper attachment, air tightness, chafing and deterioration.



Checking Disc Brake

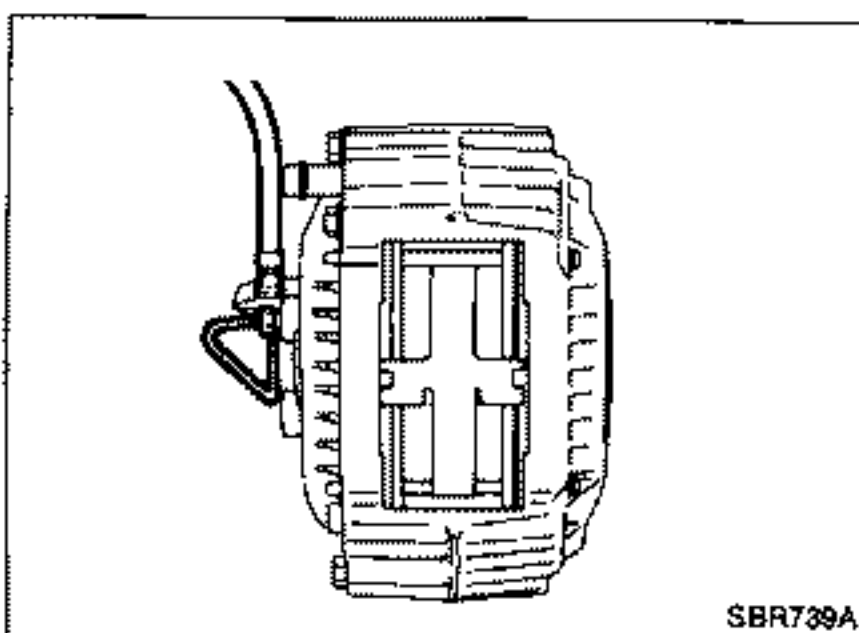
- Check condition of disc brake components.

ROTOR

- Check condition and thickness.

Unit: mm (in)

Disc brake type	Front		Rear
	OPZ25V	OPF25V	OPZ11VB
Standard thickness	26.0 (1.024)	30.0 (1.181)	18 (0.71)
Minimum thickness	24.0 (0.945)	28.0 (1.102)	16.0 (0.630)



CALIPER

- Check operation and for leakage.

CHASSIS AND BODY MAINTENANCE

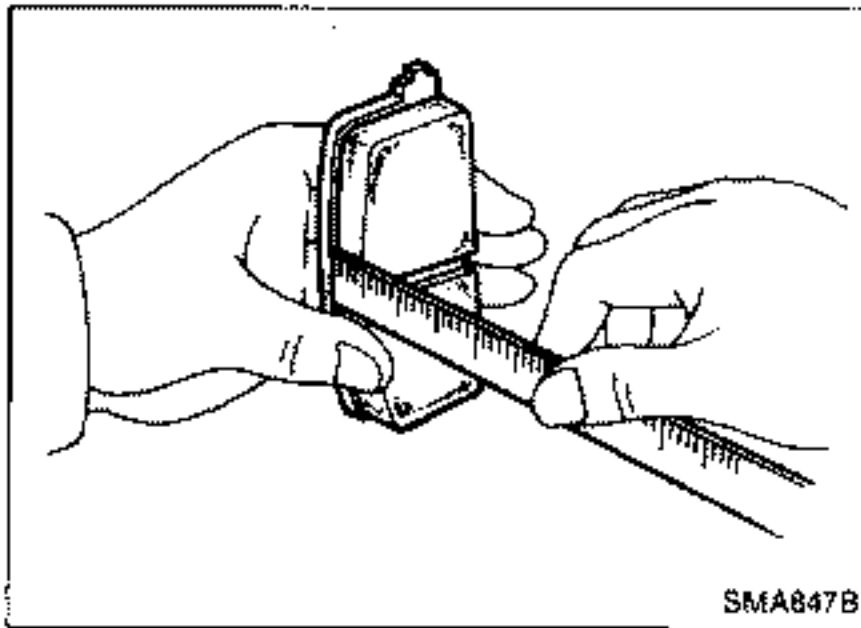
Checking Disc Brake (Cont'd)

PAD

- Check for wear or damage.

Unit: mm (in)

	Front	Rear
Disc brake type	OPZ25V OPF25V	OPZ11VB
Standard thickness	10.0 (0.394)	11.5 (0.453)
Minimum thickness	2.0 (0.079)	



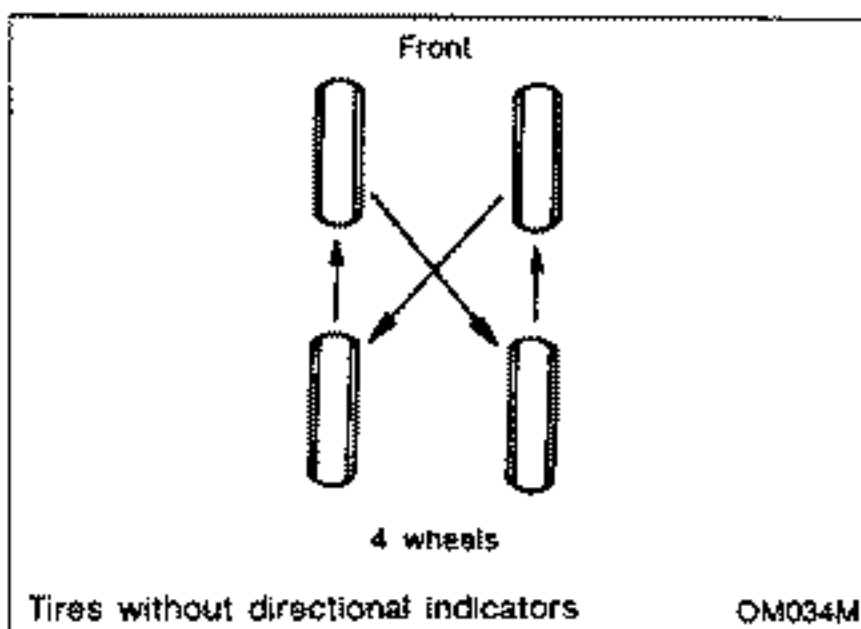
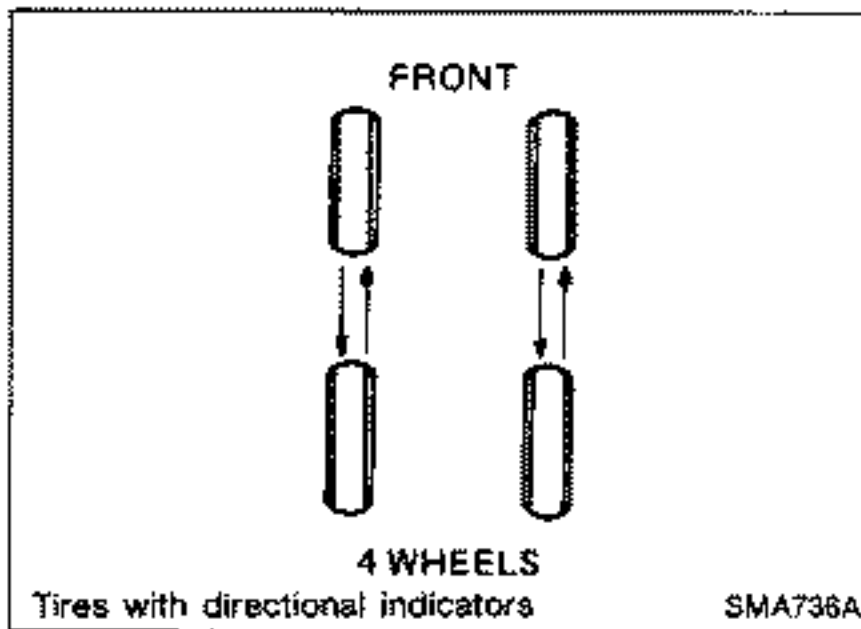
Balancing Wheels

- Adjust wheel balance using road wheel center.
Wheel balance (Maximum allowable unbalance at rim flange):
Refer to S.D.S.
Tire balancing weight: Refer to S.D.S.

Tire Rotation

FOR NON-TURBO

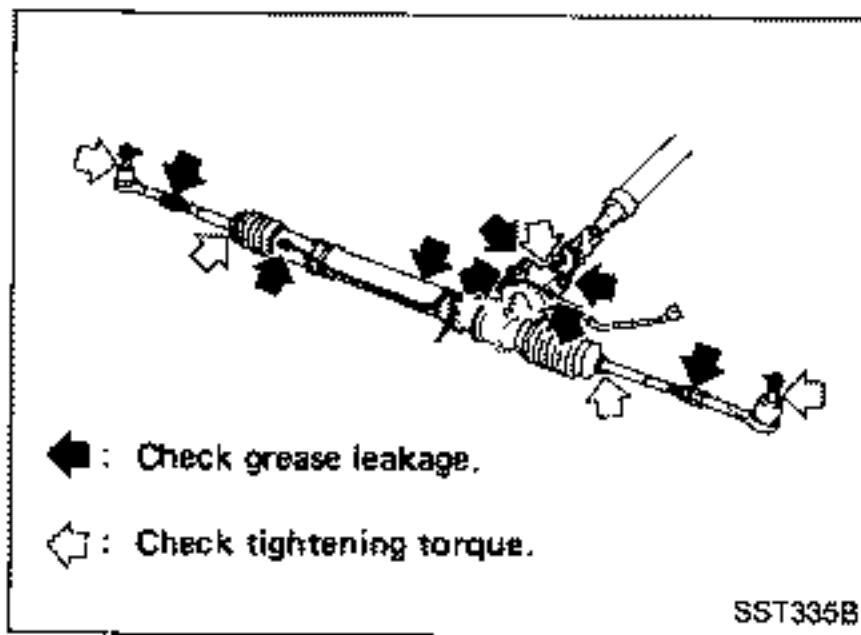
- Do not include the T-type or space saver spare tire when rotating the tires.
Wheel nuts:
: 98 - 118 N·m
(10.0 - 12.0 kg·m, 72 - 87 ft·lb)
- Tires marked with directional indicators can only be rotated between front and rear.



FOR TURBO

The front and rear tires cannot be rotated because they are different sizes.
 The left and right side tires can be swapped only when the tires do not have directional indicators.

CHASSIS AND BODY MAINTENANCE



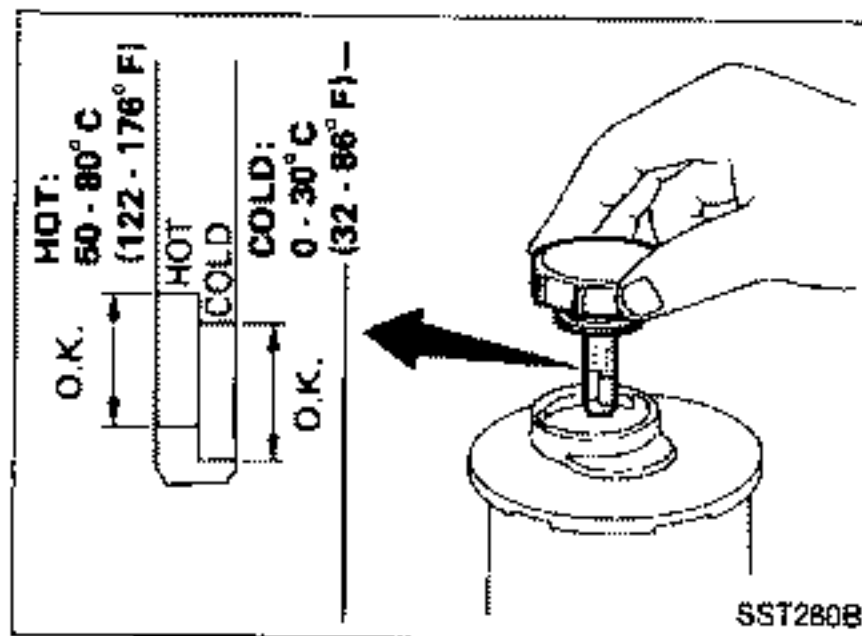
Checking Steering Gear and Linkage

STEERING GEAR

- Check gear housing and boots for looseness, damage or oil leakage.
- Check connection with steering column for looseness.

STEERING LINKAGE

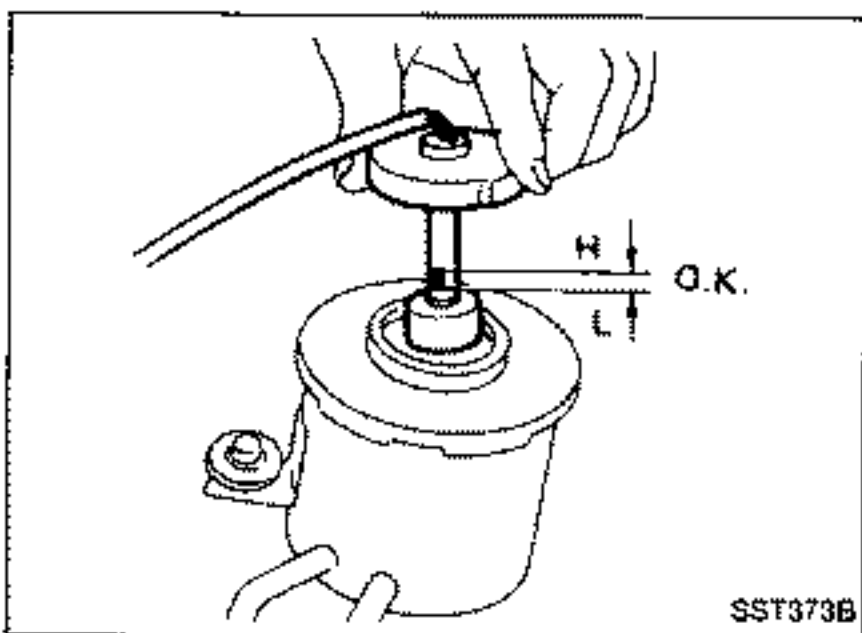
- Check ball joint, dust cover and other component parts for looseness, wear, damage or grease leakage.



Checking Power Steering Fluid and Lines

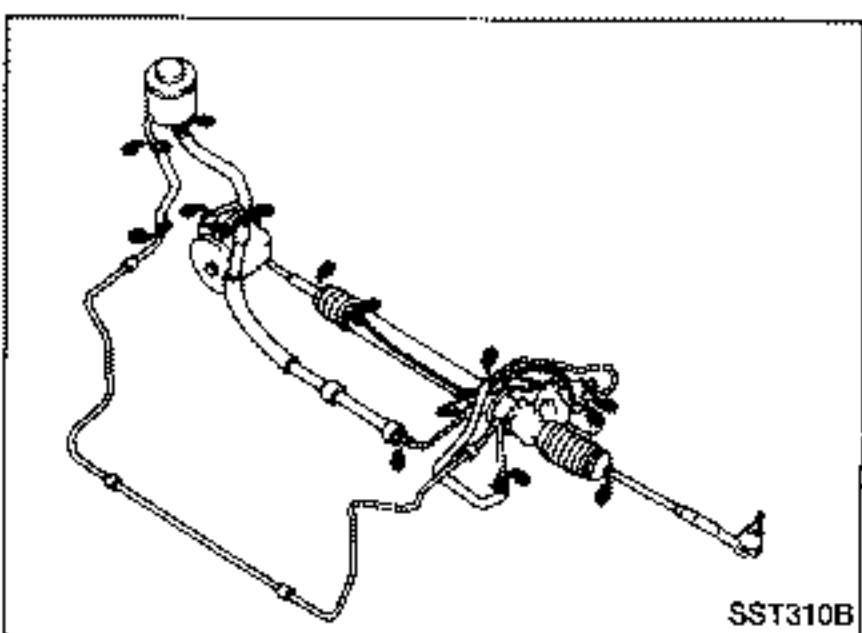
- Checking fluid level (Without SUPER HICAS system)
Fluid level should be checked using "HOT" range on dipstick at fluid temperatures of 50 to 80°C (122 to 176°F) or using "COLD" range on dipstick at fluid temperatures of 0 to 30°C (32 to 86°F).

CAUTION:
Do not overfill.



- Checking fluid level (With SUPER HICAS system)
Maintain the fluid level so that the lower surface of the float is maintained between the "L" and "H" marks on the gauge rod. The fluid level should be checked when the engine is stopped and the fluid temperature is normal.

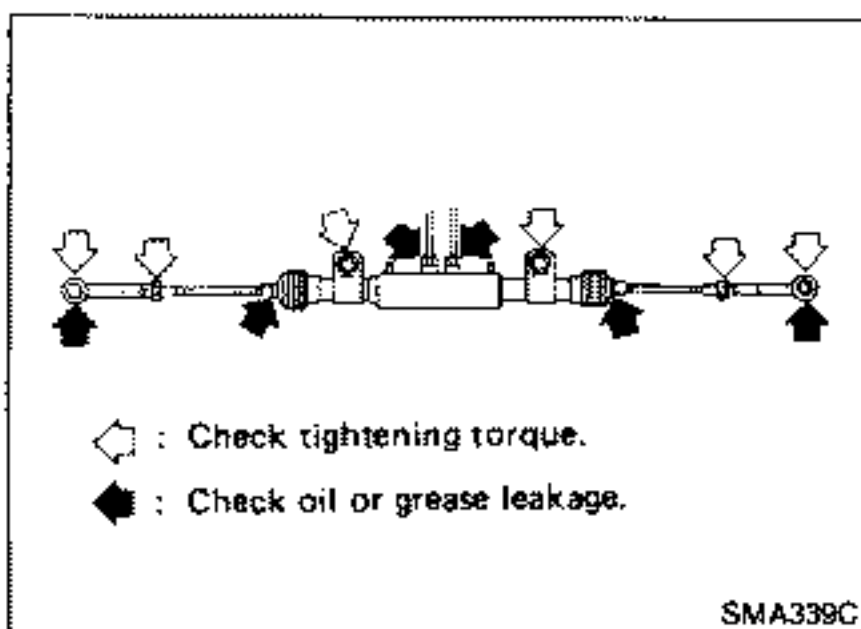
CAUTION:
Do not overfill.

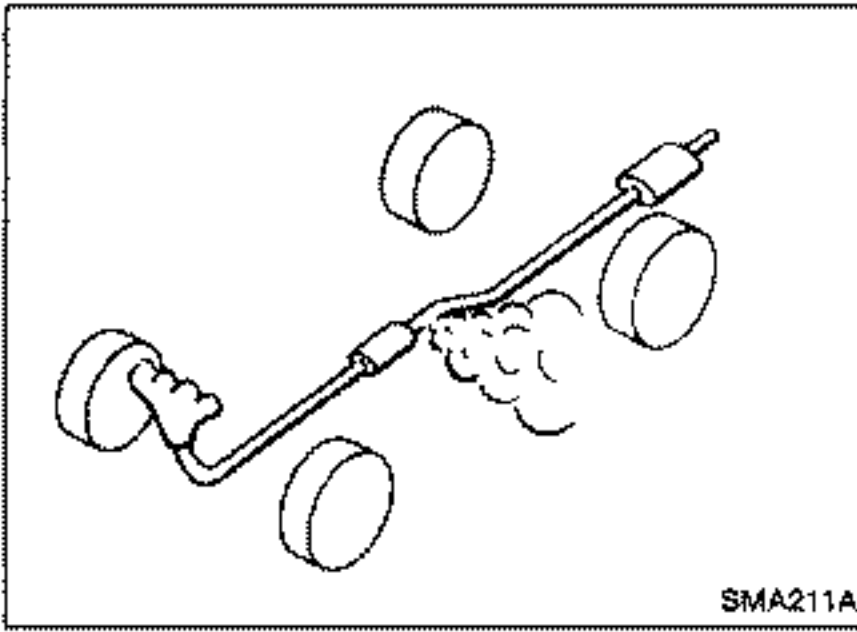


- Check lines for improper attachment, leaks, cracks, damage, loose connections, chafing and deterioration.

Checking Power Cylinder (With SUPER HICAS system)

- Check power cylinder and linkage for damage, looseness and leakage of oil or grease.

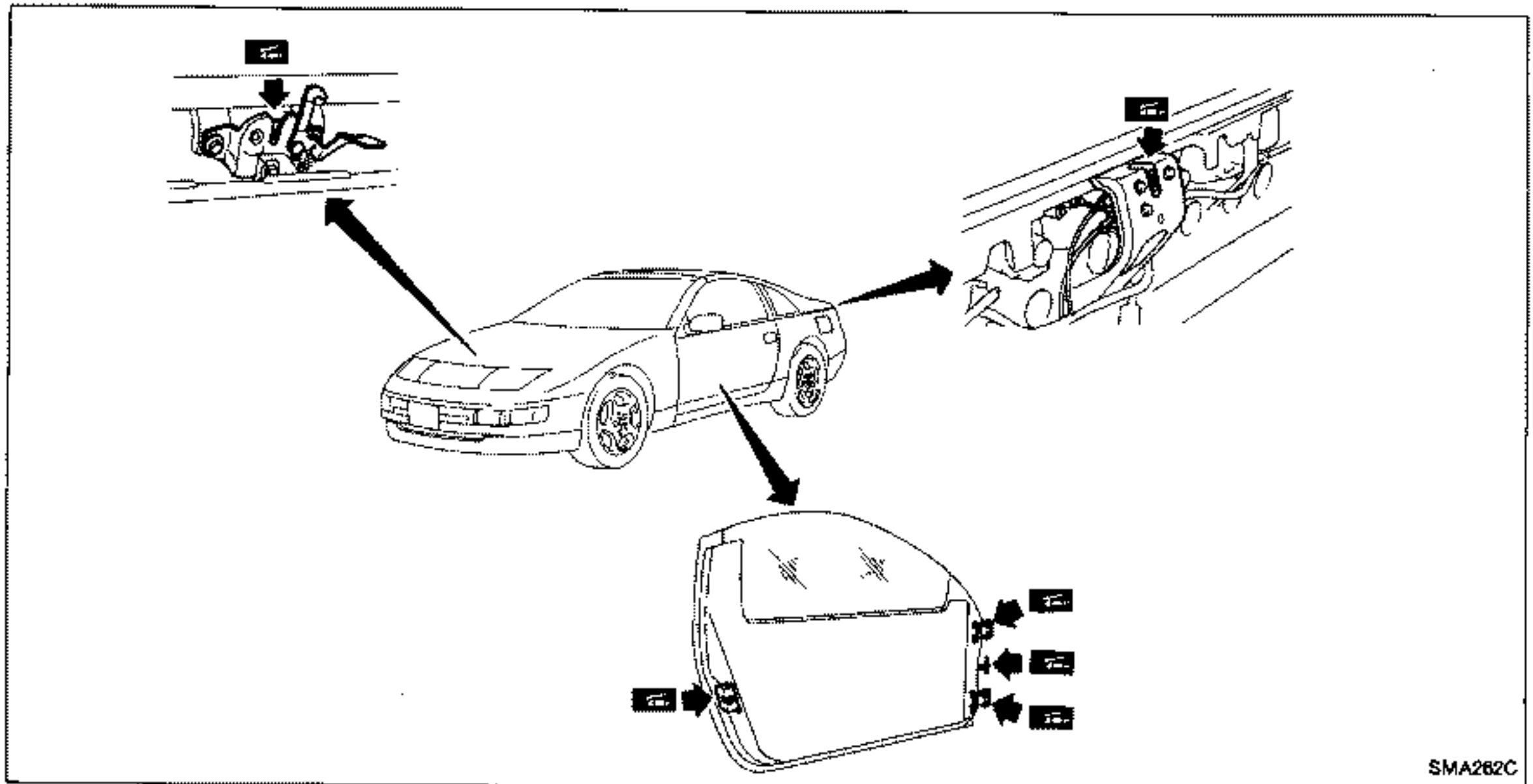




Checking Exhaust System

- Check exhaust pipes, muffler and mounting for proper attachment, leaks, cracks, damage, loose connections, chafing and deterioration.

Lubricating Locks, Hinges and Hood Latches




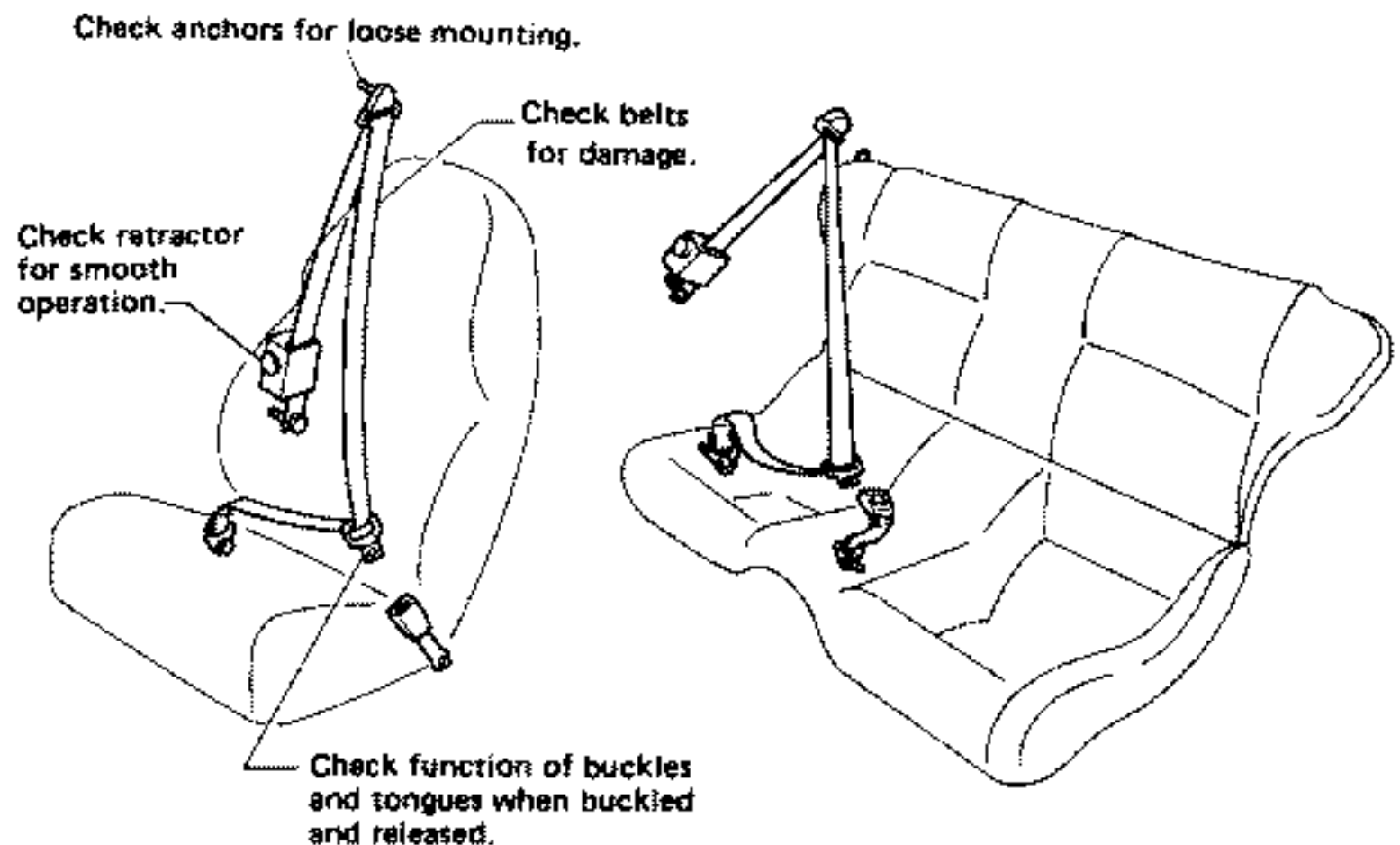
SMA262C

Checking Seat Belts, Buckles, Retractors, Anchors and Adjusters

CAUTION:

1. All seat belt assemblies, including retractors and attaching hardware such as guide rail set, etc., should be inspected after any collision. Nissan recommends that all seat belt assemblies in use during a collision be replaced unless the collision was minor and the belts show no damage and continue to operate properly. Seat belt assemblies not in use during a collision should also be inspected and replaced if either damage or improper operation is noted.
2. If the condition of any component of seat belt assembly is questionable, do not have it repaired, but replaced as seat belt assembly.
3. If webbing is cut, frayed, or damaged, replace belt assembly.
4. Do not spill drinks, oil, etc. on inner lap belt buckle. Never oil tongue and buckle.
5. Use a NISSAN genuine seat belt assembly.

 **Anchor bolt**
43 - 55 N·m
(4.4 - 5.6 kg·m, 32 - 41 ft·lb)



SMA171C

Checking Body Corrosion

Visually check the body sheet metal panel for corrosion, paint damage (scratches, chipping, rubbing, etc.) or damage to the anti-corrosion materials. In particular, check the following locations.

Hemmed portion

Hood front end, door lower end, trunk lid rear end, etc.

Panel joint

Side sill of rear fender and center pillar, rear wheel housing of rear fender, around strut tower in engine compartment, etc.

Panel edge

Trunk lid opening, sun roof opening, fender wheel-arch flange, fuel filler lid flange, around holes in panel, etc.

Parts contact

Waist moulding, windshield moulding, bumper, etc.

Protectors

Damage or condition of mudguard, fender protector, chipping protector, etc.

Anti-corrosion materials

Damage or separation of anti-corrosion materials under the body.

Drain holes

Condition of drain holes at door and side sill.

When repairing corroded areas, refer to the Corrosion Repair Manual.

SERVICE DATA AND SPECIFICATIONS (S.D.S.)

Engine Maintenance

INSPECTION AND ADJUSTMENT

Drive belt deflection

Unit: mm (in)

	Used belt deflection		Deflection of new belt
	Limit	Deflection after adjustment	
Alternator	11.5 (0.453)	7 - 8 (0.28 - 0.31)	6.5 - 7.5 (0.256 - 0.295)
Air conditioner compressor	12.5 (0.492)	8 - 9 (0.31 - 0.35)	7 - 8 (0.28 - 0.31)
Power steering oil pump	19 (0.75)	12 - 13.5 (0.472 - 0.531)	10.5 - 11.5 (0.413 - 0.453)
Applied pushing force	98 N (10 kg, 22 lb)		

Spark plug

Non-Turbo

Standard type	PFR6B-11
Hot type	PFR5B-11
Cold type	PFR7B-11

Turbo

Standard type	PFR6B-11C
Hot type	PFR5B-11C
Cold type	PFR7B-11C

Oil capacity (Refill)

Non-Turbo

Unit: ℓ (Imp qt)

With oil filter	3.4 (3)
Without oil filter	3.0 (2-5/8)

Turbo (Without oil cooler)

Unit: ℓ (Imp qt)

With oil filter	3.4 (3)
Without oil filter	3.0 (2-5/8)

Coolant capacity

Unit: ℓ (Imp qt)

With reservoir tank	10.0 (8-3/4)
Reservoir tank	0.6 (1/2)

SERVICE DATA AND SPECIFICATIONS (S.D.S.)

Chassis and Body Maintenance

INSPECTION AND ADJUSTMENT

Clutch

Unit: mm (in)

Applied model	L.H.D.	R.H.D.	
		VG30DE	VG30DETT
Pedal free height	183 - 193 (7.20 - 7.60)	211 - 221 (8.31 - 8.70)	197 - 207 (7.76 - 8.15)
Pedal free play	1 - 3 (0.04 - 0.12)		

Front axle and front suspension (Unladen)*

Camber	degree	-1°35' to -0°05'
Caster	degree	9°00' - 10°30'
Toe-in	mm (in)	0 - 2 (0 - 0.08)
(Total toe-in angle)	degree	0' - 11'
Kingpin inclination	degree	12°10' - 13°40'
Front wheel turning angle		
Full turn inside/outside	degree	32° - 36°/27° - 31°

*: Fuel, radiator coolant and engine oil full.
Spare tire, jack, hand tools and mats in designated positions.

Rear axle and rear suspension (Unladen)*

Camber	degree	-1°35' to -0°35'
Toe-in	mm (in)	0 - 4 (0 - 0.16)
(Total toe-in angle)	degree	0' - 22'

*: Fuel, radiator coolant and engine oil full.
Spare tire, jack, hand tools and mats in designated positions.

Wheel bearing

	Front	Rear
Wheel bearing axle end play mm (in)	0.05 (0.0020) or less	
Wheel bearing lock nut Tightening torque N·m (kg-m, ft-lb)	206 - 284 (21 - 29, 152 - 210)	206 - 275 (21 - 28, 152 - 203)

Brake

Unit: mm (in)

Disc brake	
Pad	
Standard thickness	
OPZ25V OPF25V	10.0 (0.394)
OPZ11VB	11.5 (0.453)
Minimum thickness	
OPZ25V OPF25V	2.0 (0.079)
OPZ11VB	2.0 (0.079)
Rotor	
Standard thickness	
OPZ25V OPF25V	26.0 (1.024) 30.0 (1.181)
OPZ11VB	18 (0.71)
Minimum thickness	
OPZ25V OPF25V	24.0 (0.945) 28.0 (1.102)
OPZ11VB	16.0 (0.630)
Pedal	
Free height	
M/T	186 - 196 (7.32 - 7.72)
A/T	195 - 205 (7.68 - 8.07)
Free play at clevis	1 - 3 (0.04 - 0.12)
Depressed height (under force of 490 N (50 kg, 110 lb) with engine running)	
M/T	
Without A.B.S.	95 (3.74) or more
With A.B.S.	105 (4.13) or more
A/T	
Without A.B.S.	105 (4.13) or more
With A.B.S.	110 (4.33) or more
Parking brake	
Number of notches (at pulling force 196 N (20 kg, 44 lb))	6 - 7

Wheel balance

Wheel balance (Maximum allowable unbalance at rim flange)	g (oz)	10 (0.35)
Tire balance weight	g (oz)	5 - 60 (0.18 - 2.12) Spacing 5 (0.18)

SERVICE DATA AND SPECIFICATIONS (S.D.S.)**Chassis and Body Maintenance (Cont'd)****TIGHTENING TORQUE**

Unit	N-m	kg-m	ft-lb
Clutch			
A.S.C.D. cancel switch and clutch switch lock nut	12 - 15	1.2 - 1.5	9 - 11
Manual transmission			
Drain and filler plugs	25 - 34	2.5 - 3.5	18 - 25
Final drive			
Drain plug	39 - 59	4 - 6	29 - 43
Filter plug	39 - 59	4 - 6	29 - 43
Front axle and front suspension			
Tie-rod lock nut	78 - 98	8.0 - 10.0	58 - 72
Rear axle and rear suspension			
Toe adjusting pin	69 - 88	7.0 - 9.0	51 - 65
Camber adjusting pin (Models without SUPER HICAS)	69 - 88	7.0 - 9.0	51 - 65
Lower link lock nut (Models with SUPER HICAS)	37 - 46	3.8 - 4.7	27 - 34
Brake system			
Air bleed valve	7 - 9	0.7 - 0.9	5.1 - 6.5
Brake lamp switch lock nut	12 - 15	1.2 - 1.5	9 - 11
Brake booster input rod lock nut	16 - 22	1.6 - 2.2	12 - 16
Wheel and tire			
Wheel nut	98 - 118	10.0 - 12.0	72 - 87