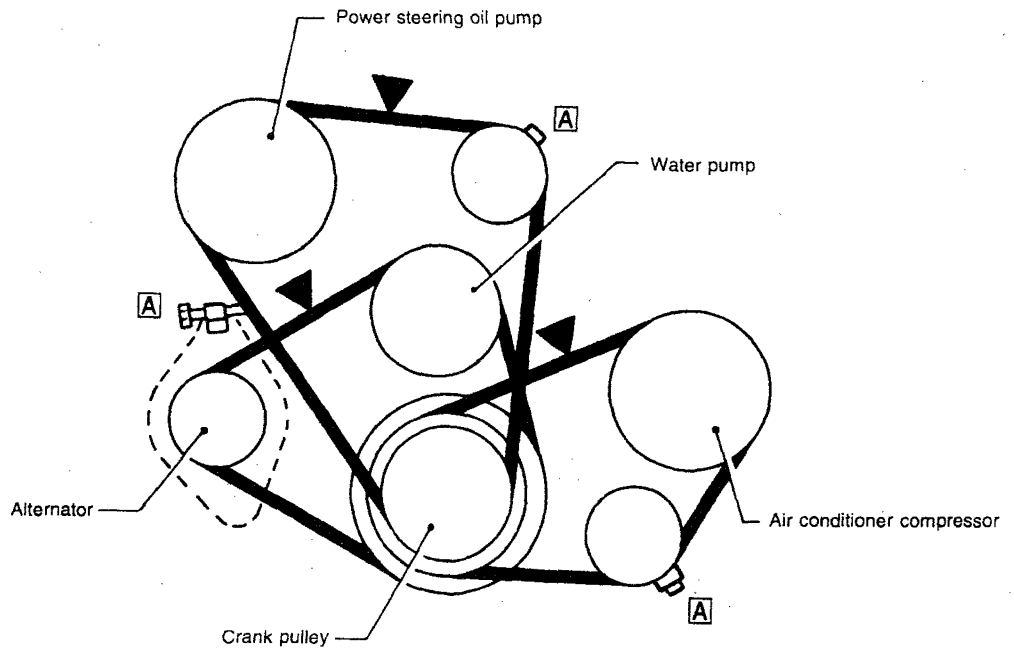


Checking Drive Belts



SMA002C

Inspect drive belt deflections when engine is cold.

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, as indicated with ▼.

Adjust if belt deflections exceed the limit.**Belt Deflection:**

Unit: mm (in)

Drive belts	Used belt deflection		Deflection of new belt
	Limit	Deflection after adjustment	
Alternator	17 (0.67)	10 - 12 (0.39 - 0.49)	8 - 10 (0.32 - 0.39)
Air conditioner compressor	16 (0.63)	10 - 12 (0.39 - 0.49)	8 - 10 (0.32 - 0.39)
Power steering oil pump	15 (0.59)	9 - 11 (0.35 - 0.43)	7 - 9 (0.28 - 0.35)
Applied pushing force	98 N (10 kg, 22 lb)		

Changing Engine Coolant

WARNING:

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

1. Move temperature control lever of the heater to the "HOT" position.

Remove engine under cover.

SMA401B

2. Remove radiator drain plug.
Remove radiator cap.
Drain radiator.

SMA584C

3. Remove cylinder block drain plug.
4. Close drain cock and tighten drain plug securely.

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

⌘: 34 - 44 N·m

(3.5 - 4.5 kg-m, 25 - 33 ft-lb)

5. Open air relief plug.
6. Fill radiator with water and close air relief plug and radiator cap.
7. Run engine and warm it up sufficiently.
8. Race engine 2 or 3 times under no-load.
9. Stop engine and wait until it cools down.
10. Repeat step 2 through step 9 until clear water begins to drain from radiator.
11. Drain water.
12. Open radiator cap and air relief plug.

SMA005C

13. 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):

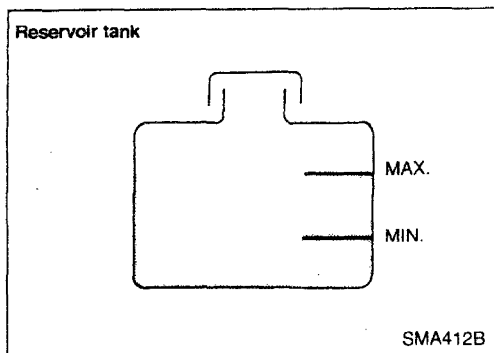
6.9 l (6-1/8 Imp qt)

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

14. Close air relief plug.
15. Remove reservoir tank, drain coolant, then clean reservoir tank.

SMA182B

Changing Engine Coolant (Cont'd)

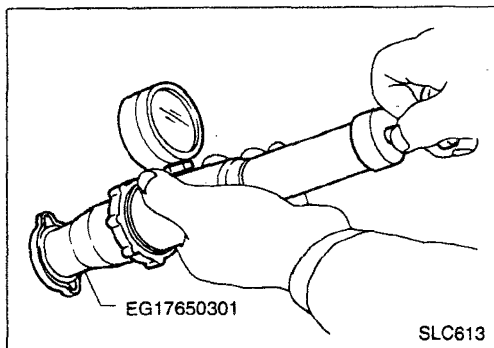


16. Install reservoir tank and fill it with coolant up to "MAX" level and then install radiator cap.
17. Repeat steps 7 through 9. Then add coolant as necessary up to "MAX" level.

Checking Cooling System

CHECKING HOSES

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



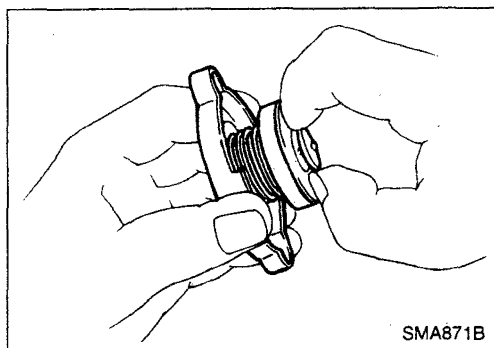
CHECKING RADIATOR CAP

Apply pressure to radiator cap by means of a cap tester to see if it is satisfactory.

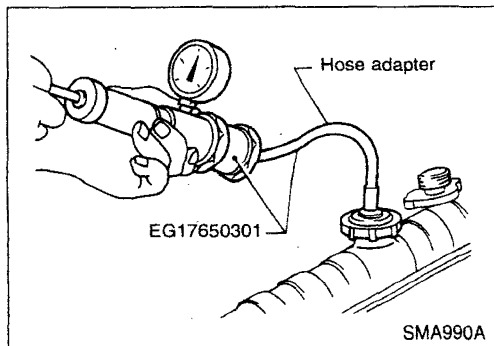
Radiator cap relief pressure:

78 - 98 kPa

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



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



CHECKING COOLING SYSTEM FOR LEAKS

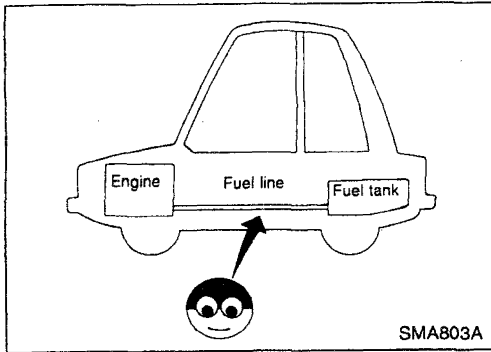
Apply pressure to the cooling system by means of a tester to check for leakage.

Testing pressure:

98 kPa (0.98 bar, 1.0 kg/cm², 14 psi)

CAUTION:

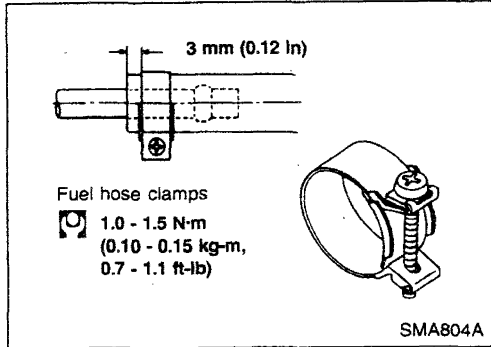
Higher than the specified pressure may cause radiator damage.



Checking Fuel Lines

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

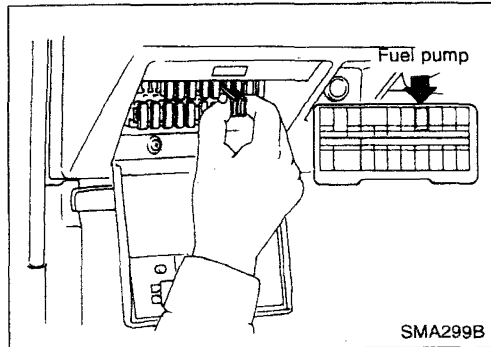
If necessary, repair or replace malfunctioning parts.



CAUTION:

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

Ensure that screw does not contact adjacent parts.

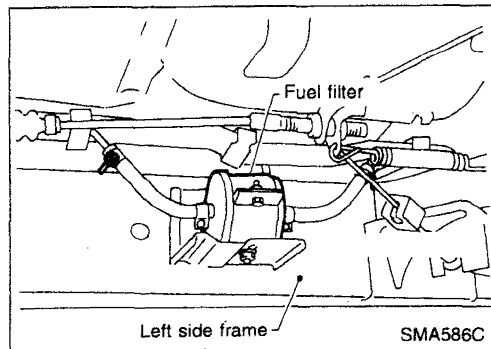


Changing Fuel Filter

WARNING:

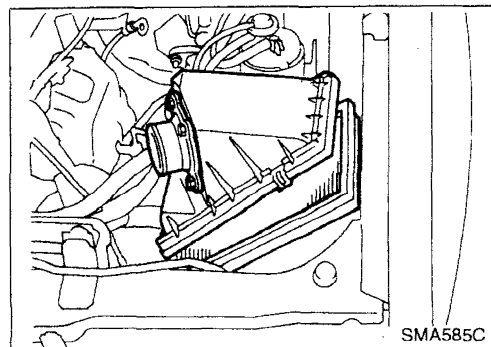
Before removing fuel filter, release fuel pressure from fuel line.

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.



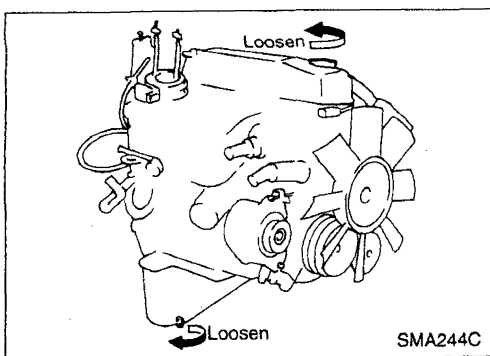
5. Loosen fuel hose clamps.
6. Replace fuel filter.

- 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 filter cap.
3. Drain oil and refill with new engine oil.

Refill oil capacity (Approximately):

Unit: ℓ (Imp qt)

With oil filter change	4.3 (3 - 3/4)
Without oil filter change	3.9 (3 - 3/8)

CAUTION:

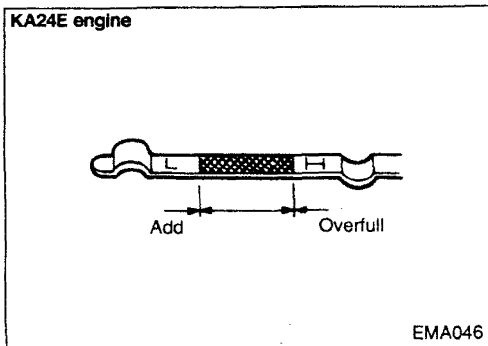
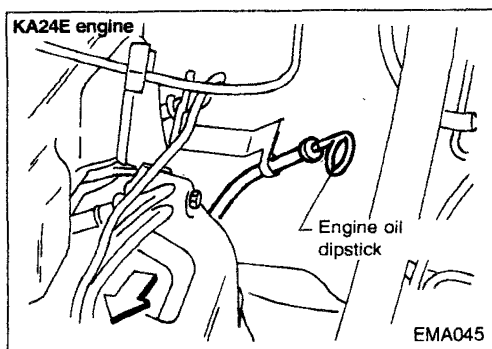
- Be sure to clean drain plug and install with new washer.

Drain plug:

⌚: 29 - 39 N·m

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

- Use recommended engine oil.
- The refill capacity changes depending on the oil temperature and drain time, use these values as a reference and be certain to check with the dipstick when changing the oil. See "RECOMMENDED FLUIDS AND LUBRICANTS".



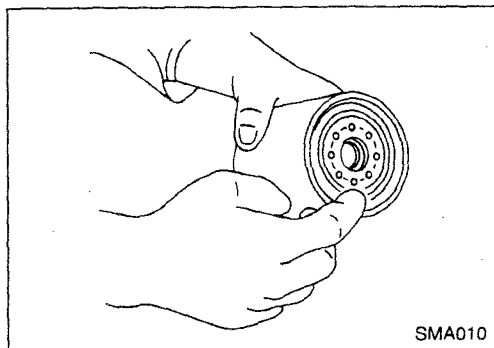
4. Check oil level.
5. Start engine and check area around drain plug and oil filter for oil leakage.
6. Run engine for a few minutes, then turn it off. After several minutes, check oil level.

Changing Oil Filter

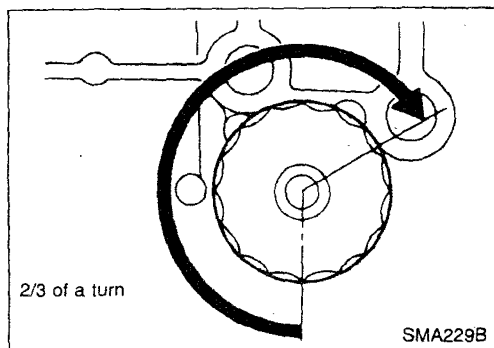
1. Remove oil filter with a suitable tool.

WARNING:

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



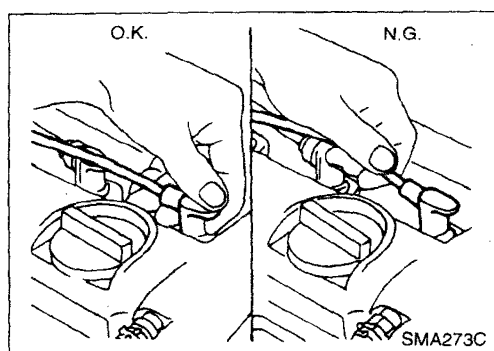
2. Before installing a new oil filter, clean the oil filter mounting surface on cylinder block and coat the rubber seal of the oil filter with a little engine oil.



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

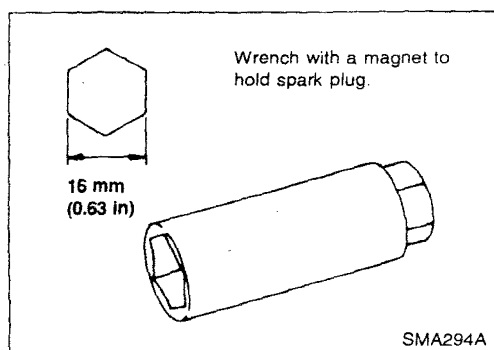
4. Add engine oil.

Refer to "Changing Engine Oil".



Checking and Changing Spark Plugs

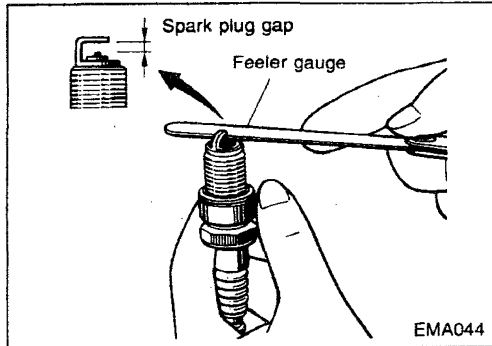
1. Disconnect ignition wires from spark plugs at boot. Do not pull on the wire.



2. Remove spark plugs with spark plug wrench.
3. Clean plugs in sand blast cleaner.
4. Check insulator for cracks or chips, gasket for damage or deterioration and electrode for wear and burning. If they are excessively worn away, replace with new spark plugs.

Checking and Changing Spark Plugs (Cont'd)

Spark plug:
 Standard type
 ZFR5E-11
 Hot type
 ZFR4E-11
 Cold type
 ZFR6E-11

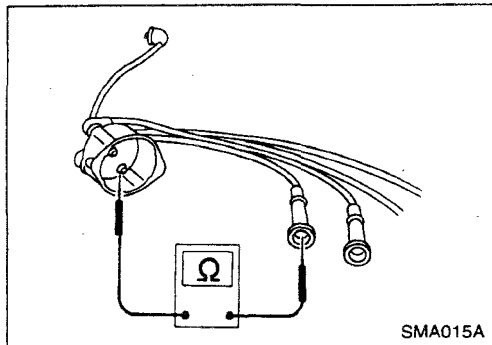


5. Check spark plug gap.

Gap:
 1.0 - 1.1 mm (0.039 - 0.043 in)

6. Install spark plugs. Reconnect ignition wires according to Nos. indicated on them.

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



Checking Ignition Wires

1. Check the high tension wires for cracks, damage, burned terminals and for proper fit.
2. Measure the resistance of the high tension wires, by shaking them and checking for intermittent breaks.

Resistance:

Unit: kΩ

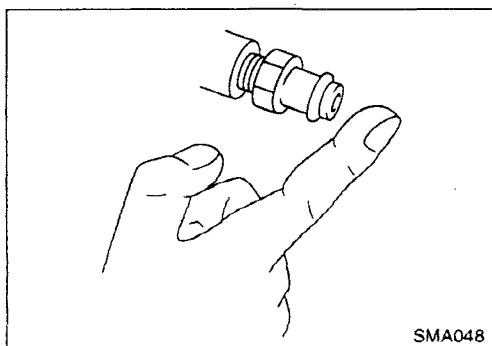
Cable	Length mm (in)	Resistance
Coil to Distributor	650 - 710 (25.59 - 27.95)	20.4 ± 3
Distributor to Spark Plug No. 1	240 - 300 (9.45 - 11.81)	8.1 ± 1.2
	No. 2 440 - 500 (17.32 - 19.68)	14.1 ± 2.1
	No. 3 400 - 460 (15.75 - 18.11)	13.2 ± 2
	No. 4 590 - 650 (23.23 - 25.59)	18.6 ± 2.8

Replace the ignition cable if the resistance exceeds the specification given.

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

CHECKING P.C.V. VALVE

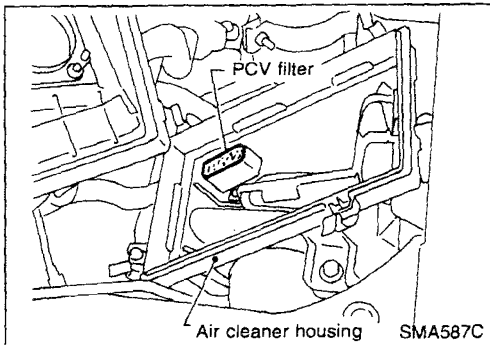
With engine running at idle, remove ventilation hose from P.C.V. valve; if valve is working properly, a hissing noise will be heard as air passes through it and a strong vacuum should be felt immediately when a finger is placed over valve inlet.



Checking Positive Crankcase Ventilation (P.C.V.) System (Cont'd)

CHECKING VENTILATION HOSES

1. Check hoses and hose connections for leaks.
2. Disconnect all hoses and clean with compressed air. If any hose cannot be freed of obstructions, replace.



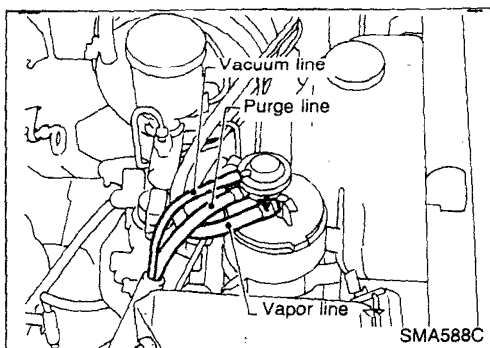
Changing Positive Crankcase Ventilation (P.C.V.) Filter

Remove air cleaner cover and replace P.C.V. filter.

Checking Vacuum Hoses and Connections

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

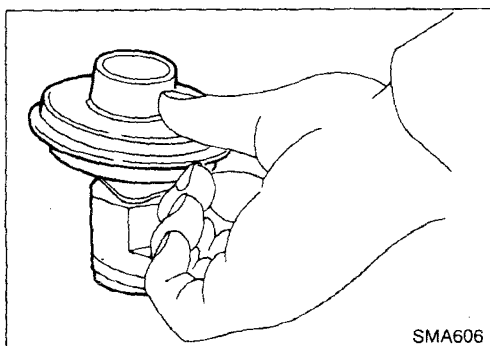
Refer to Vacuum Hose Drawing in ENGINE AND EMISSION CONTROL OVERALL SYSTEM in EF & EC section.



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 INSPECTION in EF & EC section.

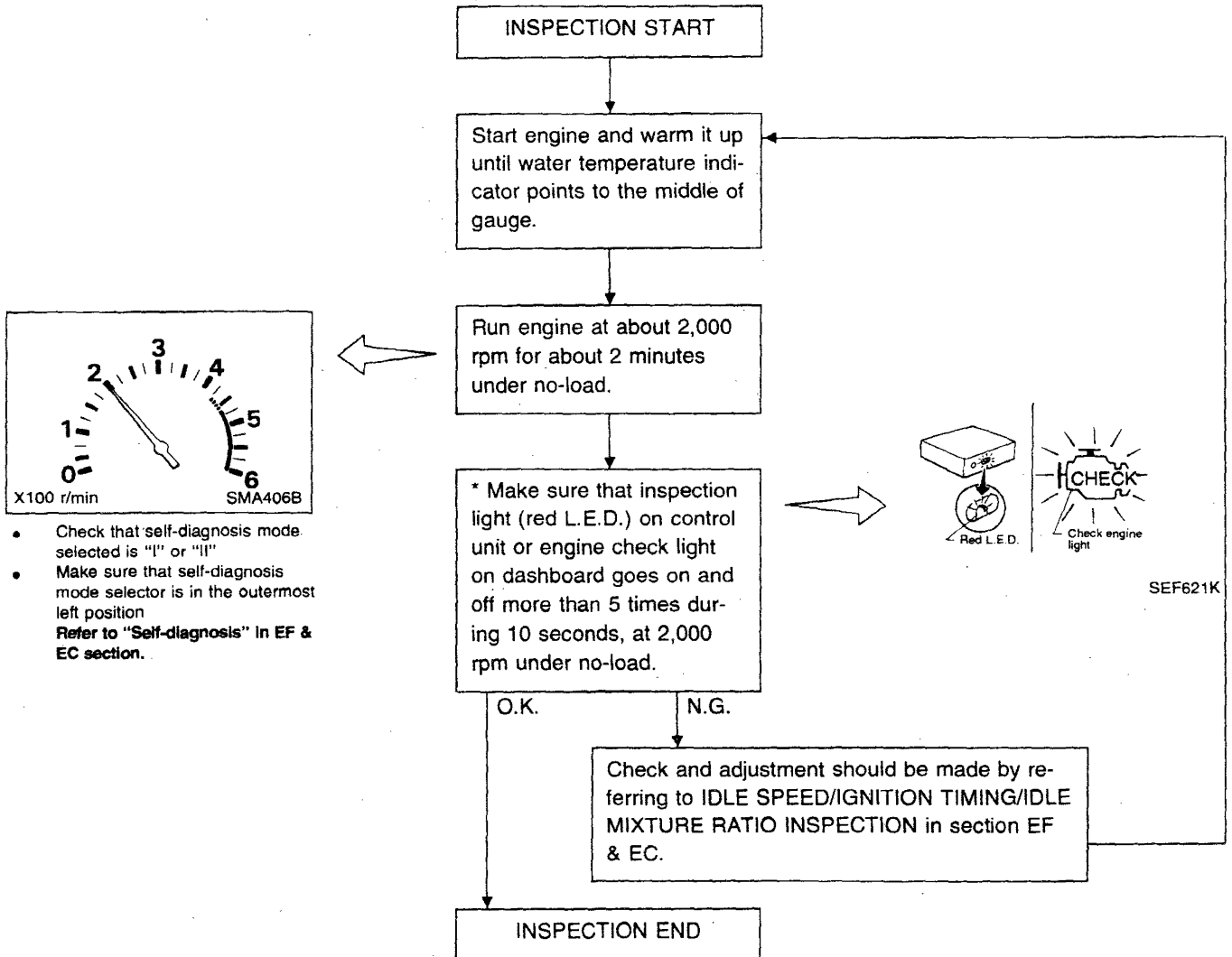


Checking Exhaust Gas Recirculation (E.G.R.) Control System

1. Start engine and warm it up sufficiently.
 2. Make sure that the E.G.R. control valve diaphragm moves when raising engine speed.
- If it does not move, check vacuum lines and B.P.T. valve.

Checking Exhaust Gas Sensor

Checking procedure



Retightening Manifold Bolts and Nuts

MANIFOLD BOLTS AND NUTS

Intake:

⌚: 13 - 19 N·m (1.3 - 1.9 kg-m, 9 - 14 ft-lb)

Exhaust:

⌚: 29 - 34 N·m (3.0 - 3.5 kg-m, 22-25 ft-lb)

Retightening should be performed while engine is cold [approximately 20°C (68°F)].

Adjusting Intake and Exhaust Valve Clearance

Adjustment should be made while engine is warm but not running.

1. Set No. 1 cylinder in top dead center on its compression stroke, and adjust valve clearance ①, ②, ③ and ⑥.
2. Set No. 4 cylinder in top dead center on its compression stroke, and adjust valve clearance ④, ⑤, ⑦ and ⑧.

Valve clearance:

Intake ①, ③, ⑤ and ⑦

0.25 mm (0.0098 in)

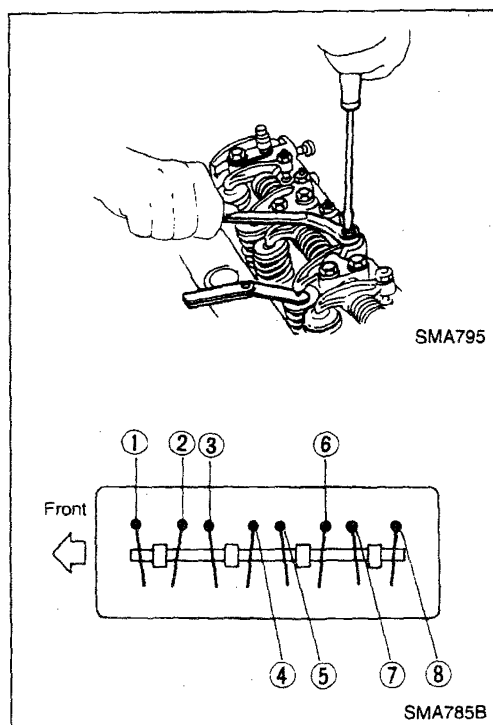
Exhaust ②, ④, ⑥ and ⑧

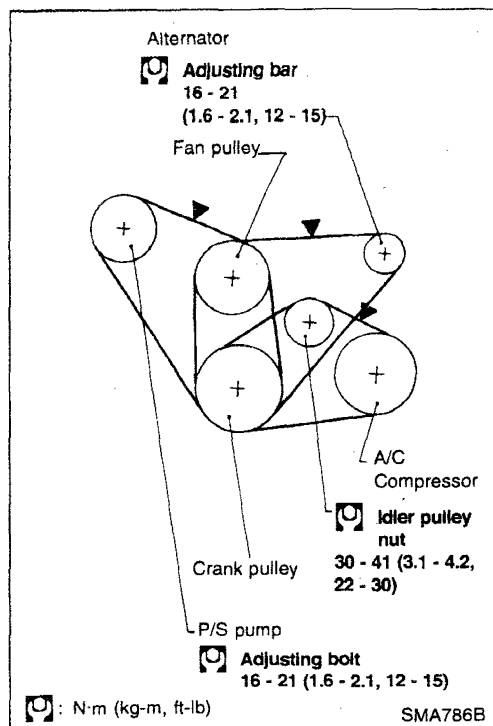
0.25 mm (0.0098 in)

Adjusting screw lock nuts:

⌚: 14 - 18 N·m

(1.4 - 1.8 kg-m, 10 - 13 ft-lb)





Drive Belt Inspection

1. Inspect for cracks, fraying, wear or oil adhesion. Replace if necessary.

The belts should not touch the bottom of the pulley groove.

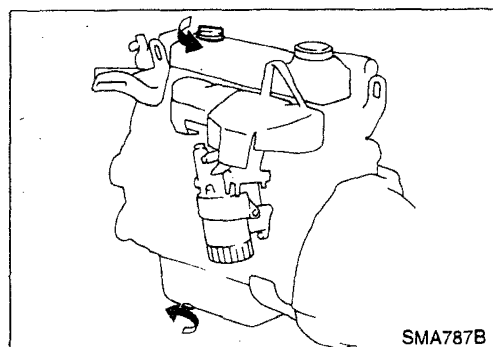
2. Check drive belt deflection by pushing on the belt midway between pulleys. (▼)
3. Adjust if belt deflections exceed the limit.

Unit: mm (in)

Drive belts	Used belt deflection		Deflection of new belt
	Limit	Deflection after adjustment	
Alternator	20 (0.79)	11 - 13 (0.43 - 0.51)	9 - 11 (0.35 - 0.43)
Air conditioner compressor	12 (0.47)	6 - 7.5 (0.236 - 0.295)	5 - 6.5 (0.197 - 0.256)
Power steering oil pump	15 (0.59)	8 - 9.5 (0.315 - 0.374)	7 - 8.5 (0.276 - 0.335)
Applied pushing force	98 N (10 kg, 22 lb)		

Check drive belt deflections when engine is cold.

If engine is hot, check deflections after 30 minutes or more.



Changing Engine Oil

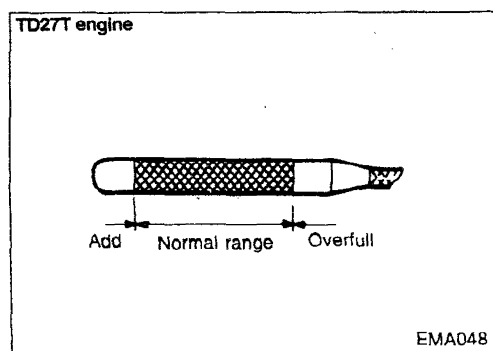
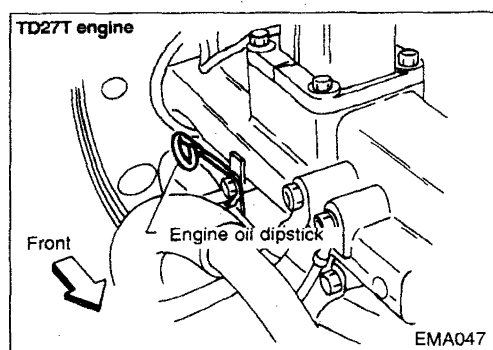
1. Warm up engine, and check for oil leakage from engine components.
2. Remove oil filler cap and drain plug.
3. Drain oil and fill with new engine oil.

Oil capacity:

See "RECOMMENDED FLUIDS AND LUBRICANTS".

WARNING:

- Be careful not to burn yourself, as the engine oil may be hot.
- Be sure to clean and install oil pan drain plug and washer.
Drain plug:
X: 54 - 59 N·m (5.5 - 6.0 kg-m, 40-43 ft-lb)
- Use recommended engine oil.



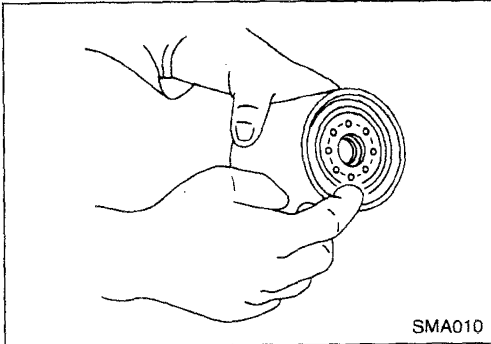
4. Check oil level.
5. Start engine. Check area around drain plug and oil filter for any sign of oil leakage.
6. Run engine for a few minutes, then turn it off. After several minutes check oil level.

Changing Oil Filter

1. Remove oil filter with a suitable wrench.

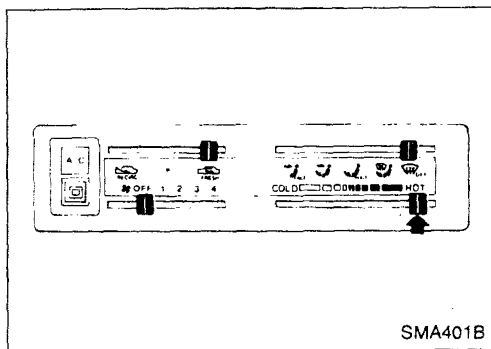
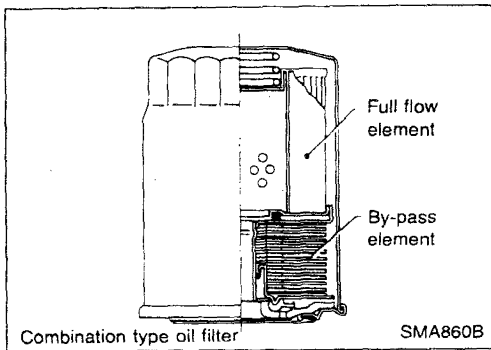
WARNING:

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



2. Before installing new oil filter, clean the oil filter mounting surface on cylinder block and coat the rubber seal of the oil filter with a little engine oil.
3. Install oil filter.
When installing oil filter, screw it in until a slight resistance is felt, then tighten an additional 2/3 turn or more.
4. Add engine oil.

Refer to Changing Engine Oil.

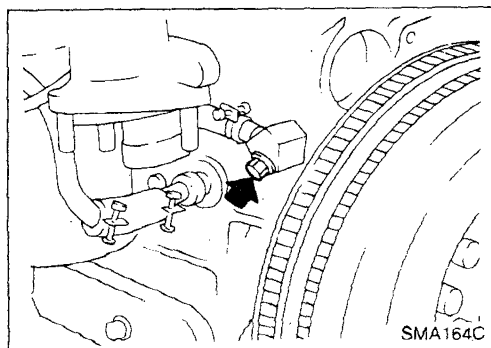


Changing Engine Coolant

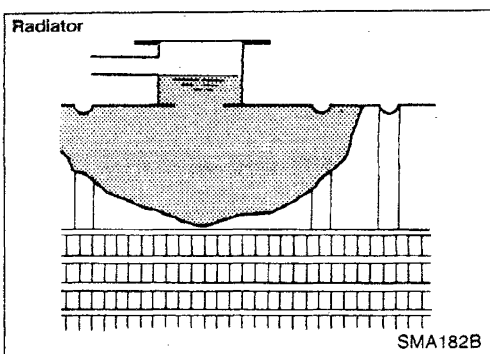
WARNING:

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

1. Set heater "TEMP" control lever all the way to "HOT" position.
2. Open drain cock at the bottom of radiator, and remove radiator cap.
3. Remove cylinder block drain plug located at left rear of cylinder block.
4. Drain coolant and then 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 5 two or three times.
8. Drain water.



Changing Engine Coolant (Cont'd)



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

Coolant capacity (with reservoir tank):

10.0 l (8-3/4 Imp qt)

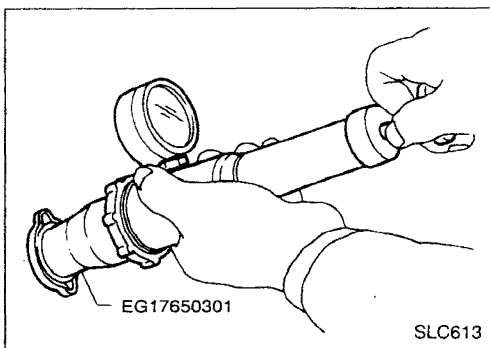
Slowly pour coolant through coolant filler neck to allow air in system to escape.

10. Fill reservoir tank up to "MAX" level.
11. Run the engine at approximately 2,000 rpm for about one minute.
12. Stop engine and cool it down, then refill the radiator and the reservoir tank.

Checking Cooling System

CHECKING HOSES

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



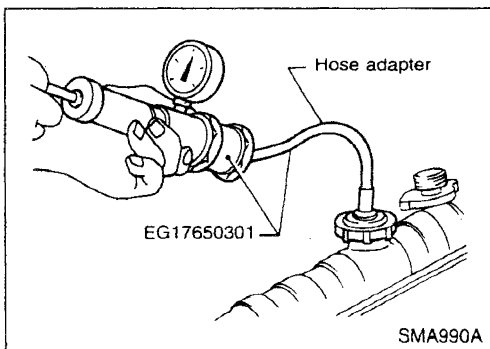
CHECKING RADIATOR CAP

Apply pressure to radiator cap by means of a cap tester to see if it is satisfactory.

Radiator cap relief pressure:

78 - 98 kPa

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



CHECKING COOLING SYSTEM FOR LEAKS

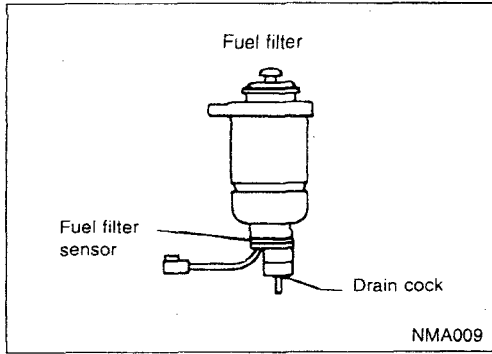
Apply pressure to the cooling system by means of a tester to check for leakage.

Testing pressure:

98 kPa (0.98 bar, 1.0 kg/cm², 14 psi)

CAUTION:

Higher than the specified pressure may cause radiator damage.

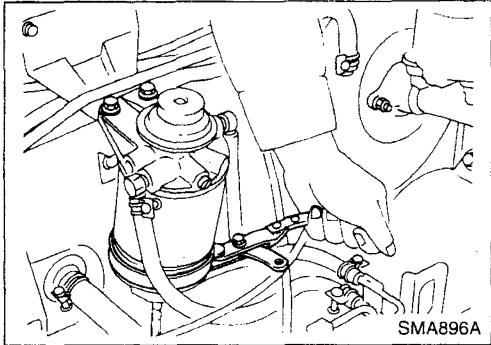


Checking and Replacing Fuel Filter and Draining Water

Be careful not to spill fuel in engine compartment. Place a rag to absorb fuel.

REPLACING FUEL FILTER

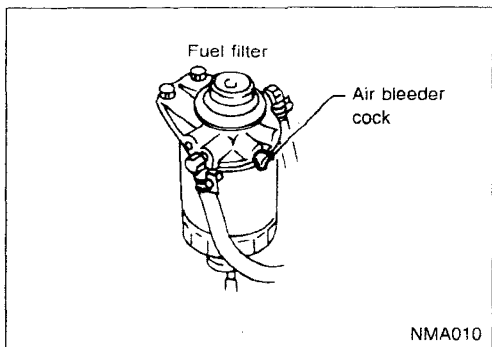
1. Remove fuel filter sensor and drain fuel.
2. Remove fuel filter, using a suitable tool.



3. Wipe clean fuel filter mounting surface on fuel filter bracket and smear a little fuel on rubber seal of fuel filter.
4. Screw fuel filter on until a slight resistance is felt, then tighten an additional more than 2/3 turn.
5. Install fuel filter sensor to new filter.
6. Bleed air from fuel line.

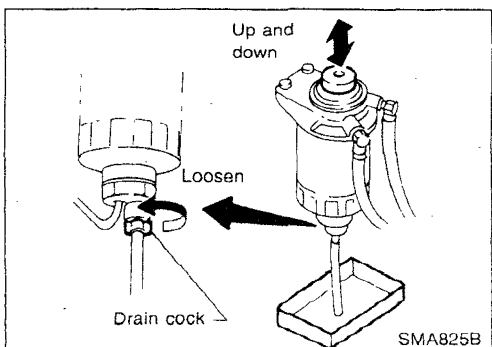
Refer to Bleeding Fuel System in EF & EC section.

7. Start engine and check for leaks.



DRAINING WATER

1. Loosen air bleeder cock of fuel filter cover (If equipped).



2. Loosen drain cock and drain water.

Loosening drain cock 4 to 5 turns causes water to start draining. Do not remove drain cock by loosening it excessively.

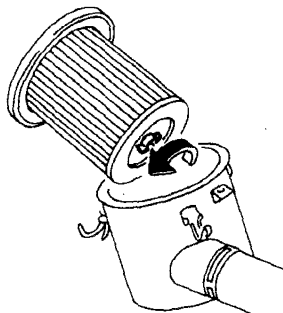
In the case of a fuel filter cover not equipped with an air bleeder cock, if water does not drain properly, move the priming pump up and down.

3. Bleed air.

Refer to section EF & EC for fuel system bleeding instructions.

Replacing Air Cleaner Filter (Viscous paper type)

The viscous paper type air cleaner filter does not require any cleaning operation between changes.
Change every 40,000 Km (24,000 miles)



EMA038

Checking Injection Nozzle

WARNING:

When using nozzle tester, do not allow fuel sprayed from nozzle to contact your hand or body, and make sure that your eyes are properly protected with goggles.

1. Check initial injection pressure by pumping tester handle one time per second.

Initial injection pressure:

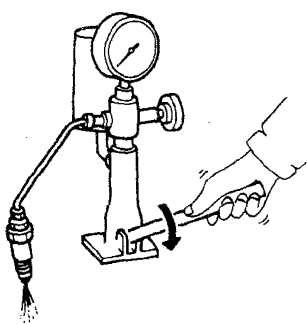
Used Nozzle

9,807 - 10,297 kPa
(98.1 - 103.0 bar, 100 - 105 kg/cm²,
1,422 - 1,493 psi)

New Nozzle

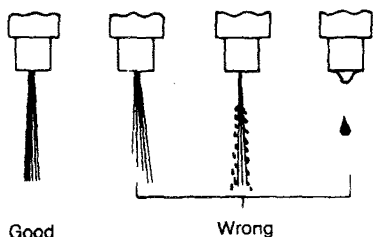
10,297 - 11,278 kPa
(103.0 - 112.8 bar, 105-115 kg/cm²,
1,493 - 1,635 psi)

- Always check initial injection pressure before installing new nozzle.



EF792A

2. Check spray pattern by pumping tester handle 4 to 6 times or more per second.
 3. If spray pattern is not correct, clean injection nozzle tip or replace it.
- For details, refer to INJECTION NOZZLE ASSEMBLY in EF & EC section.




Good

Wrong


EF794A

Checking Injection Nozzle (Cont'd)


Injection nozzle to cylinder head:

: 54 - 64 N·m
(5.5 - 6.5 kg-m, 40 - 47 ft-lb)

Spill tube nut:

: 29 - 39 N·m
(3.0 - 4.0 kg-m, 22 - 29 ft-lb)

Injection tube:

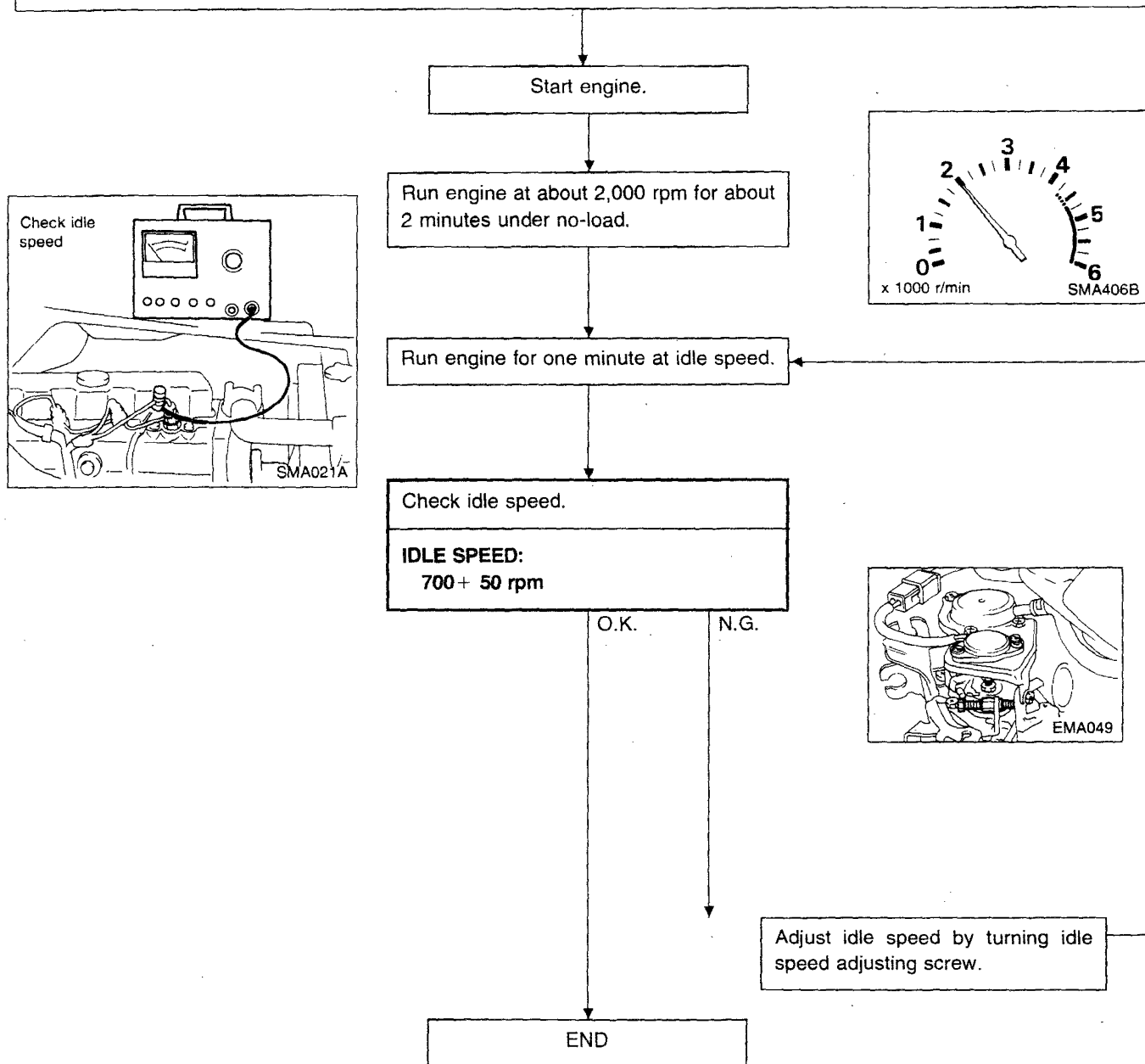
: 20 - 25 N·m
(2.0 - 2.5 kg-m, 14 - 18 ft-lb)

Checking Idle Speed**Preparation**

1. Make sure that injection timing is correct.
2. Make sure that injection nozzles are in good condition.
3. Make sure that the following parts are in good condition.
 - Air cleaner clogging
 - Glow system
 - Engine oil and coolant levels
 - Valve clearance
 - Air intake system (Oil filler cap, oil level gauge, etc.)
4. Set shift lever in "Neutral" position. Engage parking brake and lock both front and rear wheels with wheel chocks.
5. Turn off air conditioner, lights and accessories.

- Warm up engine until water temperature indicator points to middle of gauge.
- Lights, heater fan and all accessories are off.
- Attach tachometer's pick-up to No. 1 fuel injection tube.

In order to take accurate reading of engine rpm, remove clamps that secure No. 1 fuel injection tube.



- **Race engine two or three times and allow engine to return to idle speed. If idle speed is not within the specified range, check acceleration linkage for binding and correct it if necessary.**

Checking Idle Speed (Cont'd)

AIR CONDITIONER EQUIPPED MODEL

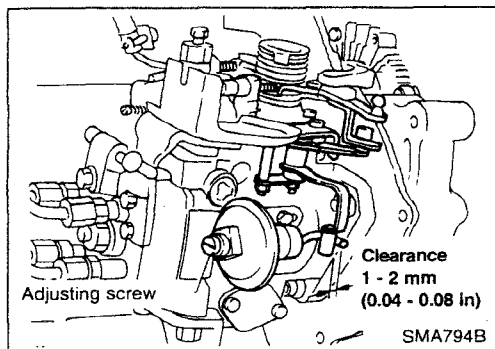
1. Make certain that the clearance between the actuator idle control lever pin and the injection pump control lever is within the specified limits.
2. Adjust idle speed to specified rpm without the air conditioner operating.
3. Then check the idle speed when the air conditioner is operating and make sure it is correct.

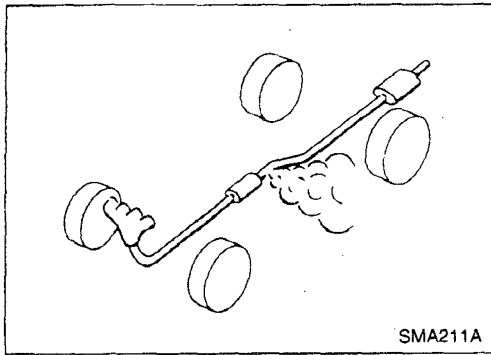
Unit: rpm

Idle speed (Air conditioner : "ON")

 850 ± 50

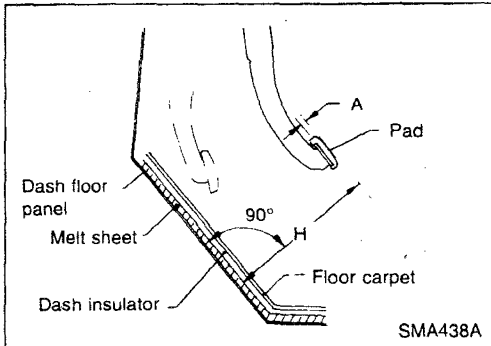
If not, adjust it by turning F.I.C.D. actuator stroke adjusting screw.





Checking Exhaust System

Check exhaust pipes, muffler and mounting for proper attachment, leaks, cracks, damage, loose connections, chafing and deterioration. Replace all defective parts.



Checking Clutch Operation

Check clutch pedal height, free play and smooth operation.

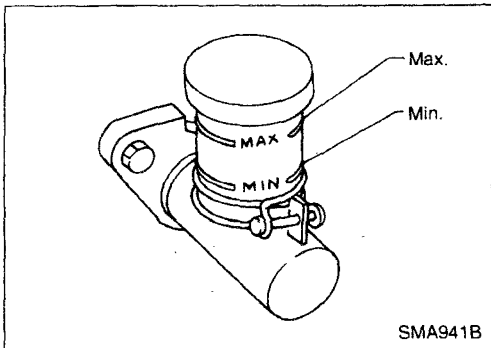
Pedal height "H":

217 - 227 mm (8.54 - 8.94 in)

Pedal free play "A":

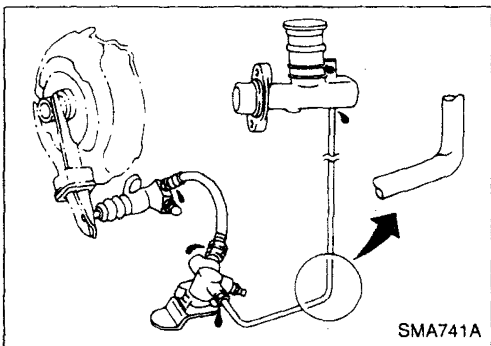
1 - 3 mm (0.039 - 0.118 in)

If necessary, adjust clutch pedal height and pedal free play. Refer to Section CL.



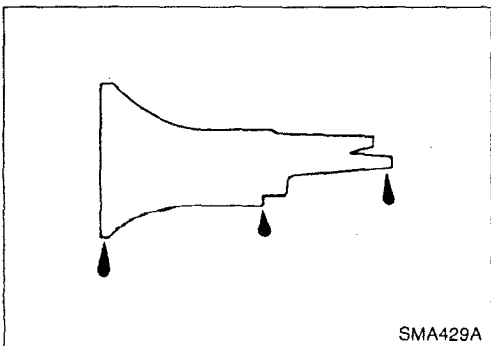
Checking Clutch Fluid Level and Leaks

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



Checking Clutch System

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

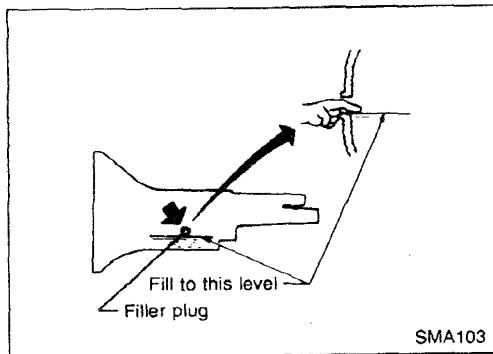


Checking M/T Oil

1. Check for oil leakage.

CHASSIS AND BODY MAINTENANCE

Checking M/T Oil (Cont'd)



2. Check oil level.

Never start engine while checking oil level.

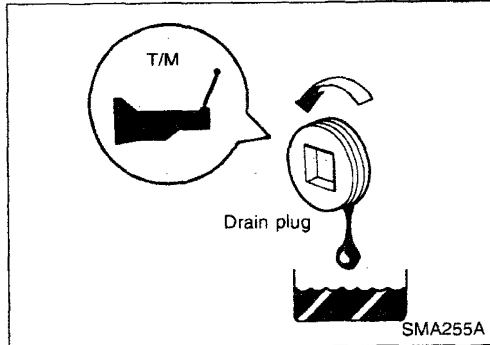
Filler plug:

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

Changing M/T Oil

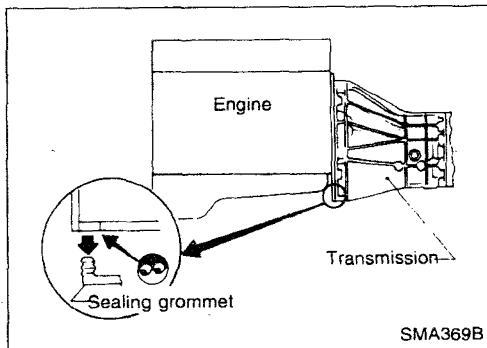
Oil capacity:

3.5 liters (6-1/8 Imp pt)



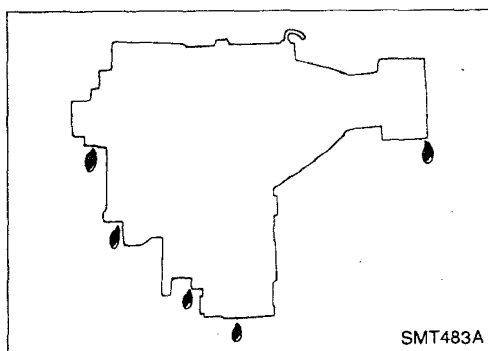
Checking Water Entry

Check water entry in the clutch housing by removing the sealing grommet, whenever driving in deep water or mud.



Checking Transfer Oil

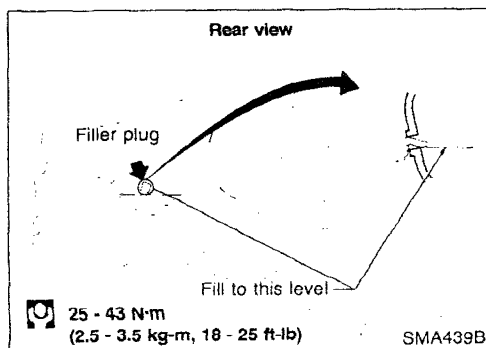
1. Check transfer for leakage.

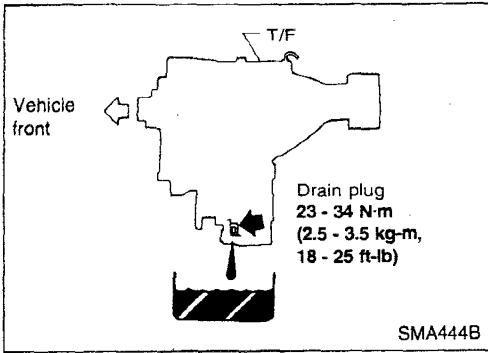


2. Check oil level.

Never start engine while checking oil level.

"DEXRON™" type Automatic Transmission Fluid is used for the transfer in the factory. Never add gear oil (API GL-4) to Automatic Transmission Fluid.





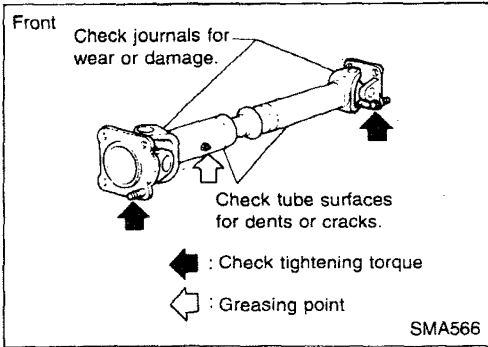
Changing Transfer Oil

Oil capacity:

2.3 liters (2 imp qt)

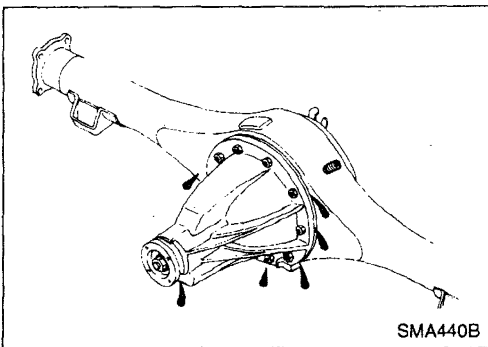
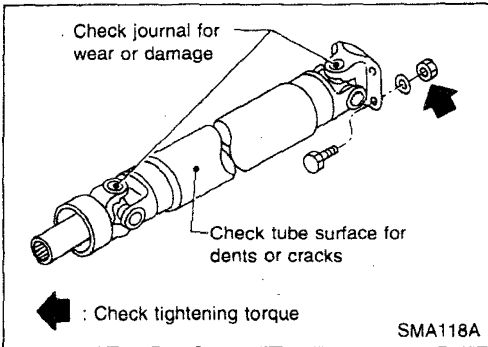
When changing transfer oil completely, either "DEXRON™" type Automatic Transmission Fluid or gear oil (API GL-4) may be used.

Do not mix Automatic Transmission Fluid and gear oil.



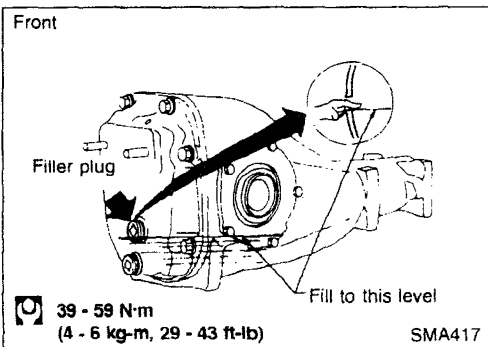
Checking Propeller Shaft

Check propeller shaft for damage, looseness or grease leakage.



Checking Differential Gear Oil

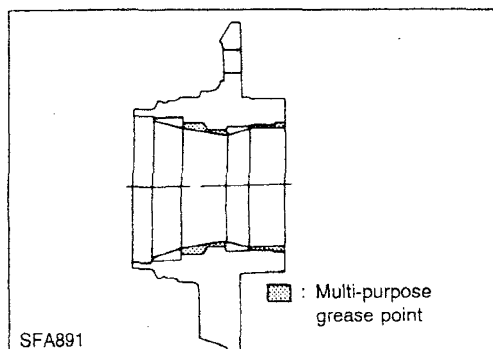
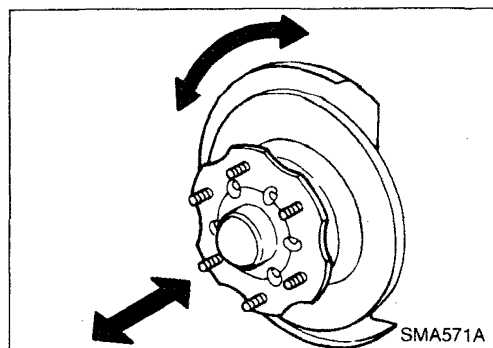
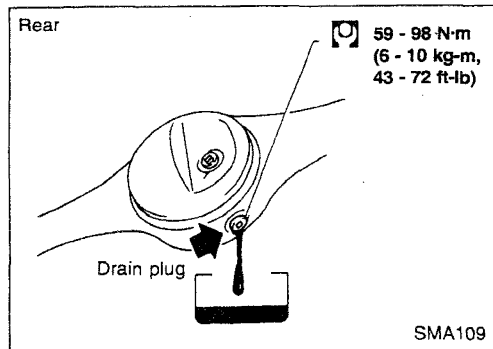
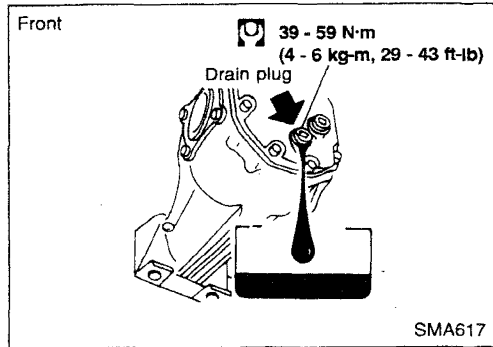
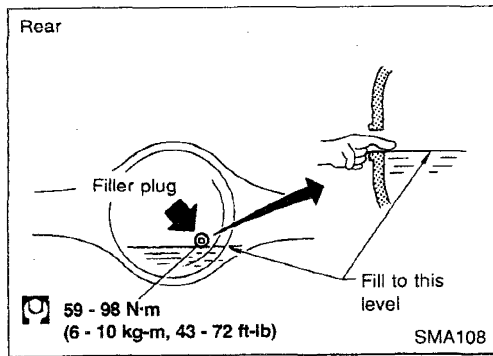
1. Check differential for oil leakage.



2. Check oil level.

CHASSIS AND BODY MAINTENANCE

Checking Differential Gear Oil (Cont'd)



Changing Differential Gear Oil

Oil capacity:

Front

R180A

1.3 liters (2-1/4 Imp pt)

Oil capacity:

Rear

H233B

2.8 liters (4-7/8 Imp pt)

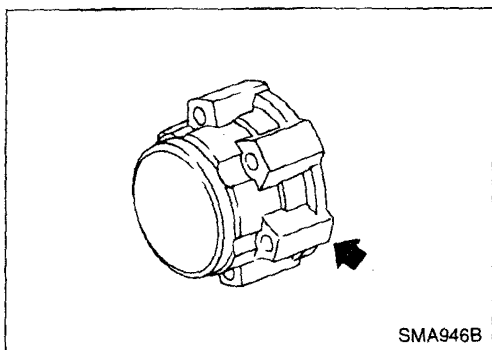
Checking Front Wheel Bearing Grease

- Check that wheel bearings operate smoothly
- Check front wheel bearings for grease leakage and water or dust entry.
- Replace front wheel bearings or front wheel bearing grease if wheel bearings do not turn smoothly.

Repacking Front Wheel Bearing Grease

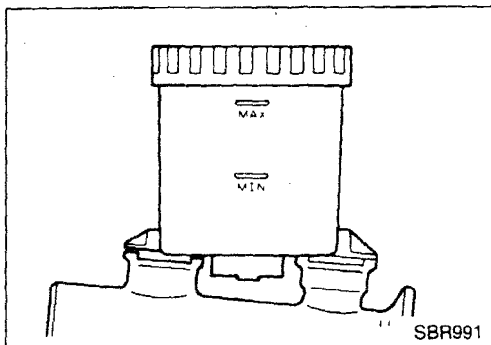
Apply multi-purpose grease sparingly to the following parts:

- Threaded portion of spindle
- Contact surface between wheel bearing washer and outer wheel bearing.
- Grease seal lip
- Hub cap or wheel hub (as shown at left)



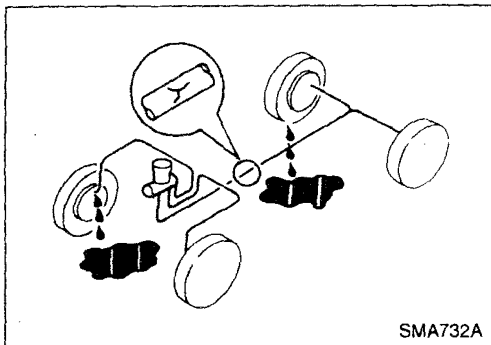
Checking Free-running Hub Grease

Check free-running hub grease for leakage and water or dust entry.



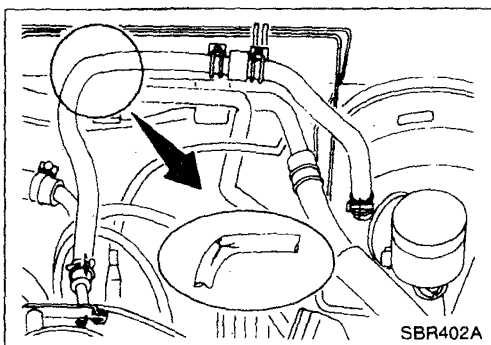
Checking Brake Fluid Level and Leaks

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



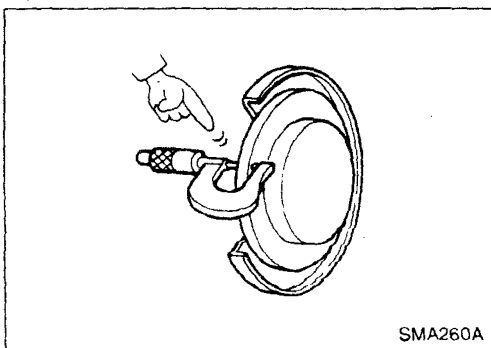
Checking Brake System

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



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.

Standard thickness:

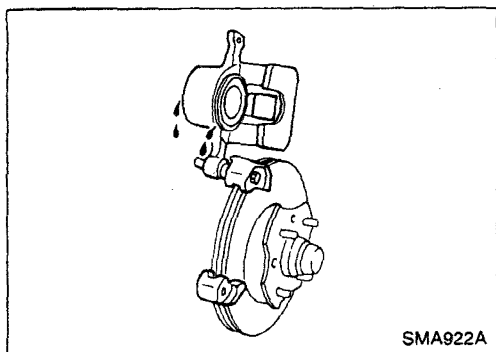
26 mm (1.02 in)

Minimum thickness:

24 mm (0.94 in)

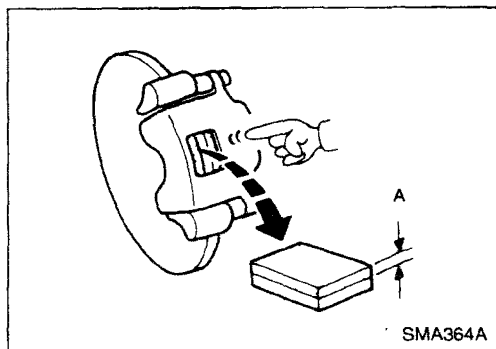
CHASSIS AND BODY MAINTENANCE

Checking Disc Brake (Cont'd)



CALIPER

Check operation and leakage.



PAD

Check wear or damage.

Standard thickness:

10 mm (0.39 in)

Minimum thickness:

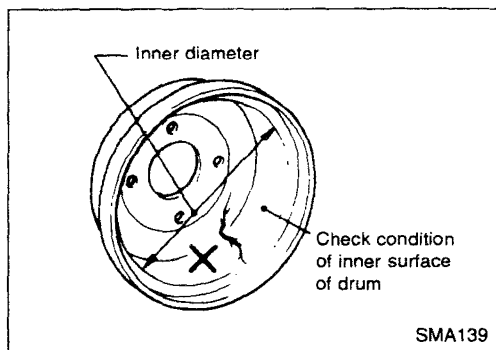
2 mm (0.08 in)

Checking Drum Brake

Check condition of drum brake components.

WHEEL CYLINDER

Check operation and leakage.



DRUM

Check condition of inner surface.

Nominal diameter:

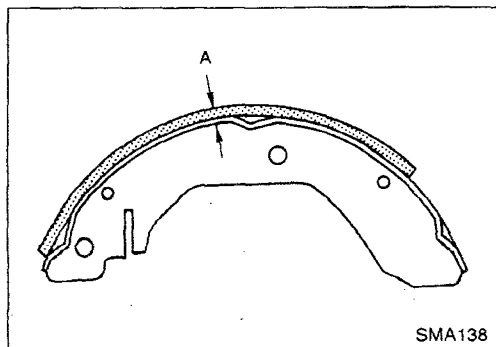
254 mm (10.0 in)

Maximum diameter:

255.5 mm (10.059 in)

Out of round maximum:

0.05 mm (0.002 in) or less



LINING

Check wear or damage.

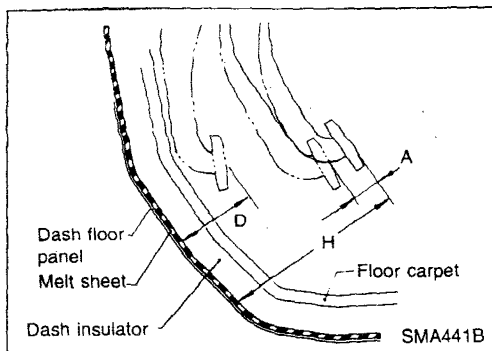
Standard thickness:

Rear: 4.3 mm (0.169 in)

Front: 5.8 mm (0.228 in)

Lining wear limit (Minimum thickness):

1.52 mm (0.06 in)



Checking Foot Brake Pedal Operation

Check brake pedal free height, depressed height and for smooth operation.

H: Free height:

RHD: 196 - 206 mm (7.72 - 8.11 in)

LHD: 210 - 220 mm (8.27 - 8.66 in)

D: Depressed height:

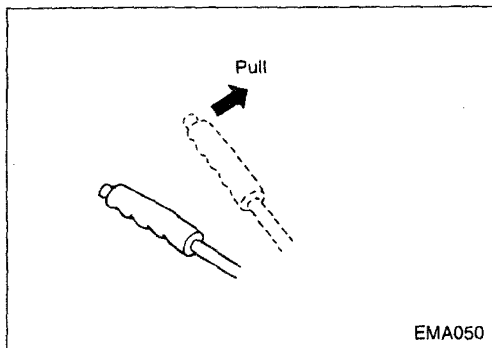
Under force of 490 N (50 kg, 110 lb)
with engine running

RHD: 137.7 mm (5.421 in)

LHD: 142.5 mm (5.61 in)

A: Pedal free play

1.0 - 3.0 mm (0.039 - 0.118 in)



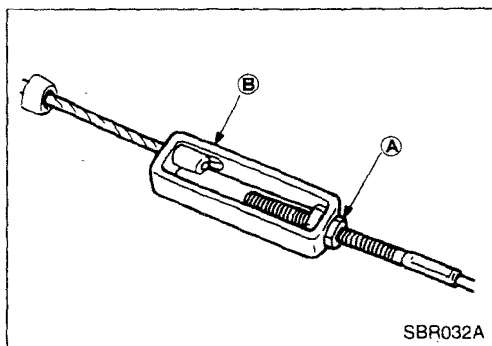
Checking Parking Brake

1. Pull lever with specified amount of force.
Check lever stroke and for smooth operation.

Number of notches

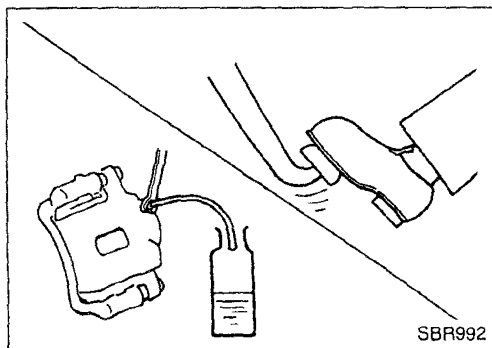
[At pulling force of 196 N (20 kg, 44 lb)]:

6 - 8



2. Use adjuster to adjust lever stroke.

- (1) Loosen lock nut **(A)**, rotate adjuster **(B)**.
- (2) Tighten lock nut **(A)**.



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

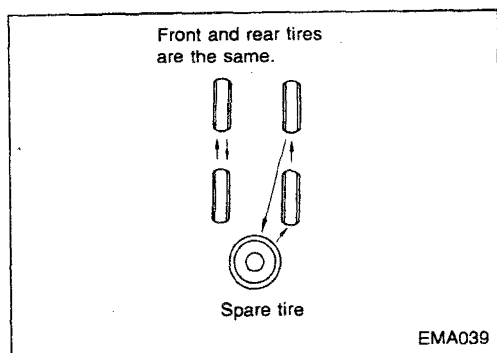
- Refill with recommended brake fluid "DOT 4".
- Never reuse drained brake fluid.
- Be careful not to splash brake fluid on painted areas.

Balancing Wheels

Adjust wheel balance using the road wheel center.

Radial runout limit:
0.5 mm (0.02 in)

Lateral runout limit:
0.8 mm (0.032 in)



Tire Rotation

Wheel nuts

☐: 118 - 147 N·m (12 - 15 kg-m, 87 - 108 ft-lb)

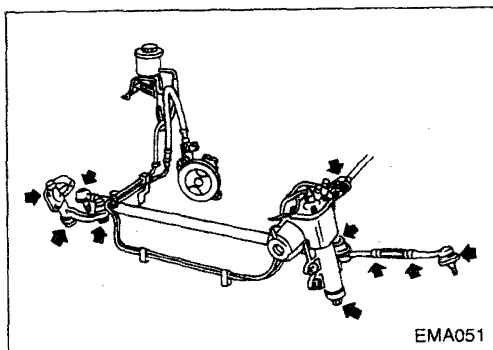
Checking Steering Gear and Linkage

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.

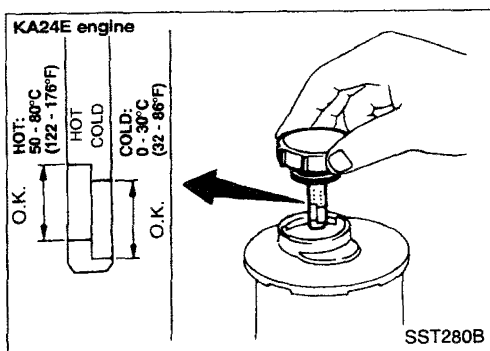


Checking Fluid Level and Leaks (Power steering)

Check fluid level.

KA24E ENGINE

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).

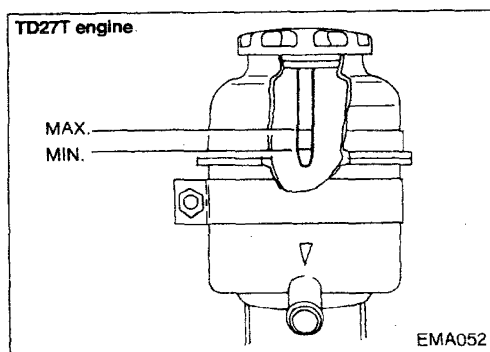


TD27T ENGINE

Fluid level should be checked at between 0° and 30 °C (32° to 86°F).

CAUTION:

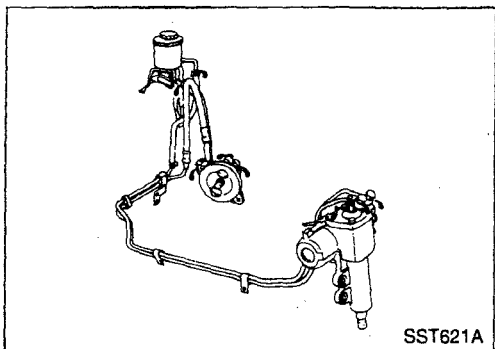
- Do not overfill.
- Recommended fluid is Automatic Transmission Fluid "DEXRON™" type.



CHASSIS AND BODY MAINTENANCE

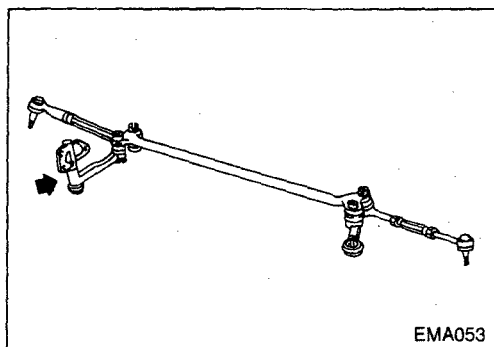
Checking Fluid Level and Leaks (Power steering) (Cont'd)

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



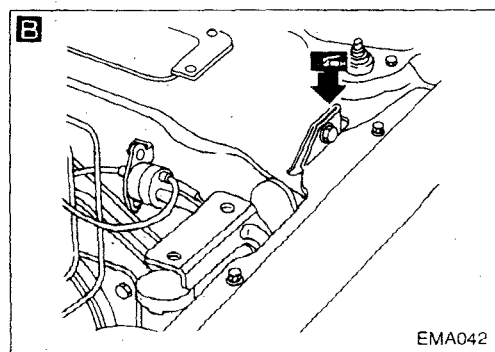
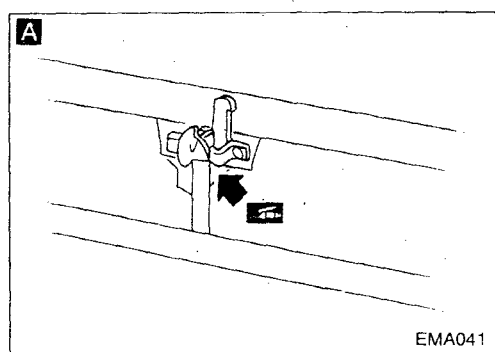
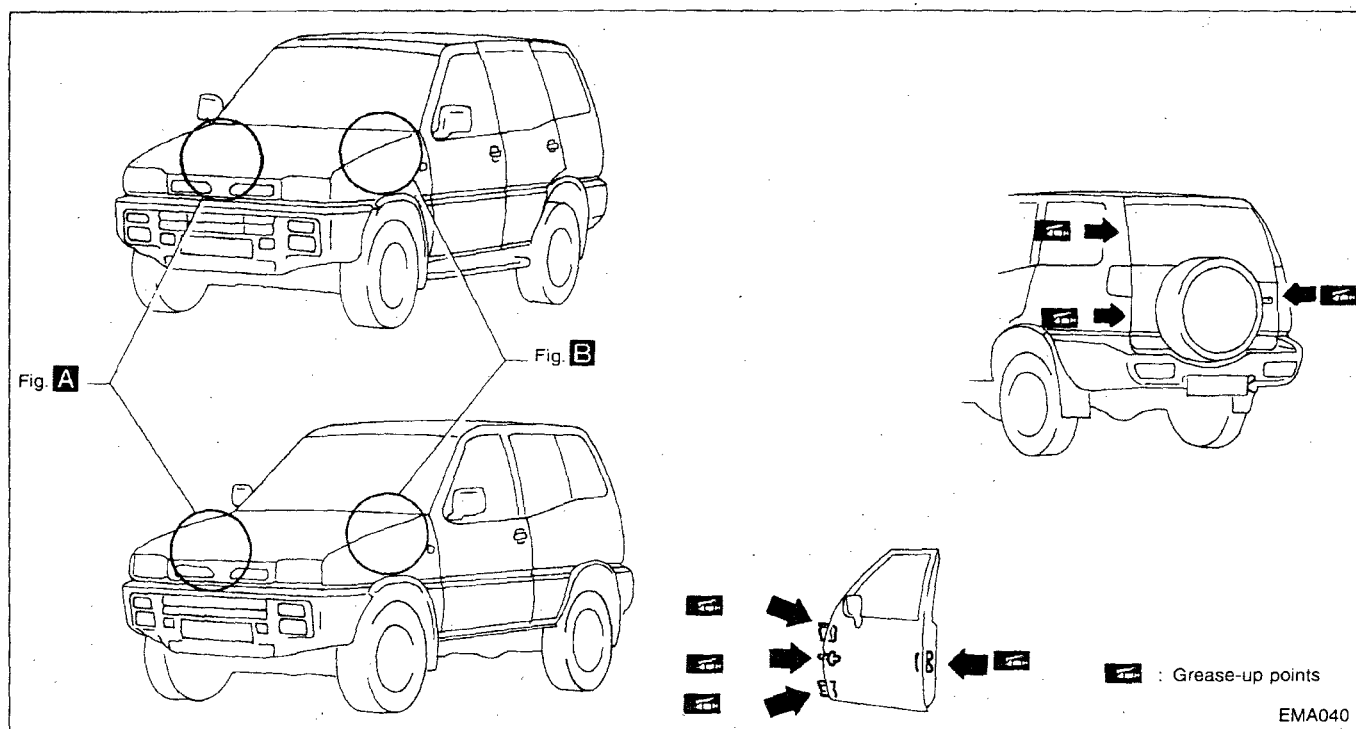
Greasing Steering Linkage

Apply multi-purpose grease to point shown in the illustration.



Body

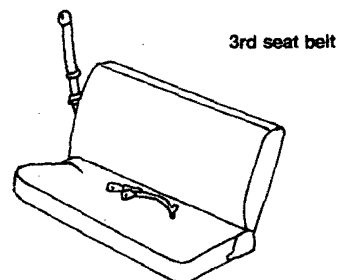
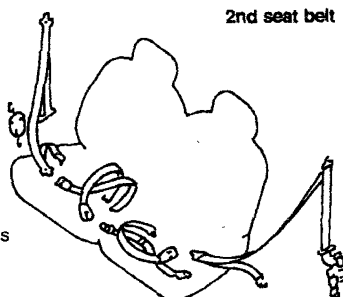
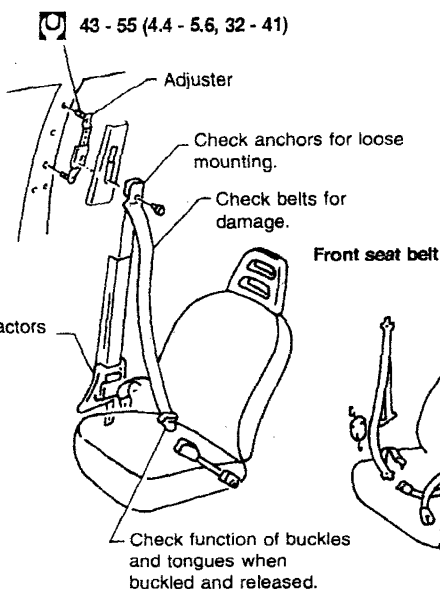
LUBRICATING HOOD LATCHES, LOCKS AND HINGES



CHASSIS AND BODY MAINTENANCE

Body (Cont'd)

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

43 - 55 (4.4 - 5.6, 32 - 41)

Ⓢ : N·m (kg-m, ft-lb)

EMA043

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			
Engine	KA24E	TD27T	KA24E	TD27T	KA24E	TD27T
Alternator	17 (0.67)	20 (0.79)	10 - 12 (0.39 - 0.47)	11 - 13 (0.43 - 0.51)	8 - 10 (0.32 - 0.39)	9 - 11 (0.35 - 0.43)
Air conditioner	16 (0.63)	12 (0.47)	10 - 12 (0.39 - 0.47)	6 - 7.5 (0.236 - 0.295)	8 - 10 (0.32 - 0.39)	5 - 6.5 (0.197 - 0.256)
Power steering oil pump	15 (0.59)	15 (0.59)	9 - 11 (0.35 - 0.43)	8 - 9.5 (0.315 - 0.374)	7 - 9 (0.28 - 0.35)	7 - 8.5 (0.276 - 0.335)
Applied pushing force	98 N (10 kg, 22 lb)					

Oil capacity (Refill capacity)

Unit: ℓ (Imp qt)

Engine	KA24E	TD27T
With oil filter change	4.3 (3-3/4)	7.2 (6-3/8)
Without oil filter change	3.9 (3-3/8)	6.5 (5-3/4)

Coolant capacity (Refill capacity)

Unit: ℓ (Imp qt)

Engine	KA24E	TD27T
Without reservoir tank	6.9 (6-1/8)	10 (8-3/4)
Reservoir tank	0.8 (3/4)	

Spark plug (KA24E)

Make	NGK	
Type		
Standard	ZFR5E-11	
Hot	ZFR4E-11	
Cold	ZFR6E-11	
Plug gap	mm (in)	1.0 - 1.1 (0.039 - 0.043)

Injection nozzle (TD27T)

Unit: kPa (bar, kg/cm², psi)

Initial injection pressure		
New	9,807 - 10,297 (98.1 - 103.0, 100 - 105, 1,422 - 1,493)	
Used	10,297 - 11,278 (103.0 - 112.8, 105 - 115, 1,493 - 1,635)	

Valve clearance (Hot)

Unit: mm (in)

Engine	KA24E	TD27T
Intake	— (Hydraulic valve lifter)	0.25 (0.01)
Exhaust		

Idle speed

Unit: rpm

Engine	KA24E	TD27T
With A/C	800 ± 50	850 ± 50
Without A/C		700 ± 50

Chassis and Body Maintenance

INSPECTION AND ADJUSTMENT

Clutch

Unit: mm (in)

Vehicle model	All
Pedal free height	217 - 227 (8.54 - 8.94)
Pedal free play	1.0 - 3.0 (0.04 - 0.12)
Pedal free travel	145 (5.71)

Front axle and front suspension (Unladen)*1

Unit: degree

Model	HARDTOP WAGON
Camber	0°35' ± 30'
Caster	1°40' ± 30'
Kingpin inclination	7°36' ± 8°36'
Toe-in	
A-B mm (in)	3 - 5 (0.12 - 0.20)
Front wheel turning angle (degrees)	
(Full turn) *2	
Inside	35 ⁺⁰ ₋₂
Outside	33 ⁺⁰ ₋₂

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

*2: Wheel turning force (at circumference of steering wheel)
of 98 to 147 N (10 to 15 kg, 22 to 33 lb) with engine idle.

Brake

Disc brake	mm (in)	
LD28VA		
Pad		
Standard thickness		10 (0.39)
Minimum thickness		2.0 (0.08)
Rotor		
Standard thickness		26.0 (1.02)
Minimum thickness		24.0 (0.94)
Drum brake	mm (in)	
LT25LD - Hardtop		
LT25LE - Wagon		
Lining		
Standard thickness		
Rear		4.3 (0.169)
Front		5.8 (0.288)
Minimum thickness		1.52 (0.06)
Drum		
Standard diameter		254.0 (10.00)
Maximum diameter		255.5 (10.059)
Pedal	mm (in)	RHD LHD
Free height		196 - 206 (7.72 - 8.11) 210 - 220 (8.27 - 8.66)
Free play		1 - 3 (0.04 - 0.12)
Full stroke		137.7 (5.421) 142.5 (5.61)
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

Unit: mm (in)

Wheel type	Steel
	15" x 6J
Radial runout limit	0.5 (0.02)
Lateral runout limit	0.8 (0.032)

Wheel bearing

Axial end play limit	mm (in)	0
Lock nut		78 - 98
Tightening torque	N·m (kg-m, ft-lb)	(7.9 - 10, 57 - 72)
Retightening torque	N·m(kg-m, ft-lb)	0.5 - 1.5 (0.05 - 0.15, 0.4 - 1.1)

TIGHTENING TORQUE

Unit	N·m	kg-m	ft-lb
Clutch			
Pedal stopper lock nut	12 - 15	1.2 - 1.5	9 - 11
Master cylinder push rod lock nut	8 - 11	0.8 - 1.1	5.8 - 8.0
Manual transmission			
Drain and filler plugs			
FS5W71C	25 - 34	2.5 - 3.5	18 - 25
Differential carrier			
Drain and filler plugs			
R180A	39 - 59	4 - 6	29 - 43
H 233 B	59 - 98	6 - 10	43 - 72
Front axle and front suspension			
Tie-rod lock nut	60 - 70	6.1 - 7.1	44 - 51
Brake system			
Air bleeder valve	7 - 9	0.7 - 0.9	5.1 - 6.5
Wheel and tire			
Wheel nut	118 - 147	12 - 15	87 - 108

ENGINE MECHANICAL

SECTION **EM**