1. General Information

1-1. General

The SUBARU 700 Sedan is a front-wheel drive passenger car with an in-line, two-cylinder, water-cooled, 4-stroke-cycle, 665 cc (40.58 cu in) engine mounted transversely on the front of the body. The engine power is transmitted from the transmission through the constant velocity joint to the front wheels.

A four-wheel independent suspension system has been adopted. A macpherson strut is used on the front and a semitrailing arm with coil spring suspension is used on the rear.

1) Vehicle Variety and Identification Numbers

Left-hand drive vehicles
- 3-door Sedan ...
  - LKM3002001 and after
- 5-door Sedan (Except for Europe) ...
  - LKF3002001 and after
- 5-door Sedan (For Europe) ...
  - JFIKF3AL0 IG002001 and after

Right-hand drive vehicles
- 3-door Sedan ...
  - KM3002001 and after
- 5-door Sedan ...
  - KF3002001 and after

2) Engine Serial Number

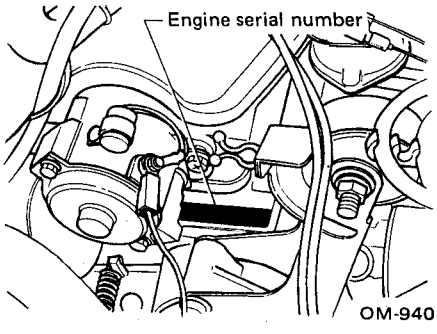


Fig. 1-1-1

3) Chassis Serial Number

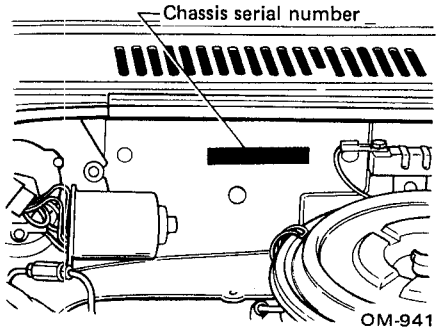


Fig. 1-1-2

NOTE:
Engine and chassis numbers are used for factory communications such as Technical reports, Service Bulletins and other information.

4) Tire Inflation Pressure Label

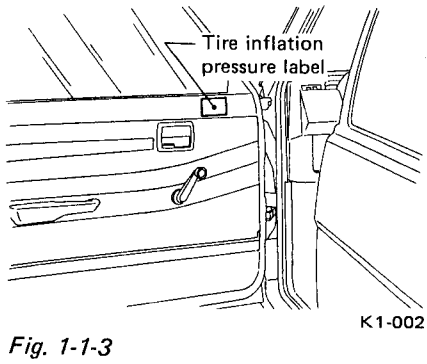


Fig. 1-1-3

Recommended tire inflation pressure.

Unit: kPa (kg/cm^2, psi)

Tire size	Condition	Front tire	Rear tire	Spare tire
5.20-10-4PR	Normal speed driving	147 (1.5, 21)	147 (1.5, 21)	177 (1.8, 26)
	High speed driving	177 (1.8, 26)	177 (1.8, 26)	
5.00-10-4PR	Light load	147 (1.5, 21)	147 (1.5, 21)	235 (2.4, 34)
	Full load	177 (1.8, 26)	235 (2.4, 34)	
5.65-12-4PR & 135SR12	–	186 (1.9, 27)	186 (1.9, 27)	186 (1.9, 27)

5) Jack Up Points

(1) Pantograph jack

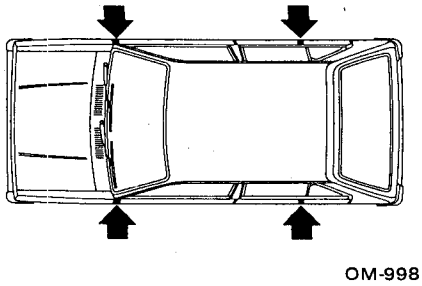


Fig. 1-1-4

- ⬅ marks show each pantograph jack setting position.

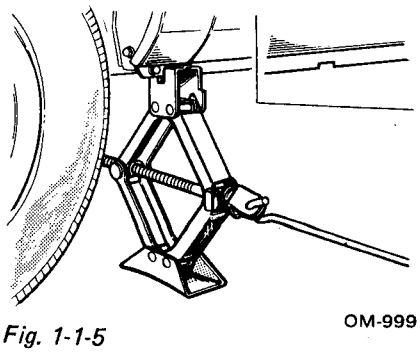


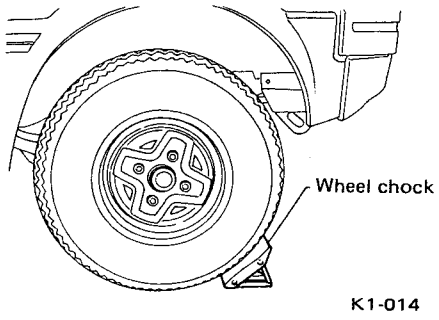
Fig. 1-1-5

Make sure the jack is set at the correct position on the flange of the side sill.

NOTE:

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

b. Block the wheels diagonally with wheel chocks.



K1-014

Fig. 1-1-6

(2) Garage jack

(Front)

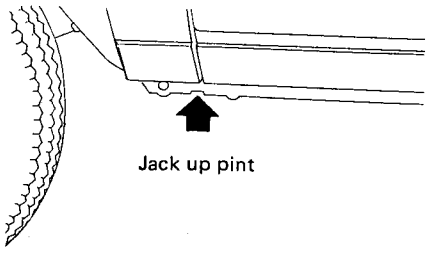
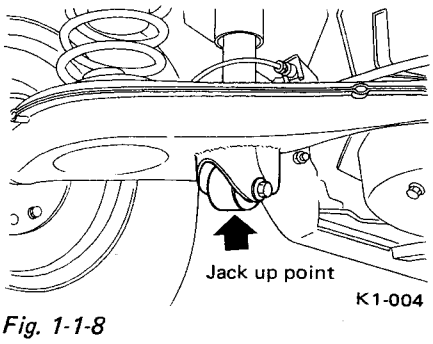


Fig. 1-1-7 KI-033

Make sure the garage jack is set at the correct position on the flange of the side sill.

(Rear)



K1-004

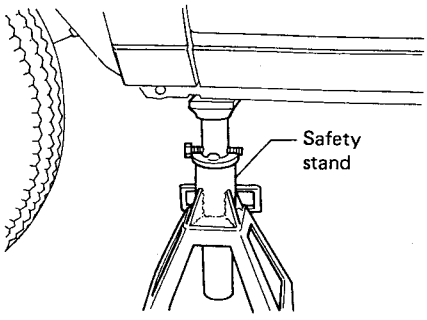
Fig. 1-1-8

Place a wooden block between the garage jack and under the shock absorber when raising the vehicle.

Be sure not to lift up the muffler or other body parts.

NOTE:

a. After jacking up the vehicle with a garage jack, be sure to support the vehicle with safety stands for added safety.

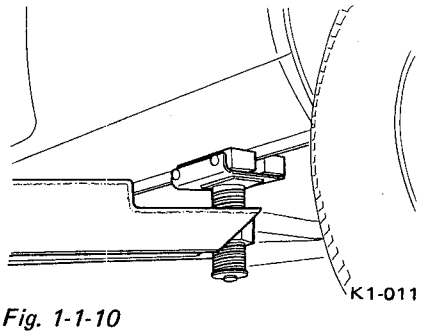


K1-005

Fig. 1-1-9

b. Make sure the stands are set at the correct position on the flange of the side sill.

(3) Air lift



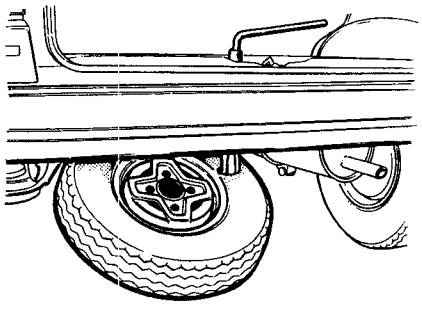
K1-011

Fig. 1-1-10

Align the arm of the air lift with the four jack up points and carefully lift the vehicle.

6) Spare Tire and Jack

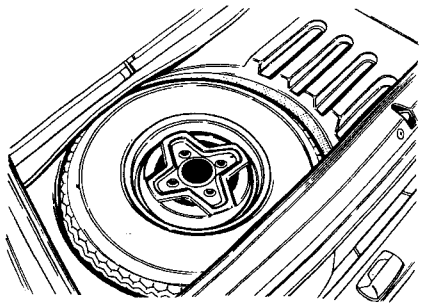
- 3-door Sedan and commercial Van



OM-997

Fig. 1-1-11

- 5-door Sedan



OM-996

Fig. 1-1-12

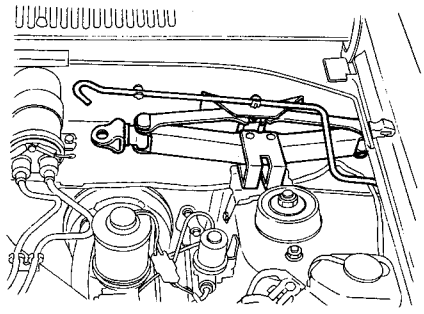


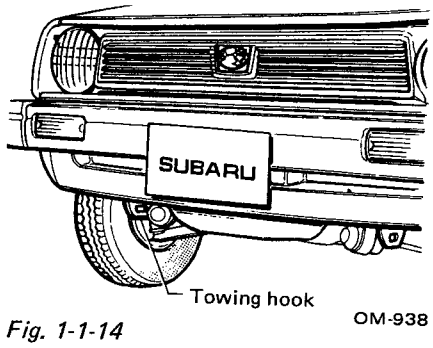
Fig. 1-1-13 KI-031

NOTE:

A bolt for spare tire hanger fixing is 8 mm dia.

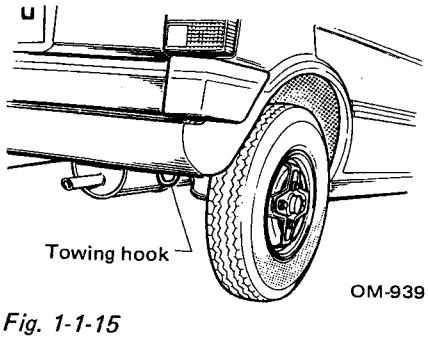
Be sure not to tighten excessively. Proper tightening torque is approx. 49 N·m (5 kg-m, 36 ft-lb) application at the end of wheel wrench of the maintenance tools provided in the car.

7) Towing Hook



OM-938

Fig. 1-1-14



OM-939

Fig. 1-1-15

NOTE:
Only tow the vehicle using the towing hook.

8) Tie-down Hook

To tie down the vehicle for transportation, use the front and rear tie-down hooks in the following manner:

- Front tie-down hook

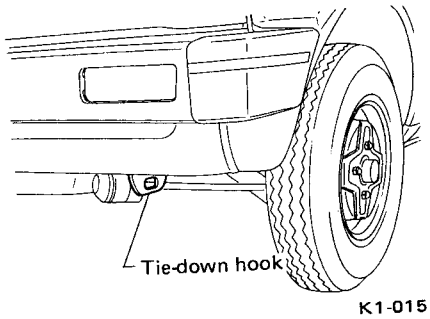


Fig. 1-1-16

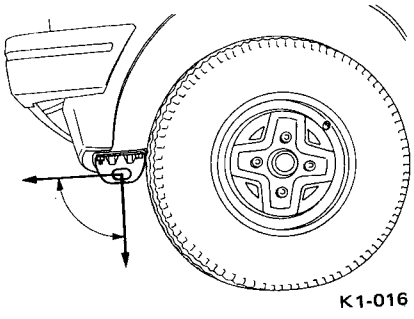


Fig. 1-1-17

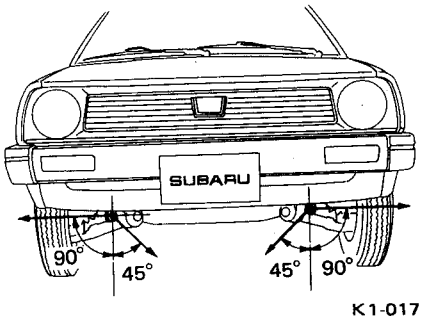


Fig. 1-1-18

- Rear tie-down hook

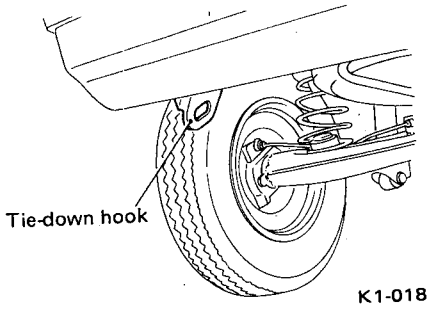


Fig. 1-1-19

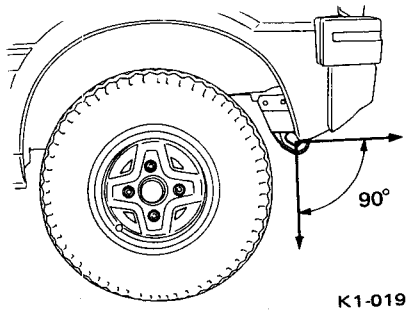


Fig. 1-1-20

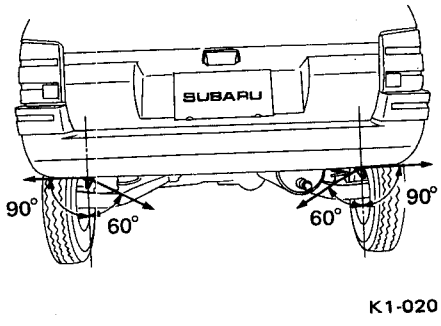
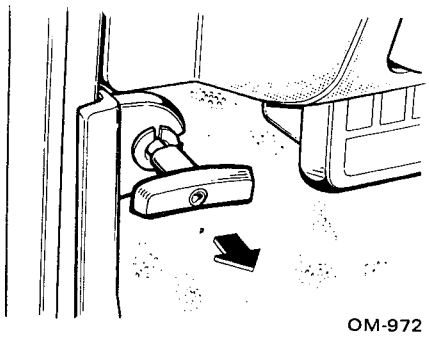


Fig. 1-1-21

1-2. Engine Compartment

1) Opening Engine Hood

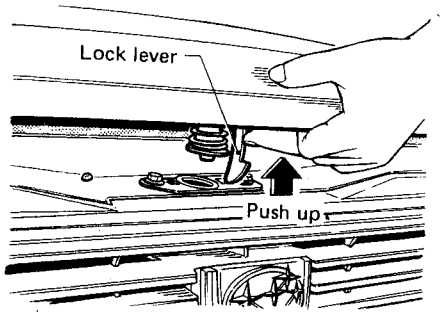
The engine hood can be lifted slightly by pulling the engine hood lock release handle.



OM-972

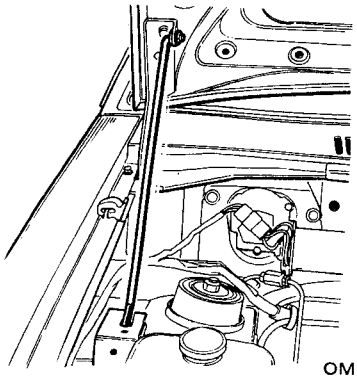
Fig. 1-2-22

Push up the safety lever with the hood pushed down slightly and unlock it.



OM-973

Fig. 1-2-23

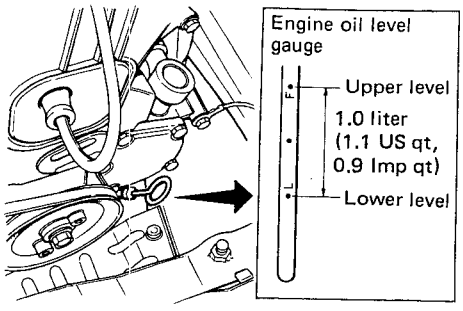


OM-974

Fig. 1-2-24

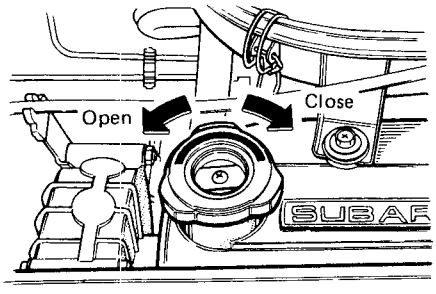
2) Engine Oil

Oil capacity:
2.8 ℓ (3.0 US qt, 2.5 Imp qt)



OM-977

Fig. 1-2-25



OM-978

Fig. 1-2-26

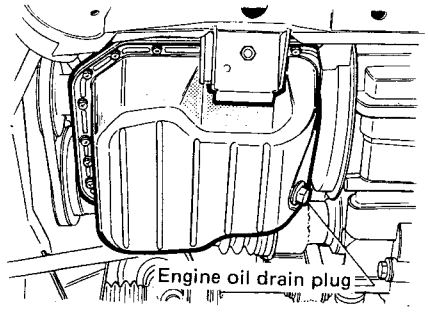
Recommended oil

ITEM	API Classification	SAE Viscosity No. and Applicable Temperature
		−30°C (−20°F) / 0°C (30°F) / 30°C (90°F)
Engine oil	SE	5W−30 (5W−30 is not recommended for sustained high speed driving) / 10W−30, 10W−40, 10W−50 / 30, 20W−40, 20W−50 / 40

NOTE: Each oil manufacturer has its base oil and additives. Thus, do not mix two or more brands.

K1-026

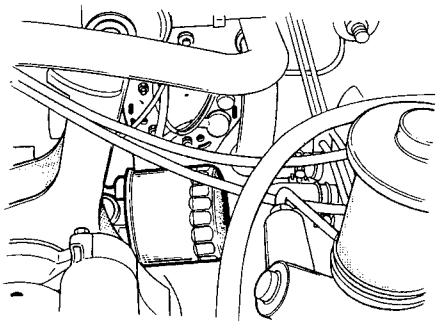
Fig. 1-2-28



OM-979

Fig. 1-2-27

3) Engine Oil Filter



OM-982

Fig. 1-2-29

4) Transmission Gear Oil

Oil capacity:
1.7 ℓ (1.8 US qt, 1.5 Imp qt)

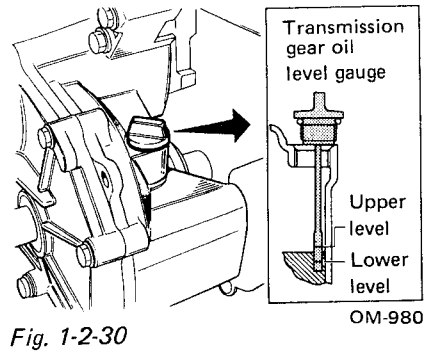


Fig. 1-2-30

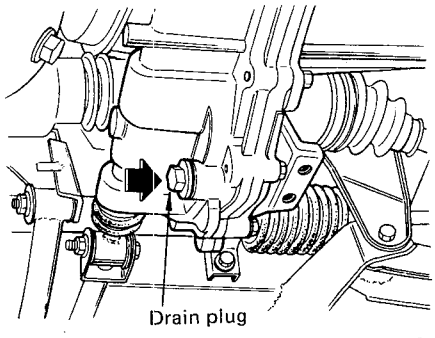


Fig. 1-2-31

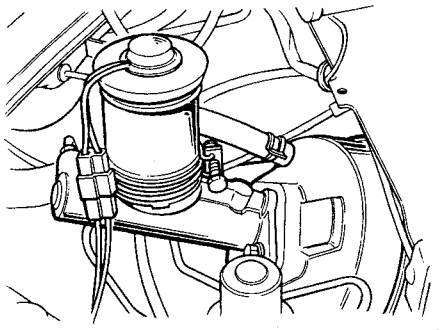


Fig. 1-2-35

Recommended oil

ITEM	API Classification	SAE Viscosity No. and Applicable Temperature
		−30°C (−20°F) 0°C (30°F) 30°C (90°F)
Transmission gear oil	GL-4 GL-5	90 85W 80W

K1-027

Fig. 1-2-32

5) Engine coolant

Coolant capacity:
3.4 ℓ (3.6 US qt, 3.0 Imp qt)

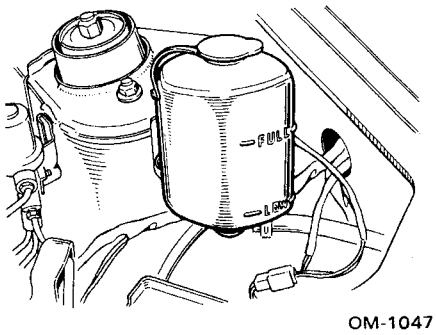


Fig. 1-2-33

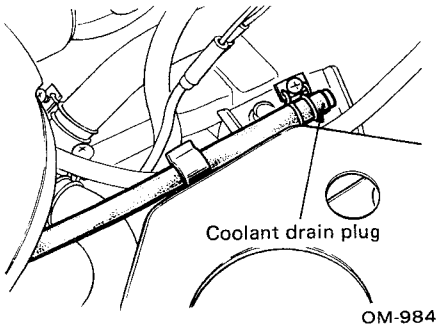


Fig. 1-2-34

NOTE:

a. The radiator is of the pressurized type.
Do not attempt to open the radiator cap immediately after the engine has been stopped.

b. The SUBARU coolant containing anti-freeze and anti-rust agents is especially made for the SUBARU engine. Always use SUBARU coolant, since other coolants may cause corrosion.

6) Brake Fluid

Fluid capacity:
100 cc (6.10 cu in)

Recommended brake fluid:

FMVSS No. 116, fresh DOT 3 brake fluid

NOTE:

a. Avoid mixing different brands of brake fluid to prevent degrading the quality of the fluid.

b. Be careful not to allow dirt or dust to get into the reservoir tank.

c. Always use fresh DOT 3 brake fluid when replacing or refilling the fluid.

7) Battery

Except for Europe:
12V – 26Ah (NT50-N24)
For Europe:
12V – 35Ah (NT60-S4L)

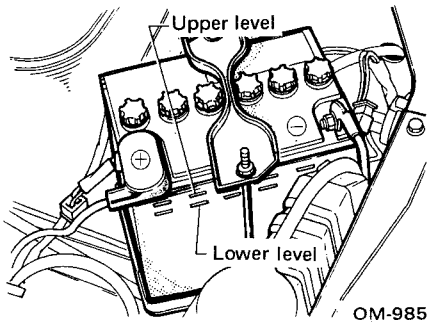


Fig. 1-2-36

If the battery fluid level is low, add distilled water up to the upper level.

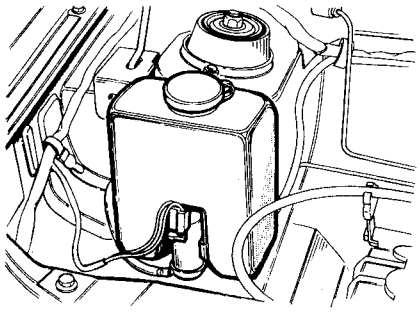
Do not overfill with fluid. Battery fluid has toxicity, so be careful when handling it.

NOTE:

a. Before you begin working on or near any battery, be sure to extinguish all cigarettes, matches and lighters.
Never expose a battery to open flames or electric sparks. Batteries give off a gas which is flammable and explosive.

b. To lessen the risk of injury in case an explosion does occur, wear eye protection or shield your eyes when working near any battery.
Do not lean over a battery.
c. Do not let battery fluid contact eyes, skin, fabrics or painted surfaces because battery fluid is a corrosive acid.
Flush any contacted area with water immediately and thoroughly; also get medical help if eyes are affected.
d. To lessen the risk of sparks, remove rings, metal watchbands and other metal jewelry.
Also do not allow metal tools to make contact with the positive battery terminal (or any metal connected to this terminal) and any other metal on the car at the same time.

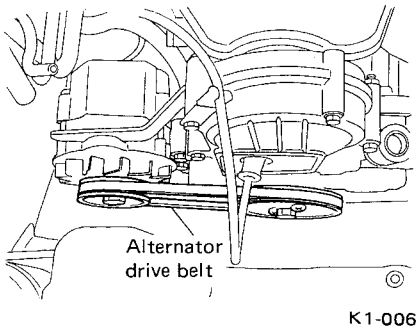
8) Windshield Washer Fluid



OM-986

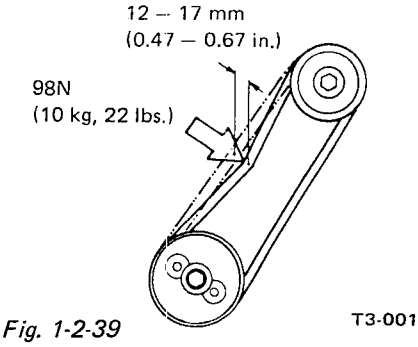
Fig. 1-2-37

9) Alternator Drive Belt



K1-006

Fig. 1-2-38



T3-001

Fig. 1-2-39

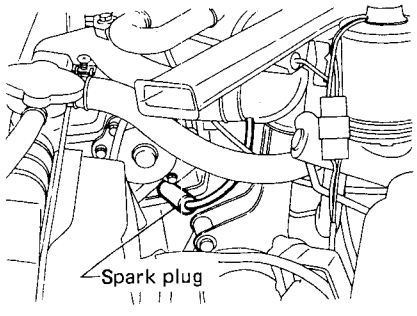
10) Spark Plug

- Except for Europe

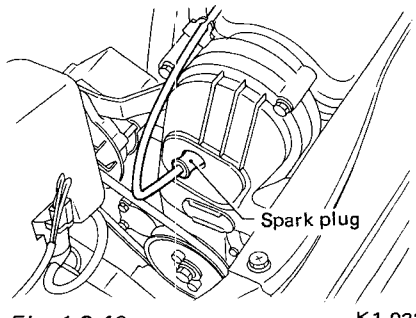
Recommended spark plug	Gap
NGK: BPR6ES-11 BPR5ES-11 NIPPON DENSO: W20EPR-U11 W16EPR-U11	1.0 - 1.1 mm (0.039 - 0.043 in.)
NGK: BP6ES BP5ES NIPPON DENSO: W20EP W16EP	0.7 - 0.8 mm (0.028 - 0.032 in.)

- For Europe

Recommended spark plug	Gap
NGK: BPR6ES-11 BPR5ES-11 NIPPON DENSO: W20EPR-U11 W16EPR-U11	1.0 - 1.1 mm (0.039 - 0.043 in.)

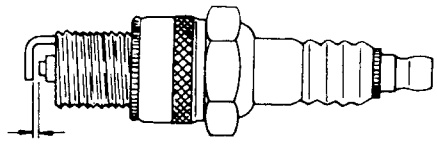


K1-032



K1-022

Fig. 1-2-40

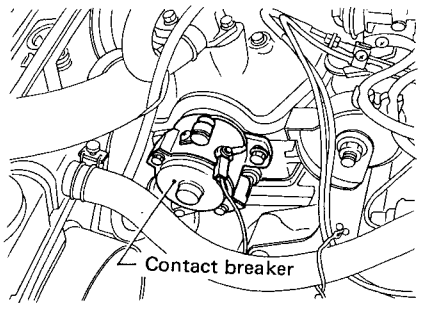


A9-163

Fig. 1-2-41

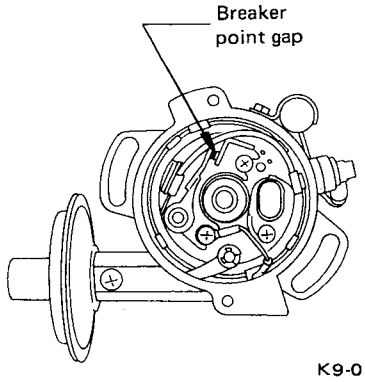
11) Contact Breaker

Breaker point gap:
0.4 – 0.5 mm (0.016 – 0.020 in)



K1-007

Fig. 1-2-42



K9-010

Fig. 1-2-43

NOTE:
Apply a thin coat of grease to the cam surface, cam head and breaker point arm heal.

12) Ignition Timing

B.T.D.C. 10° at 800 rpm
(B.T.D.C.: Before top dead center)

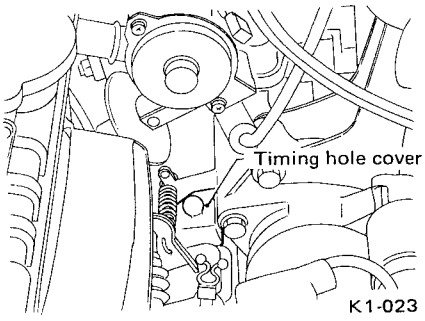


Fig. 1-2-44

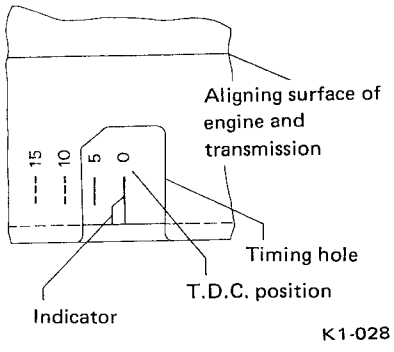


Fig. 1-2-45

NOTE:
Prior to checking the ignition timing, make sure that the breaker point gap is adjusted to the standard value.

(1) Checking with timing light
a. Check vacuum hoses for connection and warm up the engine. Be sure to push the choke knob in completely after the engine has been warmed up.
b. Connect the timing light to the #2 cylinder spark plug cord.
Operate the engine at idling speed (800 rpm) and illuminate the timing mark in the timing hole with the Timing Light.
Make sure that the timing mark appears in the correct location (B.T.T.C. 10°).

(2) Checking without instruments.
a. Remove the breaker case cover.
b. With the ignition switch turned to the "ON" position, turn the crankshaft clockwise.

When the B.T.D.C. 10° marking comes into alignment with the pointer in the timing hole, the contact point should be open and produce a spark. Verify this.

(3) Adjustment

To adjust the timing, loosen the two bolts fastening the contact breaker case, and turn the case in either direction.

Turn the case clockwise for advanced timing; turn the case counterclockwise for retarded timing. After completion of the adjustment, securely tighten the mounting bolts and recheck the timing.

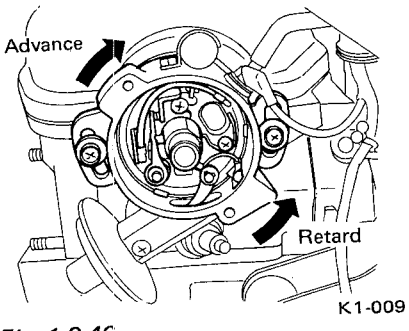


Fig. 1-2-46

NOTE:
Remember to replace the rubber plug in the clutch housing timing hole after checking the ignition timing.

13) Inspection of Air Cleaner

A dry air cleaner element is used. The procedure for cleaning the air cleaner element is as follows:

(1) Remove the air cleaner cover and element.

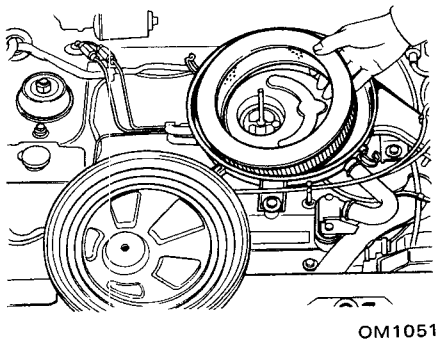


Fig. 1-2-47

(2) Tap the air cleaner element, or direct compressed air to the element from the inside, to blow off dust. Use care not to damage the paper element.

(3) If the element cannot be cleaned by directing compressed air from the inside, dip the element in gasoline and clean. It should be dried in the shade.

(4) Clean the inside of the air cleaner case and check the condition of the element contacting portion.

(5) After the element has been dried thoroughly, properly place it into the case and install the air cleaner case cover.

NOTE:
When installing the air cleaner case cover, be sure to align the matching marks.

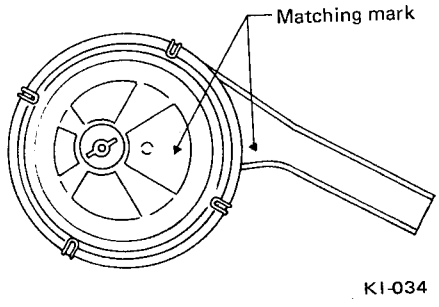


Fig. 1-2-48

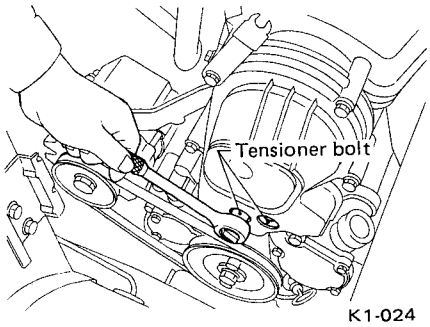
14) Camshaft Drive Belt

Check the camshaft drive belt for tension, cracks, and damage, and replace if faults are noted.

NOTE:
a. Carefully check the back surface of the belt for cracks.
b. Do not attempt to bend the belt sharply.
c. If some oil or water adheres to the belt, wipe it clean after checking its cause and correcting faults.

To adjust camshaft drive belt tension, set the force of the valve spring applied to the cam of the camshaft so that the camshaft can be rotated freely. The adjustment procedure is as follows:

(1) While the engine is cold, turn the crankshaft, and align the mark "○" with the needle in the timing hole provided on the clutch housing.
(2) Remove the rocker cover and fully loosen the adjusting screw of the rocker arm riding on the cam of cylinder No. 1 or No. 2, depending on which is at the top dead center position of the discharge stroke.
(3) Remove the rubber plug from the belt cover and loosen the two 8 mm bolts.
(4) Tighten the lower bolt first.



K1-024

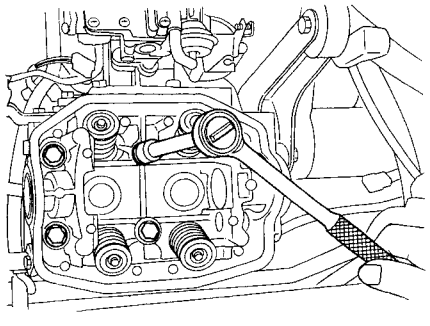
Fig. 1-2-49

15) Inspection and Adjustment of Valve Clearance

To perform the valve clearance adjustment when the engine is cold [coolant temperature: 20 to 40°C (68 to 104°F)], proceed as follows:
(1) Before beginning the valve clearance adjustment, tighten the cylinder head bolts to the specified torque.

Tightening torque: 64 ± 4 N·m (6.5 ± 0.4 kg-m, 47 ± 2.9 ft-lb)

Tighten the center two bolts with a socket wrench (14) (special tool: 399982100).

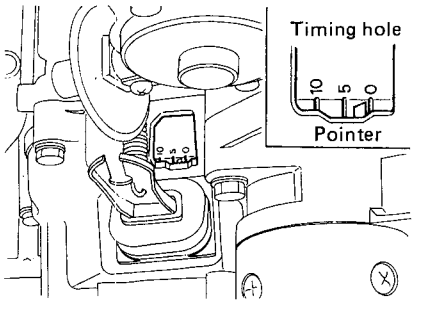


K1-010

Fig. 1-2-50

(2) Set the cylinder to be adjusted to the top dead center position of the compression stroke:

Set one cylinder to the top dead center position by using the match mark in the timing hole and set the other cylinder to the top dead center position by turning the crankshaft pulley one complete turn.



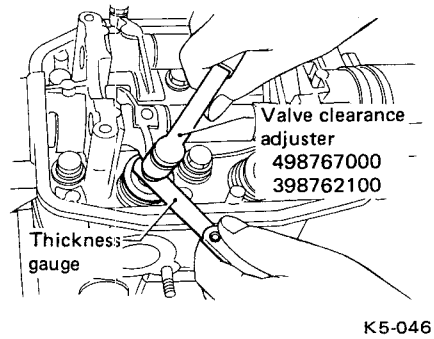
K5-045

Fig. 1-2-51

(3) Insert a thickness gauge between the valve and valve rocker arm and check the valve clearnace.
(4) Adjust the valve clearance with the valve clearance adjuster (special tool: 498767000 or 398762100).

Valve clearance (When engine is cold) mm (in)	
Intake valve	0.15 ± 0.02 (0.006 ± 0.001)
Exhaust valve	0.25 ± 0.02 (0.010 ± 0.001)

Nut tightening torque: 20 ± 3 N·m (2.0 ± 0.3 kg-m, 14 ± 2.2 ft-lb)



K5-046

Fig. 1-2-52

(5) After completing the adjustment, rotate the crankshaft several turns and recheck the valve clearance.

16) Idling Adjustment

The idling adjustment must be performed after the engine has warmed up and continued until cooling fan is rotated.

The adjusting procedure is described below.

Note that the CO gas cannot be measured with an ordinary CO meter immediately after the engine has been stopped since the cylinder head exhaust port remains very hot. Idle the engine for at least five minutes, and then perform the idle adjustment.
(1) Back off the idle adjusting screw five turns from its fully tightened position, make two or three turns of the throttle adjusting screw, then start the engine.

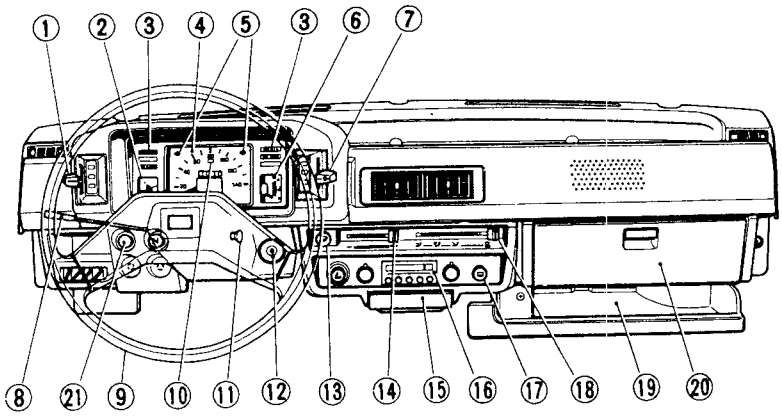
When turning the idle adjusting screw, use special tool "Driver" (498297100).

(2) Adjust the engine idling speed to 800 ± 50 rpm by turning the throttle adjusting screw.
(3) Set the CO concentration to 1.5 to 2.5% by turning the idle adjusting screw.

Idling speed	800 ± 50 rpm
Idling CO concentration	2.0 ± 0.5%

1-3. Instrument Panel

Left-hand drive vehicle

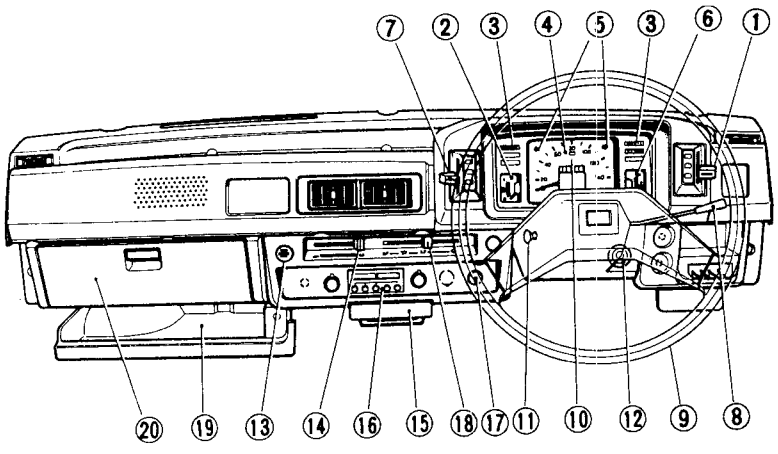


OM-1029

1 Lighting switch
2 Fuel gauge
3 Warning lights
4 Speedometer
5 Turn signal indicator lights
6 Temperature gauge
7 Windshield wiper and washer switch
8 Turn signal and high/low beam switch
9 Steering wheel
10 Headlight beam indicator light
11 Hazard warning light switch
12 Ignition starter switch and steering lock
13 Air inlet control knob
14 Temperature control lever
15 Ash tray
16 Radio
17 Rear window defogger switch
18 Air outlet control lever
19 Luggage shelf
20 Glove box
21 Rear fog light switch

Fig. 1-3-53

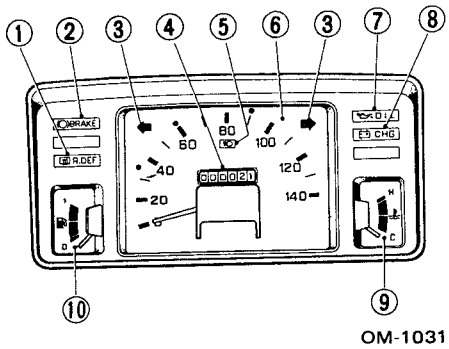
Right-hand drive vehicle



OM-1030

Fig. 1-3-54

Meter panel



OM-1031

1 Rear window defogger indicator light
2 Brake fluid level and parking brake warning light
3 Turn signal indicator lights
4 Odometer
5 Headlight beam indicator light
6 Speedometer
7 Oil pressure indicator light
8 Charge indicator light
9 Temperature gauge
10 Fuel gauge

Fig. 1-3-55

1-4. Fuses and Headlights

1) Joint box

Fuses for eight different electric circuits are gathered in the joint box under the instrument panel. A 15-ampere blade type fuse is used for each circuit.

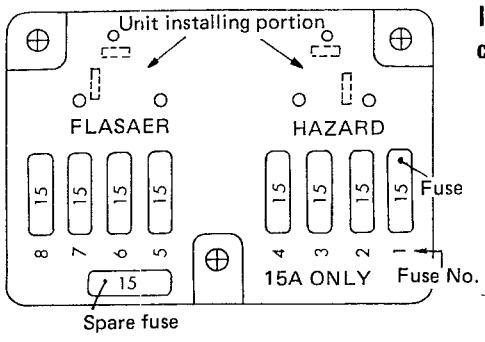


Fig. 1-4-56

Fuse No.	Circuit
1	Headlight (Left-hand), room light, stop light and rear fog light (Europe model only).
2	License plate light, tail light and hazard warning unit.
3	Headlight (Right-hand).
4	Radio and cigarette lighter.
5	Radiator cooling fan, horn, windshield wiper and washer.
6	Heater fan motor and rear window defogger.
7	Turn signal unit, back-up light and meter.
8	Ignition coil and fuel pump.

The fuses can be removed and checked by using the fuse remover provided on the rear side of the fuse cover.

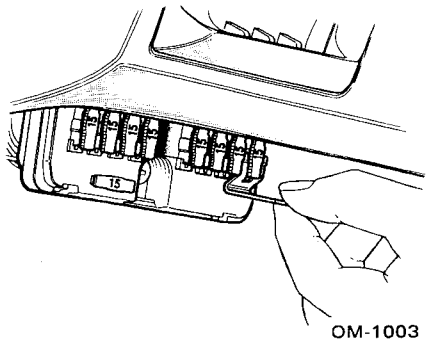


Fig. 1-4-57

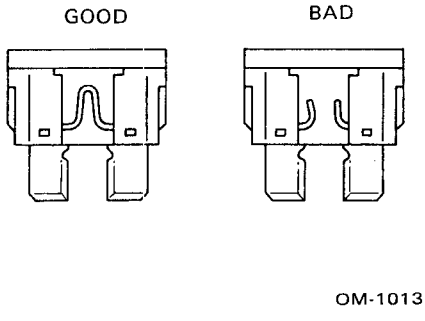


Fig. 1-4-58

2) Fusible link

The fusible link is inserted between the battery and alternator. The entire current of the electrical system flows through this link.

NOTE:
A blow out of this fusible link indicates that a current of 100 to 150 amperes has passed through it.
In such a case, carefully examine the cause of the overcurrent, and repair.

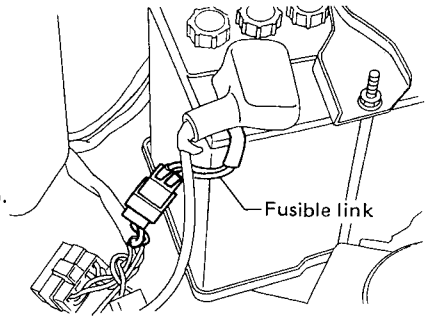


Fig. 1-4-59

3) Headlight aiming

Before aiming the headlight, adjust the tire inflation pressure to the specified value. Perform headlight aiming using the headlight tester with one occupant in the vehicle, with tools and spare tire in their normal location, and with a full tank of fuel.

To adjust the headlight beam, turn the headlamp mounting screws.

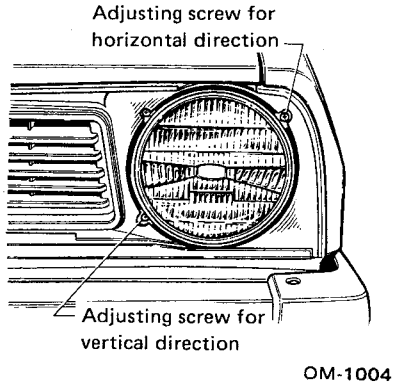


Fig. 1-4-60