

MAINTENANCE

SECTION **MA**

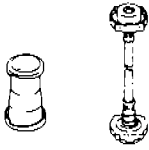
MA

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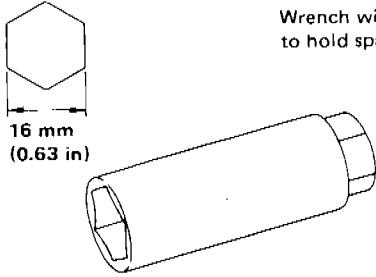
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PREPARATION

SPECIAL SERVICE TOOL

Tool number Tool name	Description
EG17650301 Radiator cap tester adapter	

COMMERCIAL SERVICE TOOL

Tool name	Description
Spark plug wrench	 Wrench with a magnet to hold spark plug SEM294A

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

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 will be required.

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

MAINTENANCE OPERATION			MAINTENANCE INTERVAL										Reference page
Perform either at number of kilometers (miles) or months, whichever comes first.	km x 1,000	1	10	20	30	40	50	60	70	80			
	(Miles x 1,000)	(0.6)	(6)	(12)	(18)	(24)	(30)	(36)	(42)	(48)			
	Months	—	6	12	18	24	30	36	42	48			
ENGINE			Underhood and under vehicle										
Check drive belts for cracks, fraying, wear & tension			X		X		X		X		X	MA-13	
Change engine anti-freeze coolant (Ethylene glycol base)							X				X	MA-13	
Change engine coolant (Soft water)				X	X	X	X	X	X	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 recommended oil)★				Every 5,000 km (3,000 miles) or 6 months								MA-16	
Change engine oil filter★				X	X	X	X	X	X	X	X	MA-17	
Check & adjust mixture ratio (Check mixture ratio only on models bound for areas affected by emission regulations)			X	X	X	X	X	X	X	X	X	EF & EC-25	
Replace fuel filter★							X				X	MA-16	
Check & replace spark plugs			Check		X		X		X		X	MA-17	
			Replace			X		X		X		X	MA-17
Check positive crankcase ventilation (P.C.V.) system					X		X		X		X	MA-19	
Check vacuum fitting hoses & connections					X		X		X		X	MA-19	
Replace timing belt				Every 100,000 km (60,000 miles)								EM-9	
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-24	
Check brake booster vacuum hoses, connections & check valve							X				X	MA-24	
Check power steering fluid & lines				X	X	X	X	X	X	X	X	MA-26	
			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
Check oil level in manual transmission & differential gear★				X	X	X	X	X	X	X	X	X	MA-21, 23
Check steering gear & linkage, axle & suspension parts, propeller shaft & drive shafts for damaged, loose & missing parts & lubrication★			X		X		X		X		X	MA-23, 26 FA-5, RA-5, 7	
			Outside and inside										
Check wheel alignment. If necessary, rotate & balance wheels					X		X		X		X	MA-25, 26 FA-6	
Check brake pads, discs & other brake components for wear, deterioration & leaks★				X	X	X	X	X	X	X	X	MA-25	
Lubricate locks, hinges & hood latch★				X	X	X	X	X	X	X	X	MA-27	
Check seat belts, buckles, retractors, anchors & adjuster					X		X		X		X	MA-27	
Check foot brake, parking brake & clutch for free play, stroke & operation				X	X	X	X	X	X	X	X	CL-5, BR-7, 29	

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 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
A	Air cleaner filter	Replace	More frequently	MA-16
A B C D	Engine oil	Replace		MA-16
A B C D	Engine oil filter	Replace	Every 5,000 km (3,000 miles) or 3 months	MA-17
A E	Fuel filter	Replace	Every 20,000 km (12,000 miles) or 12 months	MA-16
. F	Brake fluid	Replace		MA-24
. . . C H .	Automatic & manual transmission oil & differential gear oil	Replace	Every 40,000 km (24,000 miles) or 24 months	MA-22, 23
. G H .	Steering gear & linkage, axle & suspension parts, propeller shaft & drive shaft	Check	Every 10,000 km (6,000 miles) or 6 months	MA-23, 26 FA-5, RA-5, 7
A . . C G H I	Brake pads, discs & other brake components	Check	Every 5,000 km (3,000 miles) or 3 months	MA-25
. G . . .	Lock, hinges & hood latch	Lubricate		MA-27

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
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.	Months	—	12	24	36	48		
	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-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	
Replace air cleaner filter (Viscous paper type)★				X		X	MA-16	
Replace timing belt			Every 100,000 km (60,000 miles)				EM-9	
Check & adjust mixture ratio*1		X*1	X	X	X	X	EF & EC-25	
Replace fuel filter★				X		X	MA-16	
Replace spark plugs								
Non-catalyzer models			X	X	X	X	MA-17	
Catalyzer models (Use PLATINUM-TIPPED type.)			Every 100,000 km (60,000 miles)				MA-17	
Check positive crankcase ventilation (P.C.V.) system*1			X	X	X	X	MA-19	
Check vacuum fitting hoses & connections*1			X	X	X	X	MA-19	
Check exhaust gas sensor*2				X		X	MA-20	
Check vapor lines*2				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-24	
Check brake booster vacuum hoses, connections & check valve				X		X	MA-24	
Check power steering fluid & lines			X	X	X	X	MA-26	
		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, 23	
Check steering gear & linkage, axle & suspension parts, propeller shaft, drive shafts & exhaust system for damaged, loose & missing parts, lubrication & leaks★		X		X		X	MA-21, 23, 26 FA-5, RA-5, 7	
		Outside and inside						
Check wheel alignment. If necessary, rotate & balance wheels			X	X	X	X	MA-25, 26 FA-6	
Check brake pads, discs & other brake components for wear, deterioration & leaks★			X	X	X	X	MA-25	
Check seat belts, buckles, retractors, anchors & adjuster				X		X	MA-27	
Check foot brake, parking brake & clutch for free play, stroke & operation			X	X	X	X	CL-5, BR-7, 29	
Check body corrosion			Annually				MA-28	

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

Check: Check. Correct or replace if necessary.

*1: Non-catalyzer models only

*2: Catalyzer models only

PERIODIC MAINTENANCE (For Europe except U.K.)

ENGINE OIL SERVICE

MAINTENANCE OPERATION	MAINTENANCE INTERVAL										Reference page
	Months	—	6	12	18	24	30	36	42	48	
	km x 1,000	1	10	20	30	40	50	60	70	80	
Perform at the specified time or mileage, whichever comes first.	(Miles x 1,000)	(0.6)	(6)	(12)	(18)	(24)	(30)	(36)	(42)	(48)	
Underhood											
Change engine oil (Use recommended oil)★	Every 6 months or 5,000 km (3,000 miles)										MA-16
Change engine oil filter★	X 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

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- C — Towing a trailer
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- 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	Every 12 months or 20,000 km (12,000 miles)	MA-16
A E	Fuel filter	Replace		MA-16
. F	Brake fluid	Replace		MA-24
. G H .	Steering gear & linkage, axle & suspension parts, propeller shaft, drive shafts & exhaust system	Check		MA-21, 23, 26 FA-5, 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
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	More frequently	MA-16
A B C D	Engine oil filter	Replace	Every 3 months or 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		MAINTENANCE INTERVAL										Reference page	
Perform either at number of miles (kilometers) or months, whichever comes first.	Miles x 1,000	0.6	9	18	27	36	45	54	63	72			
	(km x 1,000)	(1)	(15)	(30)	(45)	(60)	(75)	(90)	(105)	(120)			
	Months	—	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-9		
Change engine anti-freeze coolant (Ethylene glycol base)	X										X	MA-13	
Check cooling system	X										X	X	MA-14
Check fuel lines	X										X	MA-15	
Check drive belts for cracks, fraying, wear & tension	X	X										X	MA-13
Replace air cleaner filter (Viscous paper type)*	X										X	MA-16	
Change engine oil (Use recommended oil) & oil filter*	Every 4,500 miles (7,500 km) or 6 months										MA-16, 17		
Check & adjust mixture ratio	X	X	X	X	X	X	X	X	X	X	EF & EC-25		
Replace fuel filter	X										X	MA-16	
Replace spark plugs	X	X	X	X	X	X	X	X	X	X	MA-17		
Check positive crankcase ventilation (P.C.V.) system	X										X	MA-19	
Check vacuum hose & connections	X										X	MA-19	
CHASSIS AND BODY MAINTENANCE		Under bonnet											
Check brake & clutch fluid level & leaks*	X	X	X	X	X	X	X	X	X	X	MA-21, 24		
Check automatic transmission fluid level & leaks*	X										X	MA-22	
Change brake fluid	X										X	MA-24	
Check brake booster vacuum hoses, connections & check valve	X										X	MA-24	
Check power steering fluid & lines	X	X	X	X	X	X	X	X	X	X	MA-26		
		Under vehicle											
Check brake & clutch for proper attachment, leaks, cracks, chafing, abrasion, deterioration, etc.	X	X	X	X	X	X	X	X	X	X	MA-21, 24		
Check oil level in manual transmission & differential gear*	X										X	MA-21, 23	
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	X	X	X	X	X	MA-21, 23, 26 FA-5, RA-5, 7		
		Outside and inside											
Check wheel alignment. If necessary, rotate & balance wheels	X										X	X	MA-25, 26 FA-6
Check brake pads, disc & other brake components for wear, deterioration & leaks*	X	X	X	X	X	X	X	X	X	X	MA-25		
Check seat belts, buckles, retractors & adjuster	X										X	MA-27	
Check foot brake, hand brake & clutch for free play, stroke & operation	X	X	X	X	X	X	X	X	X	X	CL-5, BR-7, 29		
Check body corrosion	Annually										MA-28		

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 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
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- 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		MA-16, 17
. . C . . F .	Automatic & manual transmission oil, differential gear oil	Replace	Every 36,000 miles (60,000 km) or 24 months	MA-22, 23
. . . . E F .	Steering gear & linkage, axle & suspension parts, propeller shaft, drive shafts & exhaust system	Check	Every 9,000 miles (15,000 km) or 6 months	MA-21, 23, 26 FA-5, 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

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-27
Tire rotation Tires should be rotated every 10,000 km (6,000 miles).	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-13
Engine oil level Check the level after parking the vehicle on a level spot and turning off the engine.	MA-16
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.	—

RECOMMENDED FLUIDS AND LUBRICANTS

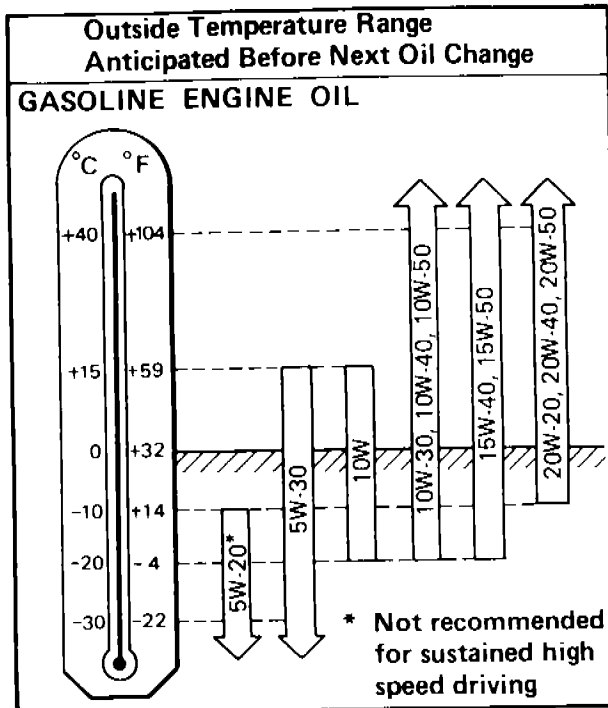
Fluids and Lubricants

	Capacity (Approximate)		Recommended fluids and lubricants
	Liter	Imp measure	
Engine oil (Refill)			
With oil filter	3.5	3-1/8 qt	API SF/CC, SF/CD, SE or SG*
Without oil filter	3.1	2-3/4 qt	
Cooling system (With reservoir tank)	7.0	6-1/8 qt	Anti-freeze coolant (Ethylene glycol base) or soft water
Manual transmission gear oil	2.4	4-1/4 pt	API GL-4*
Differential carrier gear oil	1.8	3-1/8 pt	API GL-5*
Automatic transmission fluid	7.9	7 qt	Type DEXRON™
Power steering fluid	0.9	3/4 qt	
Brake and clutch fluid	—	—	DOT 3 (US FMVSS No. 116)
Multi-purpose grease	—	—	NLGI No. 2 (Lithium soap base)

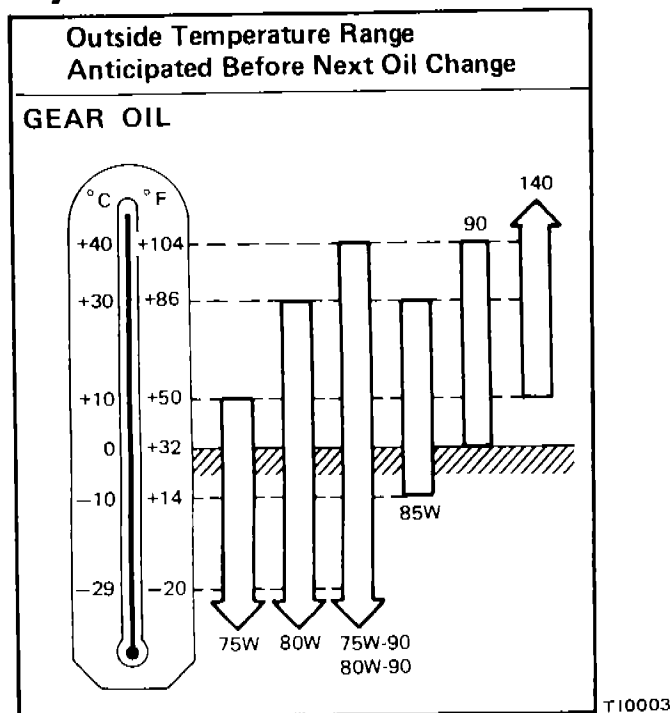
* For further details, see "SAE Viscosity Number".

RECOMMENDED FLUIDS AND LUBRICANTS

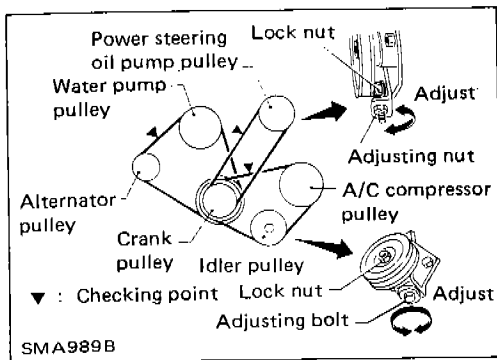
SAE Viscosity Number



- 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.
- For turbo engines: 5W-20 is not recommended. 5W-30 should be used only under extremely cold conditions.



- For warm and cold areas: 75W-90 for transmission and 80W-90 for differential carrier 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 deflections by pushing on the belt midway between pulleys.

Adjust if belt deflections exceed the limit.

Belt deflection:

Unit: mm (in)

	Used belt deflection		Set deflection of new belt
	Limit	Adjusted deflection	
Alternator	8 (0.31)	4.5 - 5.5 (0.177 - 0.217)	4 - 5 (0.16 - 0.20)
Air conditioner compressor	12 (0.47)	7 - 9 (0.28 - 0.35)	6 - 8 (0.24 - 0.31)
Power steering oil pump	15 (0.59)	10 - 12 (0.39 - 0.47)	9 - 11 (0.35 - 0.43)
Applied pushing force	98 N (10 kg, 22 lb)		

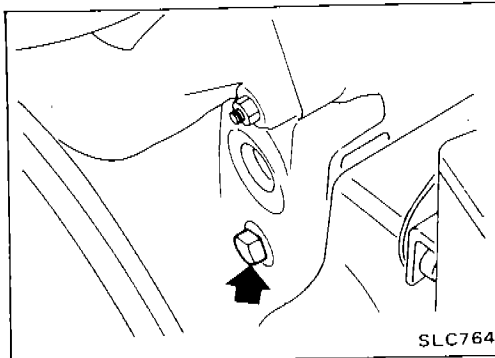
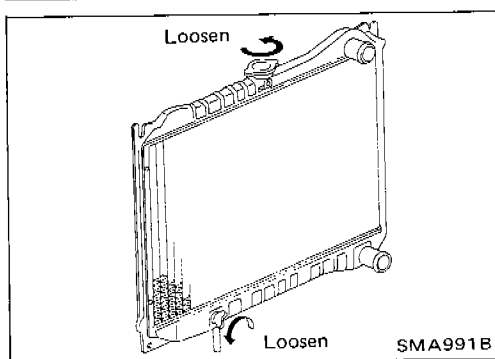
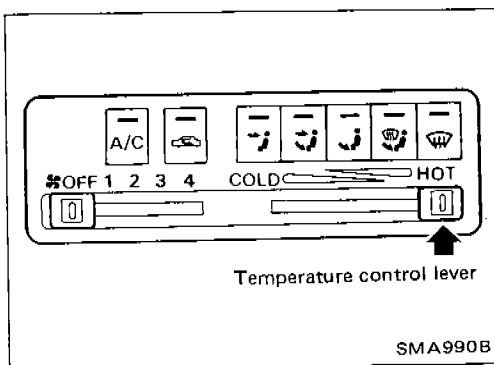
Inspect drive belt deflections when engine is cold.

Changing Engine Coolant

WARNING:

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

1. Move heater "TEMP" control lever all the way to "HOT" position.



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

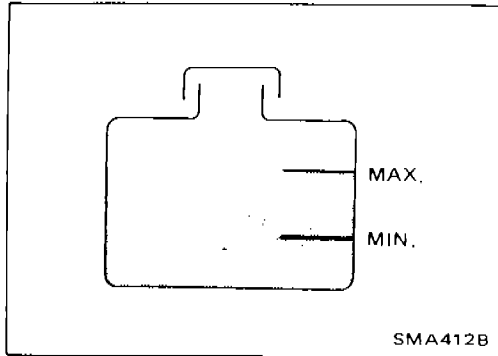
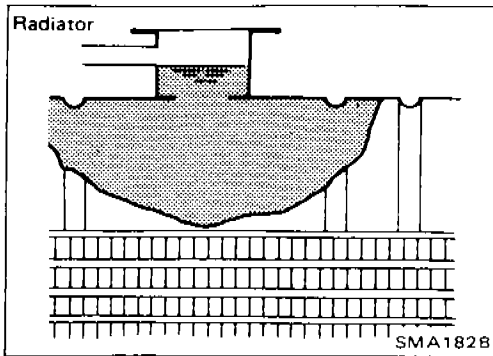
● **Be careful not to allow coolant to contact drive belts.**

3. Remove cylinder block drain plug.
4. Close drain cock and tighten drain plug securely.
5. Fill radiator with water and warm up engine.
6. Stop engine and wait until it cools down.
7. Repeat step 2 through step 6 until clear water begins to drain from radiator.
8. Drain water.

● **Apply sealant to the thread of drain plug.**

⚙: 54 - 74 N·m (5.5 - 7.5 kg·m, 40 - 54 ft·lb)

ENGINE MAINTENANCE



Changing Engine Coolant (Cont'd)

9. Fill radiator with coolant up to specified level.
Follow instructions attached to anti-freeze container for mixing ratio of anti-freeze to water.

Coolant capacity (With reservoir tank):

7.0 ℓ (6-1/8 Imp qt)

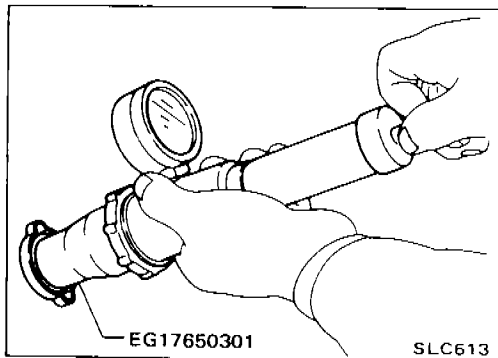
Pour coolant through coolant filler neck slowly to allow air in system to escape.

10. Remove reservoir tank, drain coolant, then clean reservoir tank.
11. Fill reservoir tank with coolant up to "MAX" level.
12. Run engine and warm it up.
13. Stop engine and cool it down, then add coolant as necessary.

Checking Cooling System

CHECKING HOSES

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



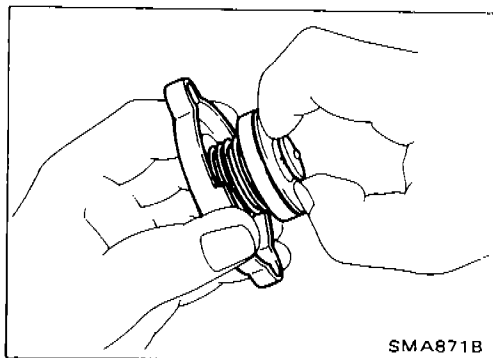
CHECKING RADIATOR CAP

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.

ENGINE MAINTENANCE

Checking Cooling System (Cont'd) CHECKING COOLING SYSTEM FOR LEAKS

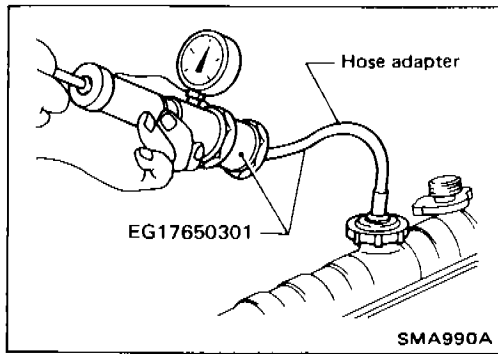
Apply pressure to the cooling system with cap tester to check for leakage.

Testing pressure:

98 kPa (0.98 bar, 1.0 kg/cm², 14 psi)

CAUTION:

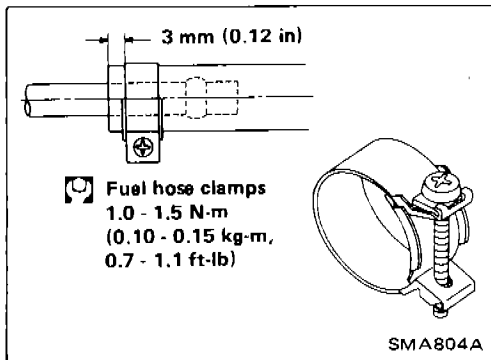
Higher pressure than the specified value may cause damage to radiator.



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.

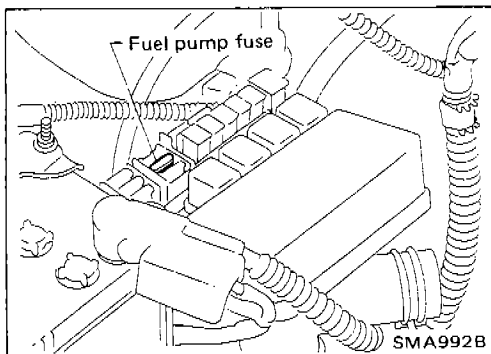
Tightening torque specifications are the same for all rubber hose clamps.

Ensure that screw does not contact adjacent parts.

Changing Fuel Filter

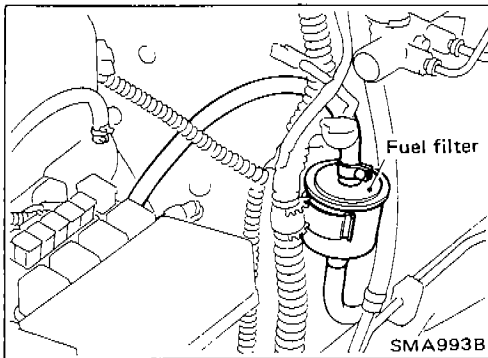
WARNING:

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



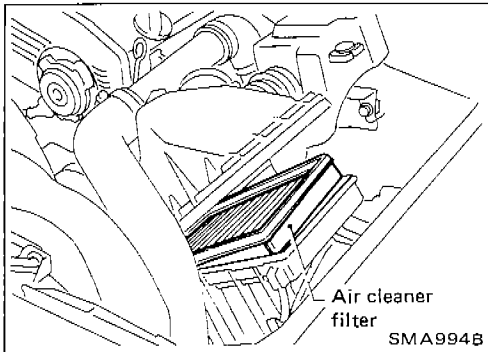
1. Remove fuse for fuel pump.
2. Start engine.
3. After engine stalls, crank engine two or three times to make sure that fuel pressure is released.
4. Turn ignition switch off and install fuse for fuel pump.

ENGINE MAINTENANCE



Changing Fuel Filter (Cont'd)

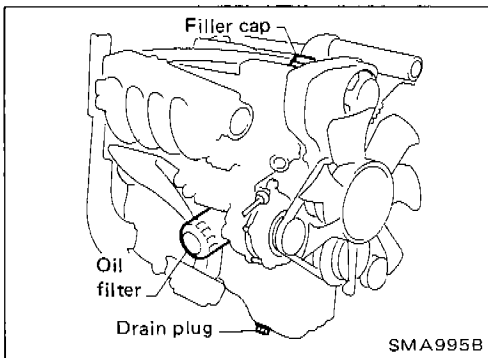
5. Loosen fuel hose clamps.
6. Replace fuel filter.
 - Be careful not to spill fuel over engine compartment. Place a shop towel to absorb fuel.
 - Use a high-pressure type fuel filter. Do not use a synthetic resinous fuel filter.
 - When tightening fuel hose clamps, refer to "Checking Fuel Lines".



Changing Air Cleaner Filter

Viscous paper type

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.
3. Drain oil and refill with new engine oil.

Refill oil capacity (Approximate):

With oil filter change

3.5 ℓ (3-1/8 Imp qt)

Without oil filter change

3.1 ℓ (2-3/4 Imp qt)

CAUTION:

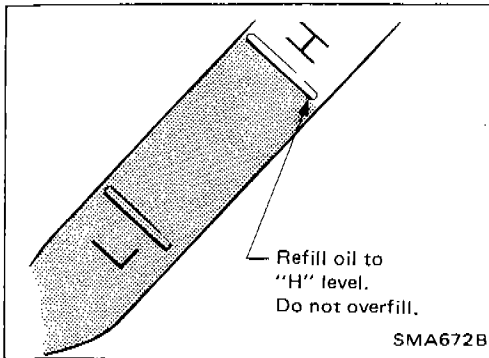
- Be sure to clean drain plug and install with new washer.

Drain plug:
⌘: 29 - 39 N·m (3.0 - 4.0 kg-m, 22 - 29 ft-lb)
- Use recommended engine oil.

ENGINE MAINTENANCE

Changing Engine Oil (Cont'd)

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, check oil level.

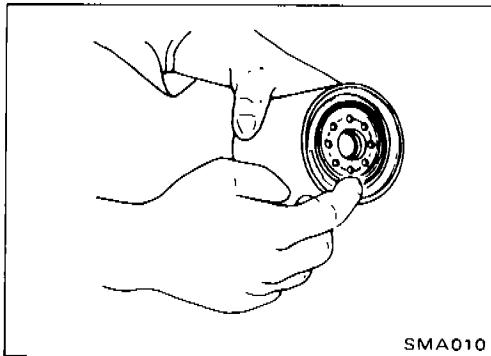


Changing Oil Filter

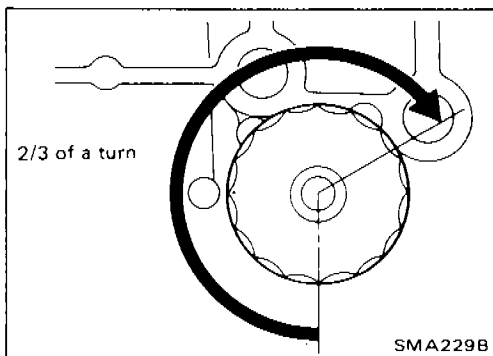
1. Remove oil filter.

WARNING:

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



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



3. Screw in the oil filter until a slight resistance is felt, then tighten additionally more than 2/3 turn.

4. Add engine oil.

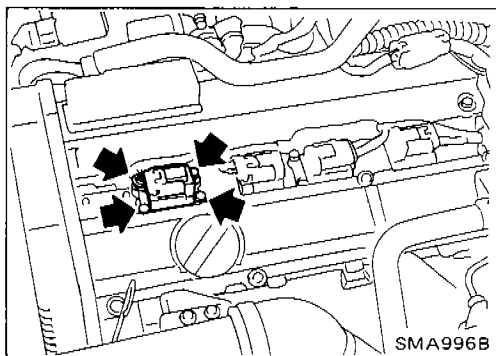
Refer to "Changing Engine Oil".

Checking and Changing Spark Plugs

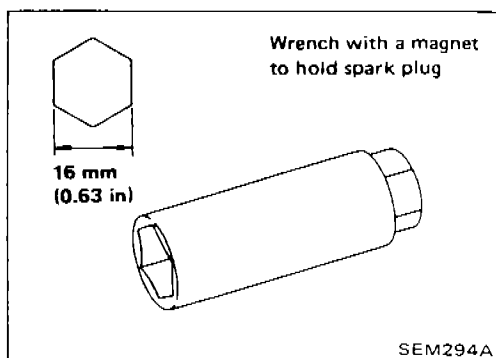
1. Remove ornament cover.

ENGINE MAINTENANCE

Checking and Changing Spark Plugs (Cont'd)



2. Disconnect harness connector between ignition coil and power transistor.
3. Remove ignition coil bracket fixing bolts and pull out this bracket with ignition coils.



4. Remove spark plugs with suitable spark plug wrench.

— For model with catalyzer —

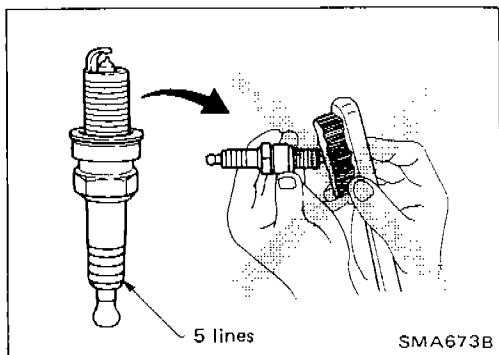
Spark plug (Platinum-tipped type):

Standard type PFR6A-11

Hot type PFR5A-11

Cold type PFR7A-11

⌚: 20 - 29 N·m (2.0 - 3.0 kg·m, 14 - 22 ft-lb)



- Checking and adjusting plug gap are not required between renewals.
- Never use a wire brush for cleaning.
- If plug tip is covered with carbon, spark plug cleaner can be used.

Cleaner air pressure:

Less than 588 kPa

(5.9 bar, 6 kg/cm², 85 psi)

Cleaning time:

Less than 20 seconds

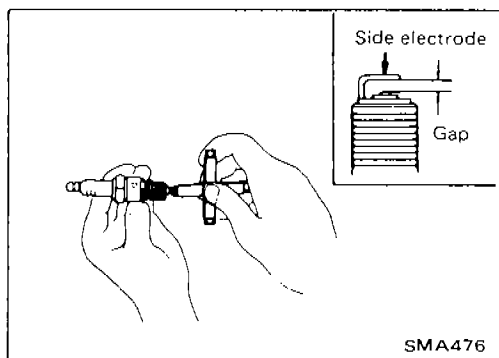
— For model without catalyzer —

Spark plug (Conventional type):

Standard type BCPR6ES-11

Hot type BCPR5ES-11

Cold type BCPR7ES-11



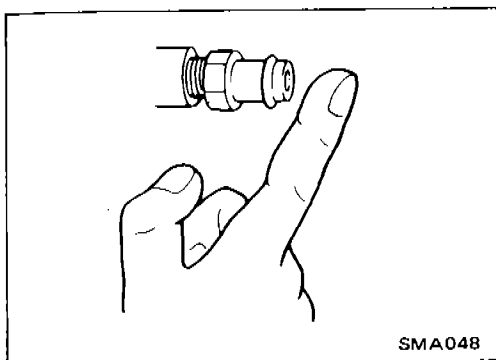
When using conventional type spark plugs, check spark plug gap. (Non-catalyzer models only)

Gap:

1.0 - 1.1 mm (0.039 - 0.043 in)

Spark plug:

⌚: 20 - 29 N·m (2.0 - 3.0 kg·m, 14 - 22 ft-lb)



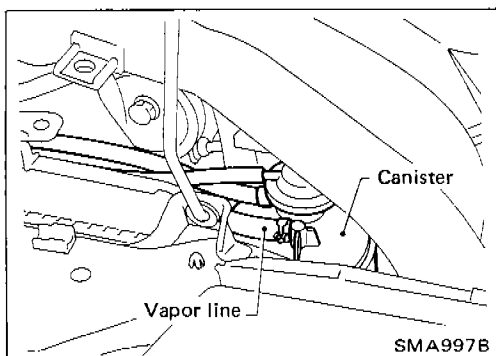
Checking Positive Crankcase Ventilation (P.C.V.) System

CHECKING P.C.V. VALVE

With engine running at idle, remove ventilation hose from P.C.V. valve; if valve is working properly, a hissing noise will be heard as air passes through it and a strong vacuum should be felt immediately when a finger is placed over valve inlet.

Checking Vacuum Hoses and Connections

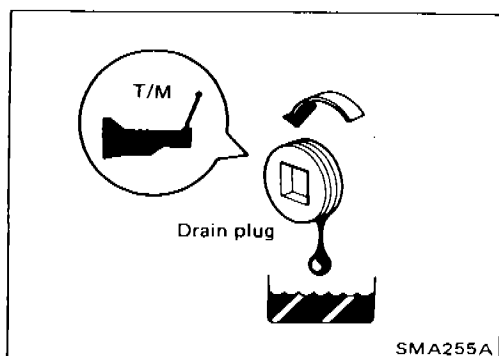
Check vacuum hoses for improper attachment and for leaks, cracks, damage, loose connections, chafing and deterioration.



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.



Changing M/T Oil

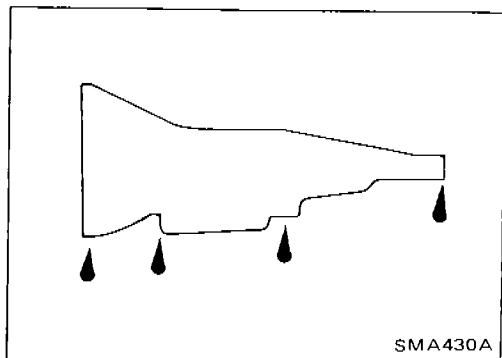
1. Drain oil and refill with new gear oil.
2. Check oil level.

Oil capacity:

2.4 ℓ (4-1/4 Imp pt)

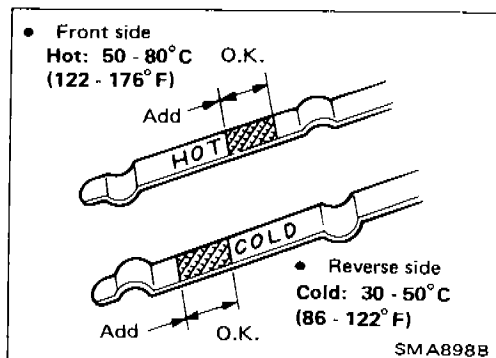
Drain plug:

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



Checking A/T Fluid

1. Check for fluid leakage.

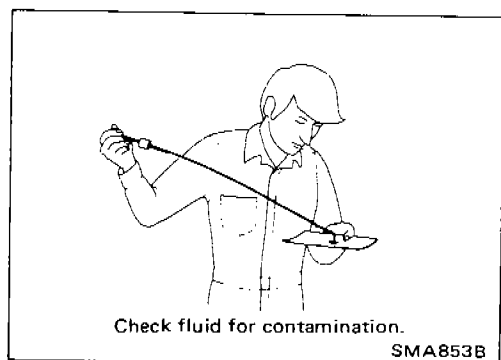


2. Check fluid level.

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.

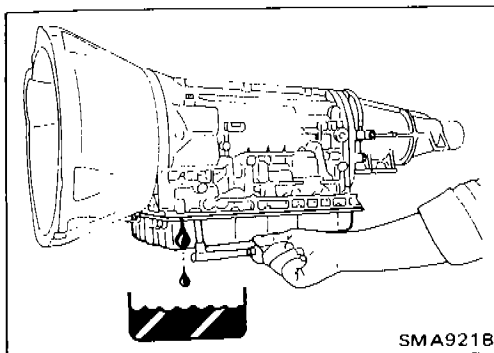
Do not overfill.



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.

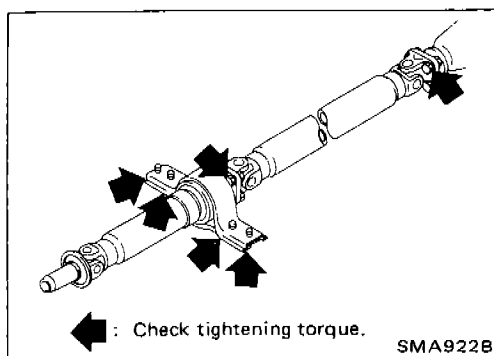
Refer to section AT for checking operation of A/T.



Changing A/T Fluid

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

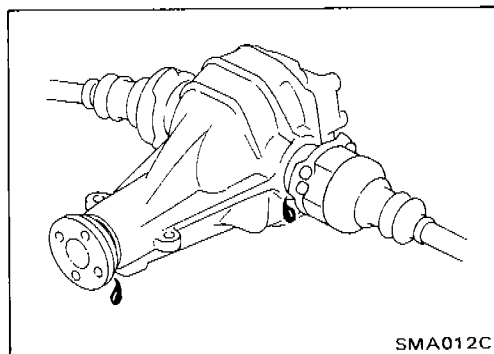
Oil capacity (With torque converter):
7.9 ℓ (7 Imp qt)



Checking Propeller Shaft

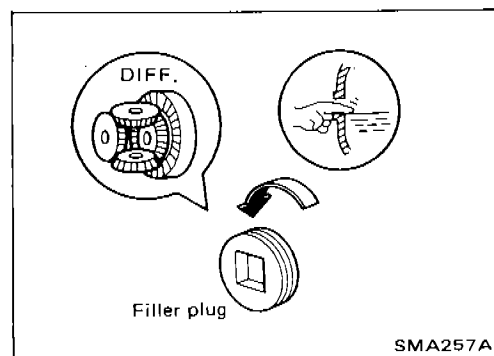
Check propeller shaft and center bearing for damage, looseness or grease leakage.

If greasing points are provided, supply grease as necessary.
Refer to section PD.



Checking Differential Gear Oil

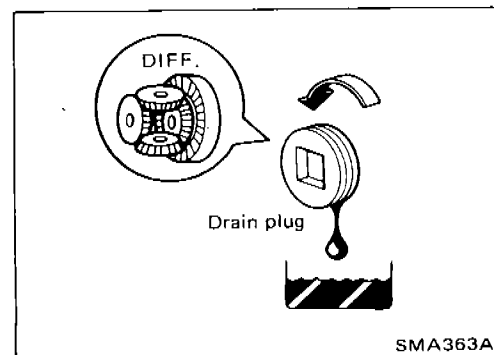
1. Check differential carrier for oil leakage.



2. Check oil level.

Filler plug:

⌘: 59 - 98 N·m (6 - 10 kg-m, 43 - 72 ft-lb)



Changing Differential Gear Oil

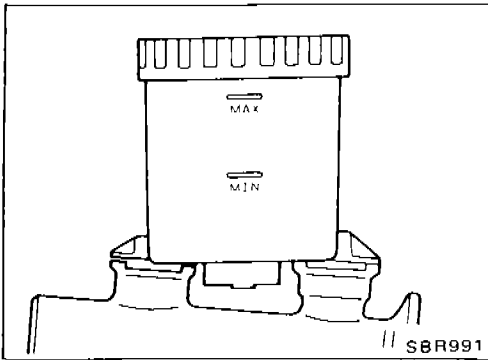
1. Drain oil and refill with new gear oil.
2. Check oil level.

Oil capacity:

1.8 ℓ (3-1/8 Imp pt)

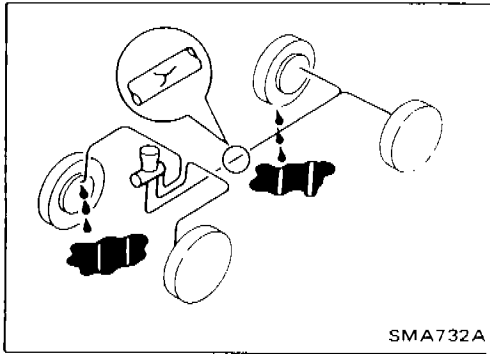
Drain plug:

⌘: 59 - 98 N·m (6 - 10 kg-m, 43 - 72 ft-lb)



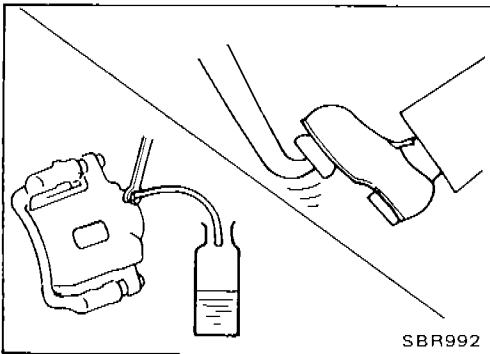
Checking Brake Fluid Level and Leaks

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



Checking Brake System

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



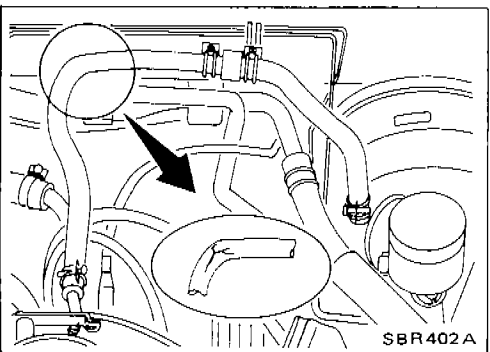
Changing Brake Fluid

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.

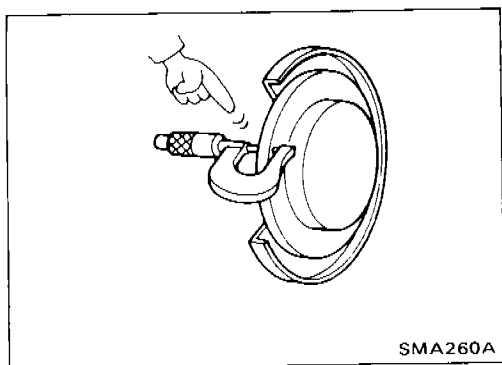
- Refill with recommended brake fluid "DOT 3".
- Never reuse drained brake fluid.
- Be careful not to splash brake fluid on painted areas.



Checking Brake Booster, Vacuum Hoses, Connections and Check Valve

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

CHASSIS AND BODY MAINTENANCE



Checking Disc Brake

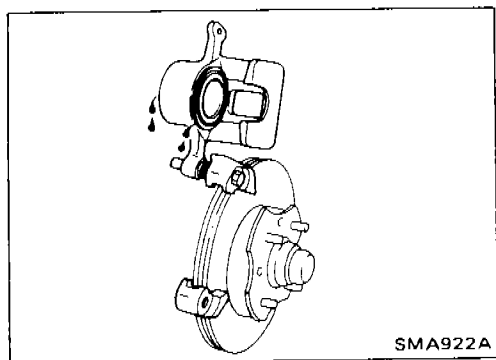
- Check condition of disc brake components.

ROTOR

- Check condition and thickness.

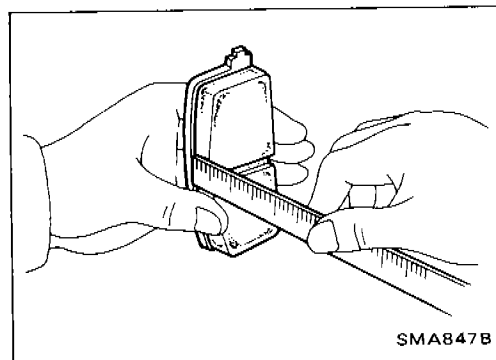
Unit: mm (in)

	Front		Rear	
	Except Europe	Europe	Except Europe	Europe
Disc brake type	CL18VB	CL25VA	CL9H	AD9
Standard thickness	18.0 (0.709)	22.0 (0.866)	9.0 (0.354)	
Minimum thickness	16.0 (0.630)	20.0 (0.787)	8.0 (0.315)	



CALIPER

- Check operation and for leakage.



PAD

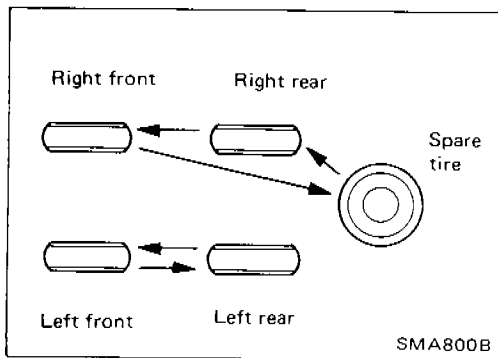
- Check for wear or damage.

Unit: mm (in)

	Front		Rear	
	Except Europe	Europe	Except Europe	Europe
Disc brake type	CL18VB	CL25VA	CL9H	AD9
Standard thickness	10.0 (0.394)	11.0 (0.433)	9.5 (0.374)	10.0 (0.394)
Minimum thickness	2.0 (0.079)			

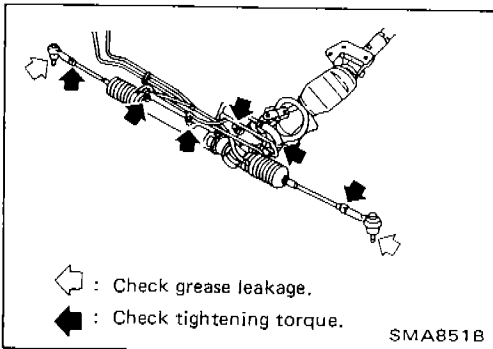
Balancing Wheels

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



Tire Rotation

- Do not include the T-type spare tire when rotating the tires.
- Wheel nuts:
- 🔧: 98 - 118 N·m
(10.0 - 12.0 kg-m, 72 - 87 ft-lb)



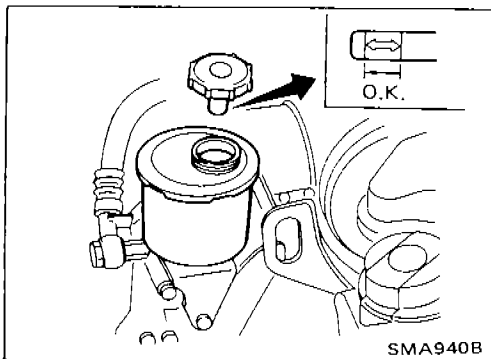
Checking Steering Gear and Linkage

STEERING GEAR

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

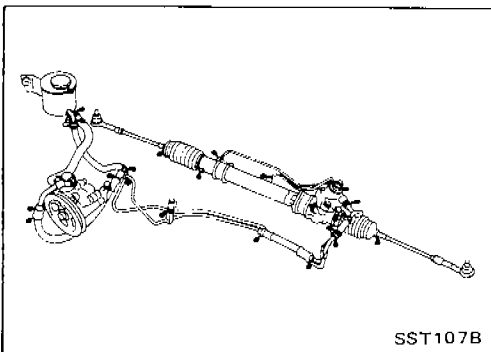
STEERING LINKAGE

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



Checking Power Steering Fluid and Lines

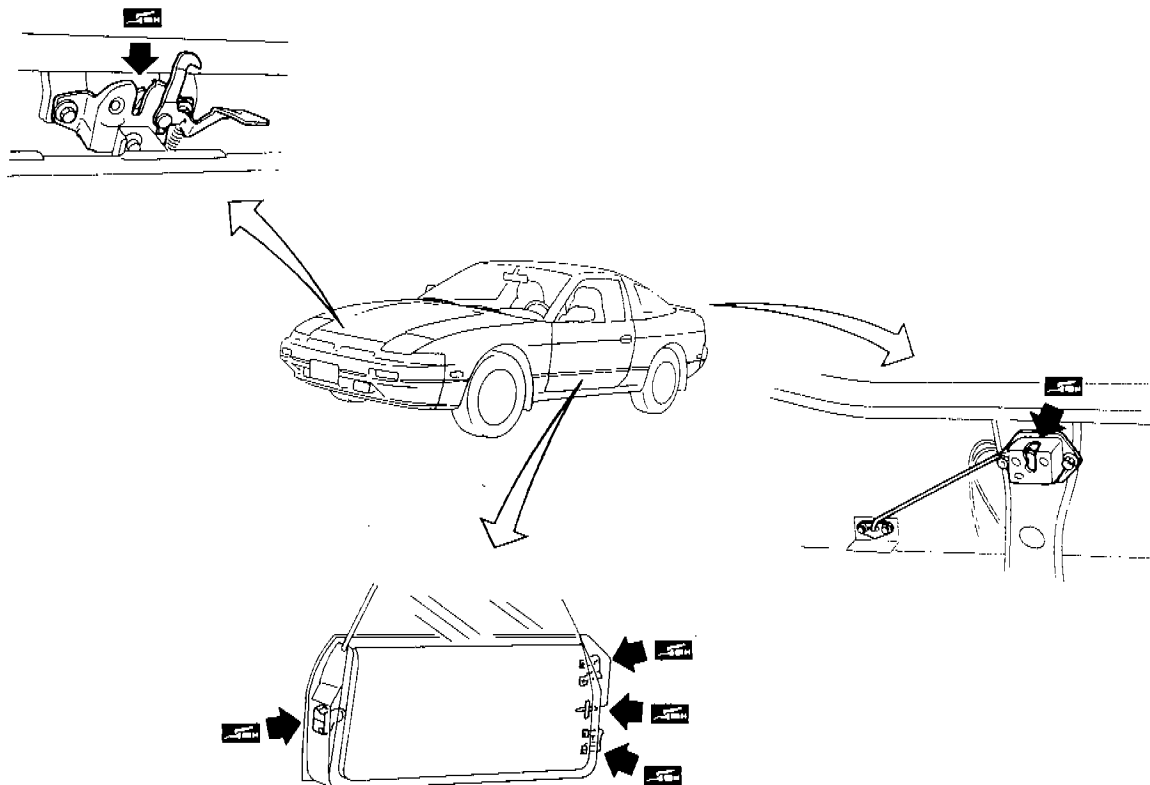
- Check fluid level, when the fluid is cold.



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

CHASSIS AND BODY MAINTENANCE

LUBRICATING LOCKS, HINGES AND HOOD LATCHES



SMA045C

CHECKING SEAT BELTS, BUCKLES, RETRACTORS, ANCHORS AND ADJUSTERS

CAUTION:

1. If the vehicle is collided or overturned, replace the entire belt assembly, regardless of nature of accident.
2. If the condition of any component of a seat belt is questionable, do not have seat belt repaired, but replaced as a 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

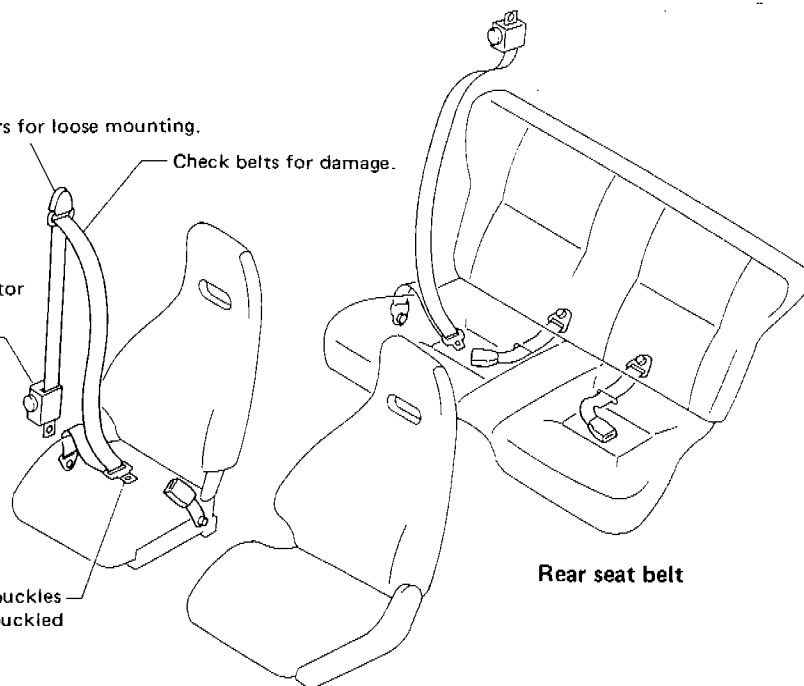
24 - 31 N·m
(2.4 - 3.2 kg-m, 17 - 23 ft-lb)

Check anchors for loose mounting.

Check belts for damage.

Check retractor for smooth operation.

Check function of buckles and tongues when buckled and released.



Rear seat belt

Front seat belt

SMA046C

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		Set deflection of new belt
	Limit	Adjusted deflection	
Alternator	8 (0.31)	4.5 - 5.5 (0.177 - 0.217)	4 - 5 (0.16 - 0.20)
Air conditioner compressor	12 (0.47)	7 - 9 (0.28 - 0.35)	6 - 8 (0.24 - 0.31)
Power steering oil pump	15 (0.59)	10 - 12 (0.39 - 0.47)	9 - 11 (0.35 - 0.43)
Applied pushing force	98 N (10 kg, 22 lb)		

Cooling system

Unit: kPa (bar, kg/cm², psi)

Radiator cap relief pressure	78 - 98 (0.78 - 0.98, 0.8 - 1.0, 11 - 14)
Cooling system leakage testing pressure	98 (0.98, 1.0, 14)

TIGHTENING TORQUE

Unit	N·m	kg·m	ft·lb
Oil pan drain plug	29 - 39	3.0 - 4.0	22 - 29
Spark plug	20 - 29	2.0 - 3.0	14 - 22
Crank angle sensor	7 - 8	0.7 - 0.8	5.1 - 5.8
Crankshaft pulley	142 - 152	14.5 - 15.5	105 - 112
Timing belt tensioner pulley nut	22 - 29	2.2 - 3.0	16 - 22

Coolant and oil capacity

Unit: ℓ (Imp qt)

Coolant (with reservoir tank)	Approx. 7.0 (6-1/8)
Reservoir tank	0.7 (5/8)
Engine oil	
With oil filter change	Approx. 3.5 (3-1/8)
Without oil filter change	Approx. 3.1 (2-3/4)

Spark plug

Platinum-tipped type (For model with catalyzer)

Standard type	PFR6A-11
Hot type	PFR5A-11
Cold type	PFR7A-11

Conventional type (For model without catalyzer)

Standard type	BCPR6ES-11
Hot type	BCPR5ES-11
Cold type	BCPR7ES-11
Gap	mm (in) 1.0 - 1.1 (0.039 - 0.043)

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

Chassis and Body Maintenance

INSPECTION AND ADJUSTMENT

Clutch

Model	Unit: mm (in)	
	R.H.D.	L.H.D.
Pedal free height "H"	182 - 192 (7.17 - 7.56)	186 - 196 (7.32 - 7.72)
Pedal free play "A"	1.0 - 3.0 (0.039 - 0.118)	

Front axle and front suspension (Unladen)*

Camber	degree	-1°25' to 5'	
Caster	degree	5°55' - 7°25'	
Toe-in	mm (in)	0 - 2 (0 - 0.08)	
(Total toe-in)	degree	0' - 12'	
Kingpin inclination	degree	12°25' - 13°55'	
Front wheel turning angle	Full turn Inside/Outside degree	Except Europe L.H.D.	Europe L.H.D.
		39° - 43°/33°	36° - 40°/32°

*: Tankful of fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools, mats in designated position.

Rear axle and rear suspension (Unladen)*

Camber	degree	-1°40' to -0°40'	
Toe-out	mm (in)	0 - 5 (0 - 0.20)	
(Total toe-out)	degree	0' - 28'	

*: Tankful of fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools, mats in designated position.

Wheel bearing

	Front	Rear
Wheel bearing axle end play mm (in)	0.03 (0.0012) or less	0.05 (0.0020) or less
Wheel bearing lock nut Tightening torque N·m (kg·m, ft·lb)	147 - 216 (15 - 22, 108 - 159)	235 - 314 (24 - 32, 174 - 231)

Brake

Unit: mm (in)

Disc brake			
Pad			
Standard thickness			
CL18VB		10.0 (0.394)	
CL25VA		11.0 (0.433)	
CL9H		9.5 (0.374)	
AD9		10.0 (0.394)	
Minimum thickness			
CL18VB, CL25VA		2.0 (0.079)	
CL9H, AD9		2.0 (0.079)	
Rotor			
Standard thickness			
CL18VB		18.0 (0.709)	
CL25VA		22.0 (0.866)	
CL9H, AD9		9.0 (0.354)	
Minimum thickness			
CL18VB		16.0 (0.630)	
CL25VA		20.0 (0.787)	
CL9H, AD9		8.0 (0.315)	
Pedal			
Free height			
M/T	L.H.D.	177 - 187 (6.97 - 7.36)	
	R.H.D.	178 - 188 (7.01 - 7.40)	
A/T	L.H.D.	186 - 196 (7.32 - 7.72)	
	R.H.D.	188 - 198 (7.40 - 7.80)	
Free play		1 - 3 (0.04 - 0.12)	
Depressed height [under force of 490 N (50 kg, 110 lb) with engine running]		L.H.D.	R.H.D.
Except Europe			
	M/T	90 (3.54) or more	95 (3.74) or more
	A/T	100 (3.94) or more	100 (3.94) or more
Europe			
	M/T	85 (3.35) or more	90 (3.54) or more
	A/T	95 (3.74) or more	95 (3.74) or more
Parking brake			
Number of notches [at pulling force 196 N (20 kg, 44 lb)]		6 - 8	

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

Chassis and Body Maintenance (Cont'd)

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)

TIGHTENING TORQUE

Unit	N-m	kg-m	ft-lb
Clutch			
Pedal stopper lock nut	16 - 22	1.6 - 2.2	12 - 16
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	59 - 98	6 - 10	43 - 72
Filler plug	59 - 98	6 - 10	43 - 72
Front axle and front suspension			
Tie-rod lock nut	37 - 46	3.8 - 4.7	27 - 34
Camber adjusting pin	124 - 143	12.6 - 14.6	91 - 106
Rear axle and rear suspension			
Toe adjusting pin	69 - 88	7.0 - 9.0	51 - 65
Camber adjusting pin	69 - 88	7.0 - 9.0	51 - 65
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