

SUBARU

SVX

1992

	Page
1. GENERAL PRECAUTIONS	2
2. PRECAUTION FOR SUPPLEMENTAL RESTRAINT SYSTEM (AIRBAG)	4
3. VEHICLE IDENTIFICATION NUMBER (V.I.N.)	5
4. IDENTIFICATION NUMBER AND LABEL LOCATIONS	6
5. THEFT PREVENTION	7
6. RECOMMENDED FUEL, LUBRICANTS, SEALANTS AND ADHESIVES	9
7. TIGHTENING TORQUE OF STANDARD BOLTS AND NUTS	12
8. LIFTING, TOWING AND TIE-DOWN POINTS	13
9. FRONT HOOD STAY INSTALLATION POINTS	16



1. General Precautions

A: BEFORE STARTING SERVICE

- 1) Be sure to perform the jobs listed in the Periodic Maintenance Schedule.
- 2) When a vehicle is brought in for maintenance, carefully listen to the owner's explanations of the symptoms exhibited by the vehicle. List the problems in your notebook, and refer to them when trying to diagnose the trouble.
- 3) All jewelry should be removed. Suitable work clothes should be worn.
- 4) Be sure to wear goggles.
- 5) Use fender, floor and seat covers to prevent the vehicle from being scratched or damaged.
- 6) Never smoke while working.
- 7) Before removing underfloor bolts (including the rear differential filler plug) coated with bituminous wax, remove old wax. Re-coat with new wax after reinstallation.
- 8) When removing rear body or suspension parts, place balance weights, etc. in the trunk compartment, taking into account the weight distribution on the front and rear of the car; then lift the vehicle up.
- 9) Before tightening suspension parts, lower the vehicle to the ground and ensure that the car is curb weight (with the spare tire, jack, and service tools set in position and with a full fuel tank).

B: WHILE WORKING

- 1) When jacking up the vehicle, be sure to use safety stands.
- 2) When jacking up the front or rear end of the car body, be sure to choke the tires remaining in contact with the ground.
- 3) Keep the parking brake applied when working on the vehicle. Set the shift lever to REVERSE, when the parking brake cannot be applied, such as when the brakes are being worked on.
- 4) Keep the ignition key turned "OFF" if at all possible.
- 5) Be cautious while working when the ignition key is "ON"; if the engine is hot, the cooling fan may start to operate.
- 6) While the engine is in operation, properly ventilate the workshop.
- 7) While the engine is in operation, be aware of any moving parts, such as the cooling fan and the drive belt.
- 8) Keep your hands off any metal parts such as the radiator, exhaust manifold, exhaust pipe, and muffler, to prevent burning yourself.
- 9) When servicing the electrical system or the fuel system, disconnect the ground cable from the battery.
- 10) When disassembling, arrange the parts in the order that they were disassembled.

- 11) When removing a wiring connector, do not pull the wire but pull the connector itself.
- 12) When removing a hose or tube, remove the clip first. Then, pull the hose or tube while holding its end fitting.
- 13) Replace gaskets, O-rings, snap rings, lock washers, etc. with new ones.
- 14) When tightening a bolt or nut, tighten it to the specified torque.
- 15) When performing work requiring special tools, be sure to use the designated ones.
- 16) After completing work, make certain that the hoses, tubes and wiring harnesses are securely connected.
- 17) After completing work, be sure to wash the vehicle.

C: FULL TIME AWD AT MODELS

1. BEFORE CHECKING OR SERVICING CARS WITH THE FRONT WHEELS RAISED OR ON ROLLERS (BRAKE TESTER, CHASSIS DYNAMOMETER, ETC.)

Always set the car in the FWD mode.

To set the car in the FWD mode, disconnect the AWD circuit by inserting a fuse in the FWD connector inside the engine compartment. Also chock the rear wheels firmly.

Ensure that the FWD pilot light is on. If the car is left in the AWD mode, it will surge abruptly when the wheels turn, possibly damaging the transfer clutch.

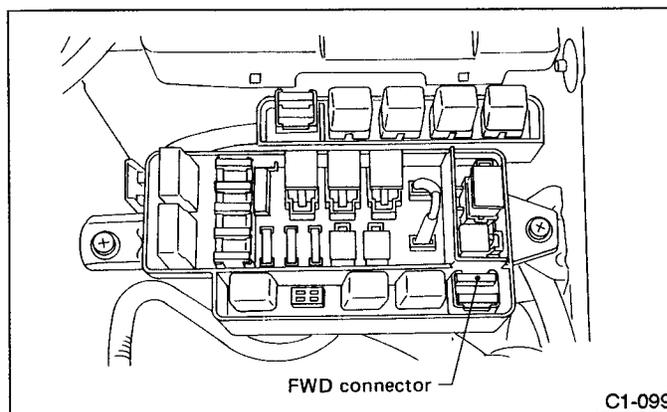


Fig. 1

2. TOWING

- 1) Loading vehicle onto dolly or flat-bed truck
 - a. Transport vehicle using a dolly or flat-bed truck whenever possible.
 - b. Place the selector lever in "P" position and apply the parking brake.

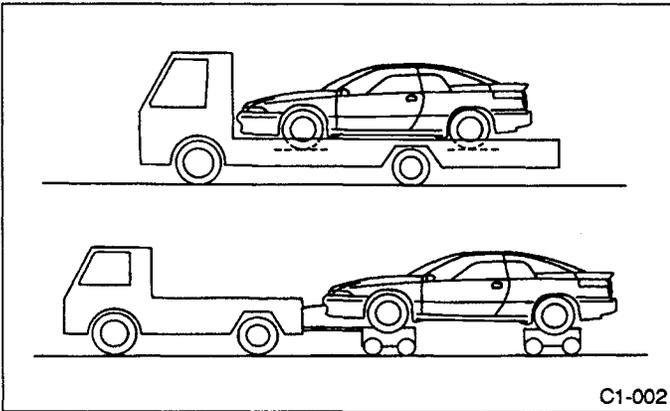


Fig. 2

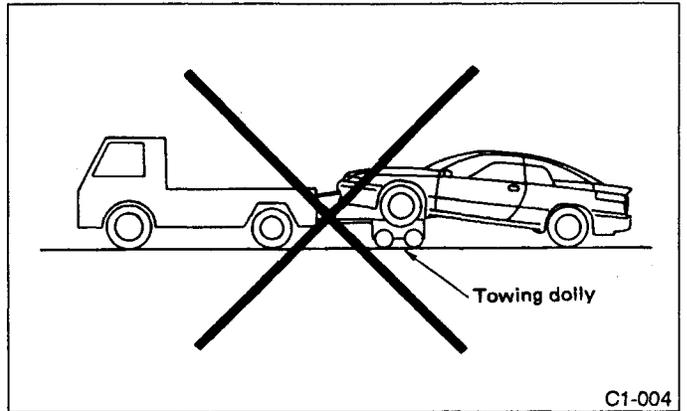


Fig. 4

2) Towing with a rope

- a. Tow vehicle with a rope only when power train and all wheels are operating properly.
- b. Put a spare fuse inside the FWD connector and never exceed 30 km/h (19 MPH). Also, do not tow for more than 10 km (6 miles).
- c. Place the selector lever in "N" position.
- d. The ignition switch should be in the "ACC" position while the vehicle is being towed.
- e. Never use the tie down tabs for towing.
- f. Remember that brake booster and power steering will not work when the engine is "OFF". You will have to use greater effort for the brake pedal and steering wheel.
- g. Before towing, check transmission oil and differential oil levels and top up to the specified level if necessary.

- b. Do not tow vehicle with rear wheels raised under any circumstances since this will damage bumper.

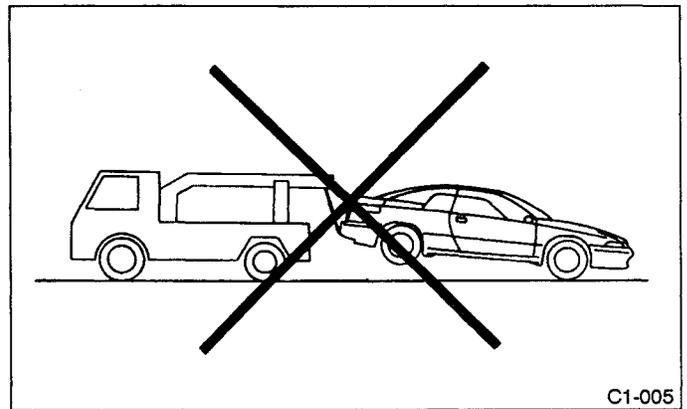


Fig. 5

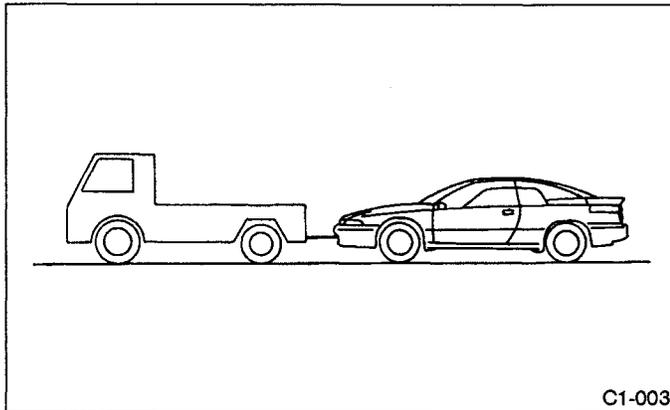


Fig. 3

3) Towing with front or rear wheels raised

- a. Do not tow vehicle with only front or rear wheels placed on towing dolly or flat-bed truck. This may degrade viscous coupling performance or cause vehicle to jump off dolly or truck.

- c. Do not tow vehicle with front wheels raised under any circumstances since this will damage bumper.

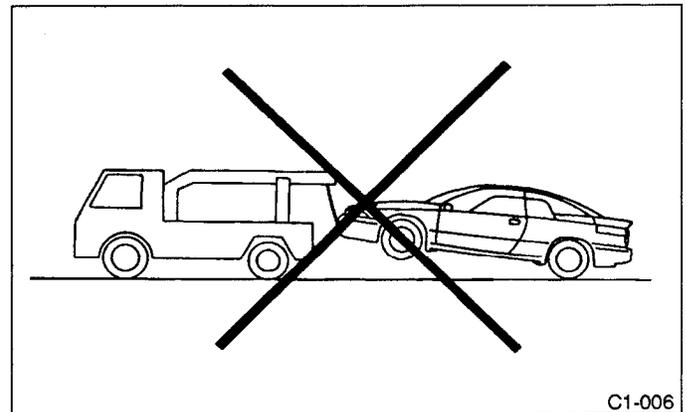


Fig. 6

2. Precaution for Supplemental Restraint System (Airbag)

The Supplemental Restraint System (Airbag) has been implemented in all Subaru SVX models. For proper and safe maintenance of this system, please ensure that you carefully read the precautionary notes given in "5-5 SUPPLEMENTAL RESTRAINT SYSTEM" in the Service Manual before servicing.

It should also be noted that in the SM table of contents, an AIRBAG mark is added to each of the items which do not directly concern the airbag system but need to be considered in their relationship to it. So, during the service work for such items, make sure you refer to "5-5 SUPPLEMENTAL RESTRAINT SYSTEM".

a. Take utmost care to follow faithfully the service procedures specified for the airbag, since otherwise it might deploy unexpectedly.

b. With the airbag system, failures such as faulty connection of harness connectors or neglect of tightening sensor mounting bolts can lead to failure of deployment in an accident.

Recheck each check point after maintenance work and use the on-board self-diagnosis to ensure there is nothing wrong with the system.

c. All wire harnesses of the airbag system are encased in a yellow cover to make them distinct from those of other systems.

The following are the parts involved in the airbag installation:

- 1) Steering wheel
- 2) Steering column
- 3) Toe-board (center, left & right ends)
- 4) Front seat floor and side seal
- 5) Inside left and right front fenders
- 6) Front pillar (left, lower)
- 7) Combination meter

Care should be taken when servicing in areas where the above parts are installed since it can affect the airbag system.

● Examples of service work involving the airbag system:

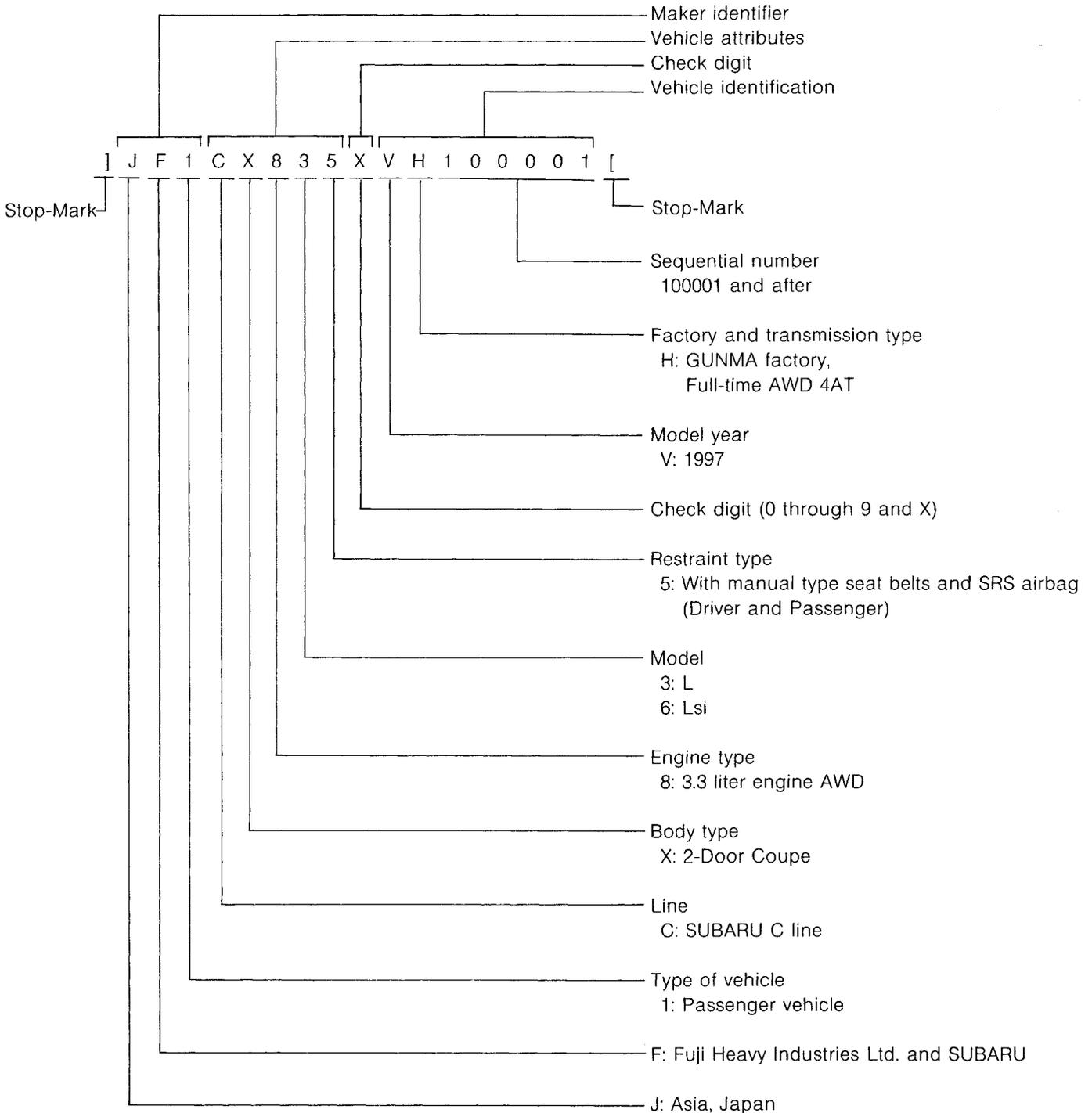
- 1) Replacement of steering gear
- 2) Steering maintenance and repair of the area adjoining toe-board
- 3) Removal and installation of combination meter
- 4) Installation of car stereo and other optional extras
- 5) Sheet metal repair paint work on the body front

3. Vehicle Identification Numbers (V.I.N.)

1. APPLICABLE V.I.N. IN THIS MANUAL

2-Door Coupe	AWD L	4AT with ABS & SRS airbag	J	F	1	C	X	8	3	5	X	V	H	1	0	0	0	0	1	and after
	AWD LSi	4AT with ABS & SRS airbag	J	F	1	C	X	8	6	5	X	V	H	1	0	0	0	0	1	and after

2. V.I.N. SCHEMATIC



4. Identification Number and Label Locations

Engine, transmission and vehicle identification numbers are used for factory communications such as Technical information, Service bulletins and other information.

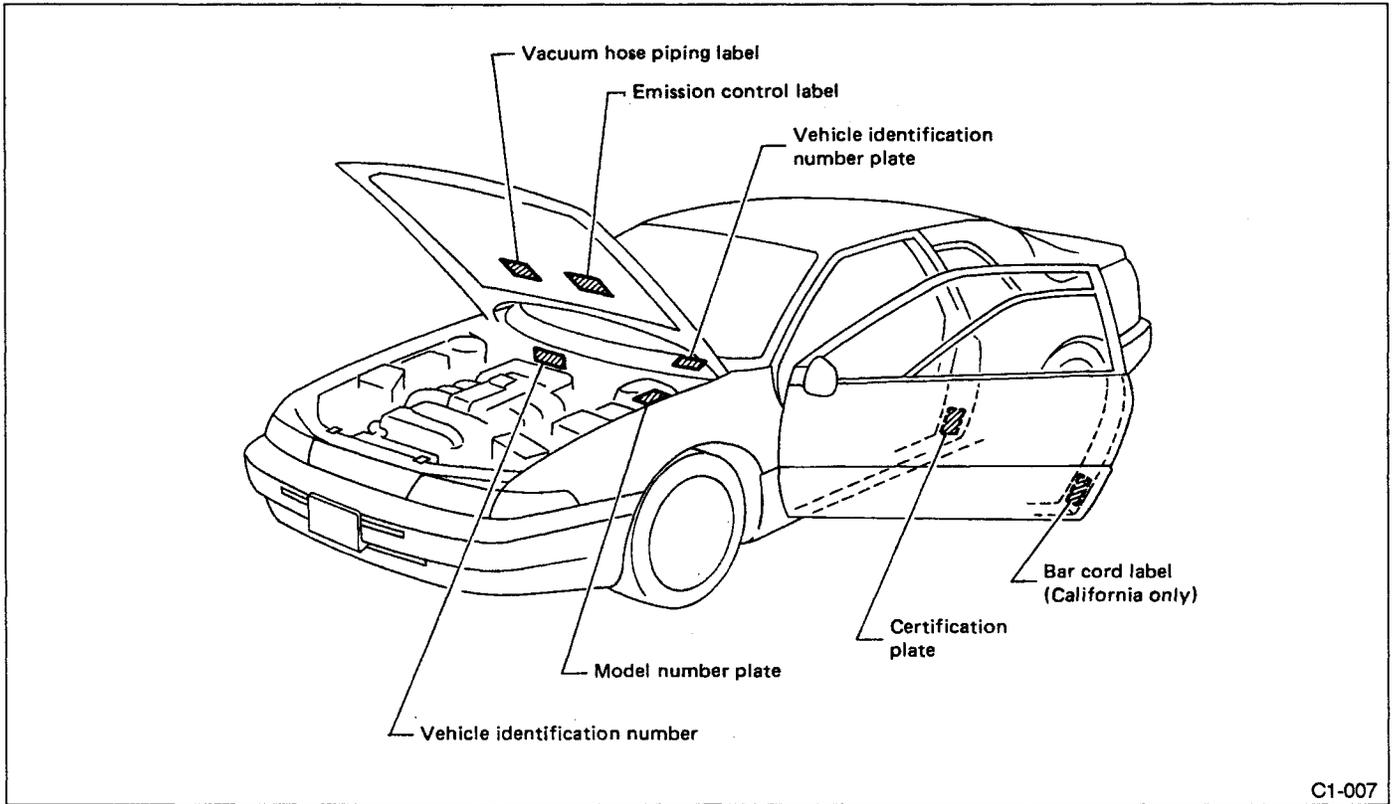


Fig. 7

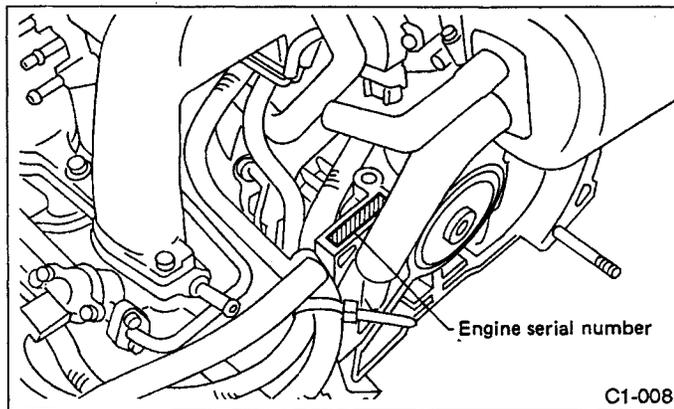


Fig. 8

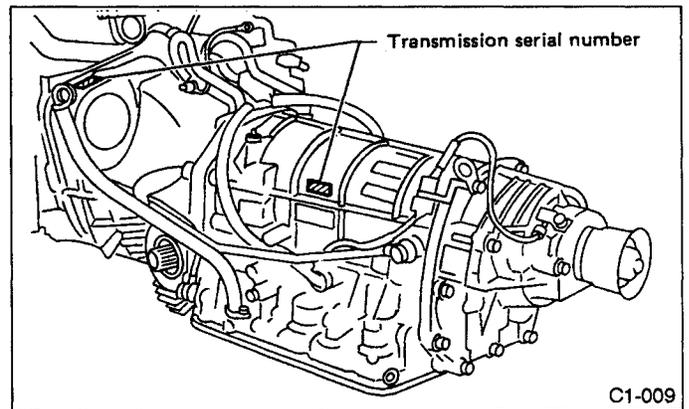


Fig. 9

5. Theft Prevention

The Theft Prevention (T.P.) label is stuck or V.I.N. is stamped on the main line installed parts shown below. Additionally, the "R DOT" label is stuck or "R DOT" is stamped on the main spare parts shown below.

1. T.P. label and "R DOT" label

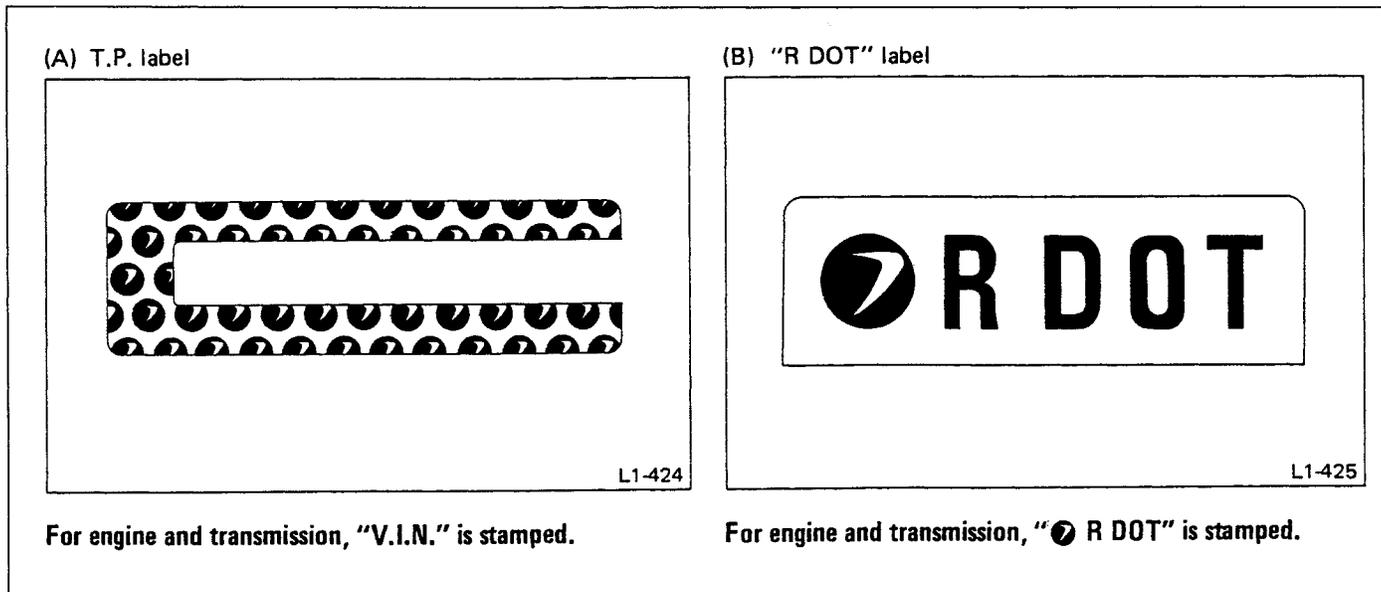


Fig. 10

2. Location

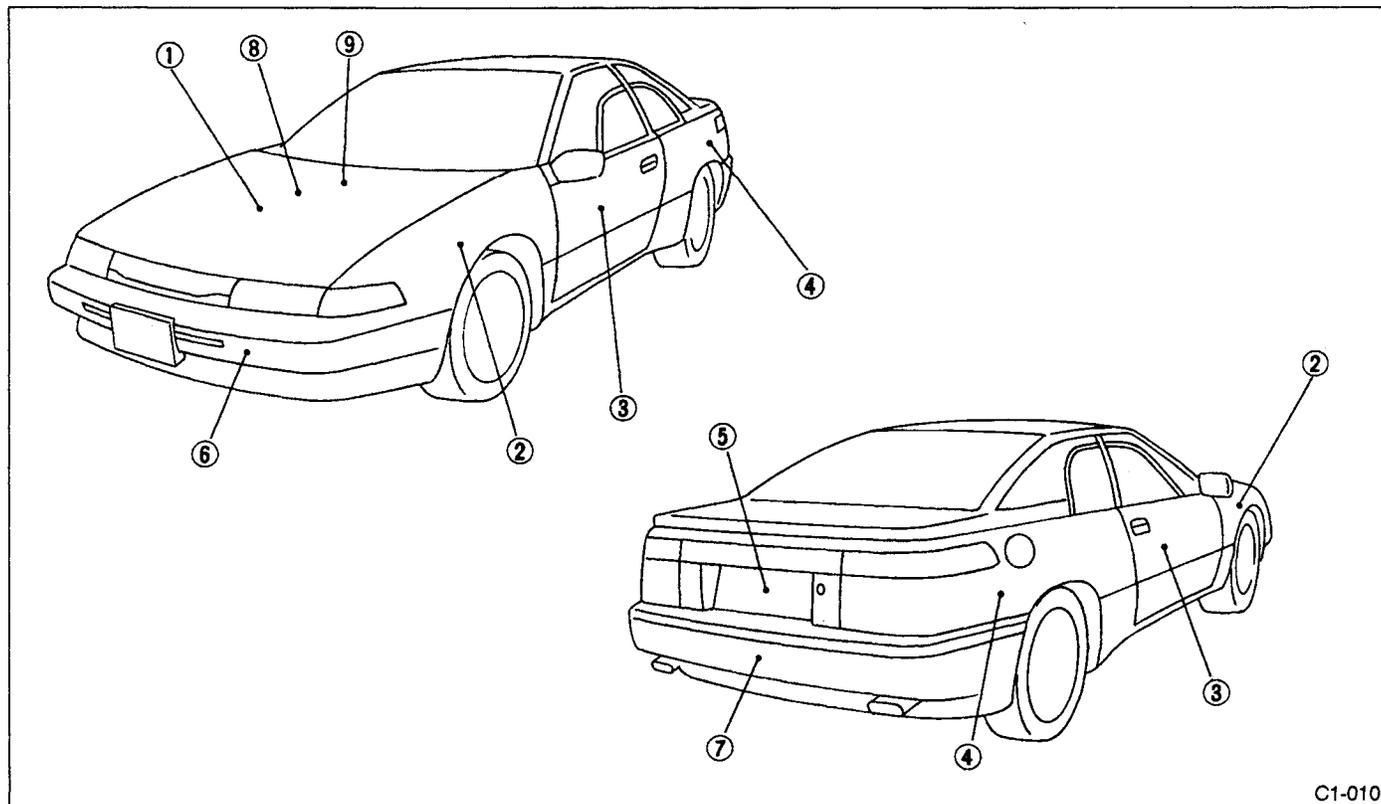
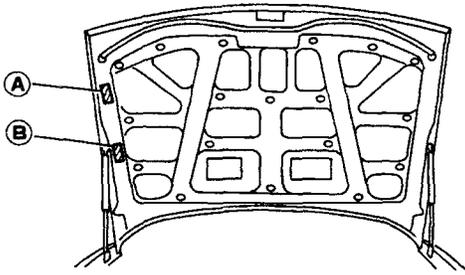
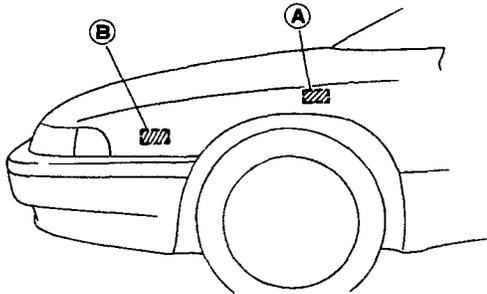


Fig. 11

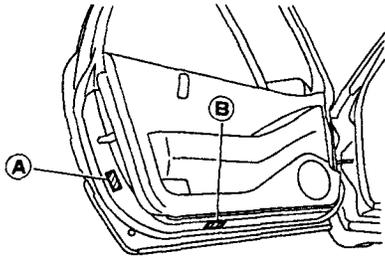
① Front hood



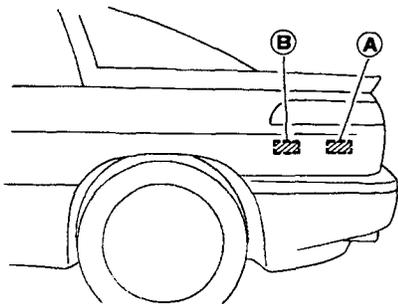
② Fender



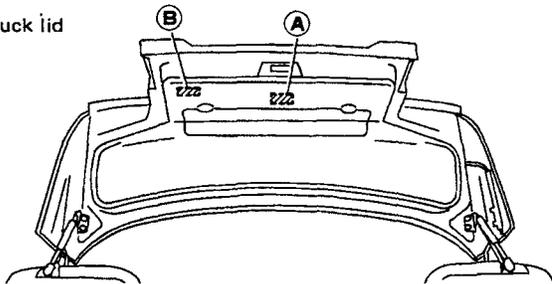
③ Door



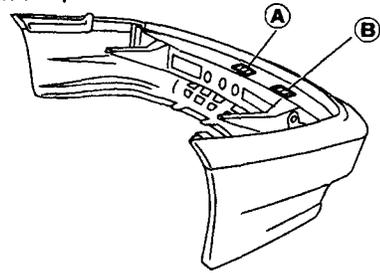
④ Rear quarter



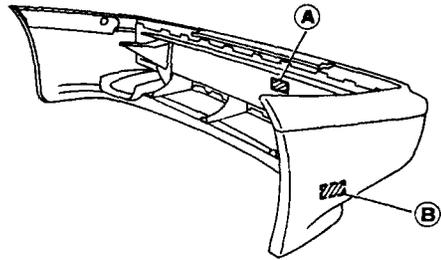
⑤ Truck lid



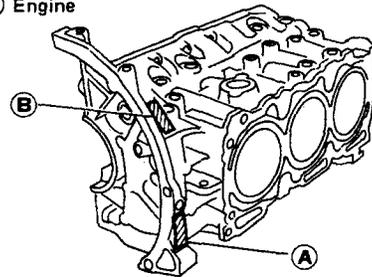
⑥ Front bumper



⑦ Rear bumper



⑧ Engine



⑨ Automatic transmission

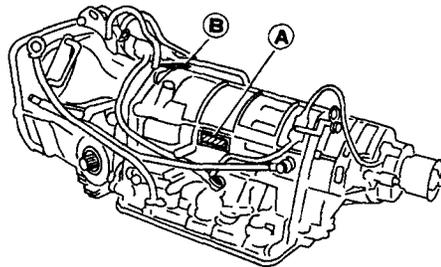


Fig. 12

C1-011

6. Recommended Fuel, Lubricants, Sealants and Adhesives

1. FUEL

The SUBARU engine is designed to use only unleaded gasoline with an octane rating of 91 AKI or higher. [This octane rating is the average of the Research Octane and Motor Octane numbers and is commonly referred to as the Anti-Knock Index (AKI).] Use of fuels containing proper detergents is recommended for good performance and emission control. The neck of the fuel filler pipe is designed to accept only an unleaded gasoline filler nozzle. Under no circumstances should leaded gasoline be used since it will damage the emission control system and may impair driveability and fuel economy.

2. FUELS CONTAINING ALCOHOL

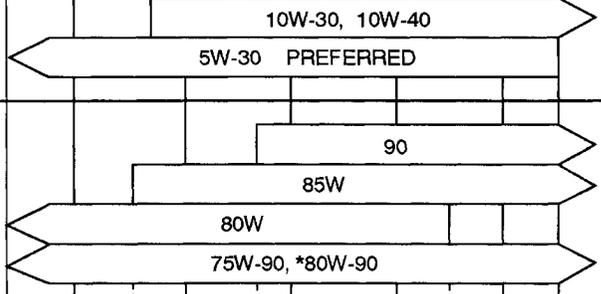
Some gasoline blends sold at service stations contain alcohol or other oxygenates even though that fact may not be fully disclosed. If you are not sure whether there is alcohol present in the fuel, ask your service station operator. Do not use such fuels unless the gasoline/alcohol blend is suitable for your vehicle as explained below:

- The fuel should be unleaded and have an octane rating no lower than that recommended above.
- Never use fuel containing more than 10% ethanol (ethyl or grain alcohol).
- Methanol (methyl or wood alcohol) is sometimes mixed with unleaded gasoline. Methanol can be used in your vehicle **ONLY** if it does not exceed 5% of the fuel mixture **AND** it is accompanied by sufficient quantities of the proper cosolvents and corrosion inhibitors required to prevent fuel system damage. Otherwise, fuel containing methanol should not be used.
- Unleaded fuel blends which contain no more than 15% MTBE (methyl tertiary butyl ether) or other oxygenates and which are approved by the Environmental Protection Agency may be used.
- You should avoid using fuels mixed with alcohol or other oxygenates on an exclusive basis. If driving problems such as engine stalling or hard starting result when such fuels are used, immediately discontinue their use and switch back to unleaded gasoline that does not contain alcohol or other oxygenates.

Take care not to spill fuel during refueling. Fuels containing alcohol may cause paint damage.

Lubricants	Specifications	Remarks
<ul style="list-style-type: none"> • Engine oil 	<ul style="list-style-type: none"> • API Classification: SF or SG 	<ul style="list-style-type: none"> • For SAE viscosity number, refer to the following table.
<ul style="list-style-type: none"> • Front differential gear oil • AWD rear differential gear oil 	<ul style="list-style-type: none"> • API Classification: GL-5 	<ul style="list-style-type: none"> • For SAE viscosity number, refer to the following table.
<ul style="list-style-type: none"> • Automatic transmission and power steering fluid 	<ul style="list-style-type: none"> • DEXRON II 	—
<ul style="list-style-type: none"> • Coolant 	<ul style="list-style-type: none"> • Genuine SUBARU Coolant (Part No. 000016218) (Anti-freeze, anti-corrosive ethylene glycol base) 	<ul style="list-style-type: none"> • For further coolant specifications, refer to the following table.
<ul style="list-style-type: none"> • Brake fluid 	<ul style="list-style-type: none"> • DOT3 or DOT4 	<ul style="list-style-type: none"> • FMVSS NO. 116 • Avoid mixing brake fluid of different brands to prevent the fluid performance from degrading. • When brake fluid is added, be careful not to allow any dust into the reservoir.

Lubricants	Recommended	Application	Equivalent
• Spray lubricants	SUBARU CRC (P/N 004301003)	O ₂ sensor	—
• Grease	SUNLIGHT 2 (P/N 003602010)	Steering shaft bearing	—
	Valiant grease M-2 (P/N 003608001)	Steering gearbox	—
	Niglube RX-2 (P/N 003606000)	Piston boot of rear disc brake and sliding pin	—
	(P/N 725191040)	Piston boot of front disc brake and sliding pin	—
	(P/N 003602000)	Contacting surfaces of drum brake shoes and shoe clearance adjuster	—
	(P/N 623029980)	BJ and DOJ joints of axle shafts (for AT)	—
	Slicolube G-30M (P/N 004404002)	Control cables and carburetor linkages subject to cold weather, water-pump impeller, door latch, striker, battery terminals etc.	—

ITEM	API Classification	ILSAC Certification Mark	CCMC Specification	SAE Viscosity No. and Applicable Temperature													
				(°C) -30	-20	-15	0	15	30	40							
Engine oil	SH or SG with the words "Energy Conserving II"		G4 or G5	(°C) -30	-20	-15	0	15	30	40	(°F) -22	-4	5	32	59	86	104
																	
• AWD rear differential gear oil	GL-5	—	—														
• Front differential gear oil for automatic transmission																	
				(°F)	15	23		77									
				(°C)	-26	-5		25									

- a. Each oil manufacturer has its base oil and additives. Thus, do not mix two or more brands (Except engine oil).
- b. When replenishing oil, it does not matter if the oil to be added is a different brand from that in the engine; however, use oil having the API classification and SAE viscosity No. designated by SUBARU.
- c. If vehicle is used in desert areas or areas with very high temperatures or for other heavy duty applications, the following viscosity oils may be used:
 API classification: SH
 SAE viscosity No.: 30, 40, 10W-50, 20W-40, 20W-50
 * For differential gear oil (AT)

- a. Each oil manufacturer has its base oil and additives. Thus, do not mix two or more brands (Except engine oil).
- b. When replenishing oil, it does not matter if the oil to be added is a different brand from that in the engine, however, use oil having the API classification and SAE viscosity No. designated by SUBARU.
- c. SAE 5W-30 is not recommended for sustained high speed driving.
- d. If vehicle is used in desert areas or areas with very high temperatures or for other heavy duty applications, the following viscosity oils may be used:
30, 40, 10W-50, 20W-40, 20W-50
- e. * For differential gear oil (AT)

Coolant Specifications							
Lowest anticipated atmospheric temperature	SUBARU coolant-to- *water ratio (Volume) %	Specification gravity					Freezing point
		at 10°C (50°F)	at 20°C (68°F)	at 30°C (86°F)	at 40°C (104°F)	at 50°C (122°F)	
Above -30°C (-22°F)	50 — 50	1.084	1.079	1.074	1.068	1.062	-36°C (-33°F)
Above -15°C (-5°F)	30 — 70	1.053	1.049	1.044	1.039	1.034	-36°C (-33°F)

* It is commended that distilled water be used.

- a. Avoid using any coolant or only water other than this designated type to prevent corrosion.
- b. SUBARU's engine is aluminum alloy, and so special care is necessary.

3. SEALANTS

	Recommended	Application	Equivalent
Sealant	Three Bond 1105 (P/N 004403010)	Rear differential oil drain plug, oil pressure switch, etc.	Dow Corning's No. 7038
	Three Bond 1215 (P/N 004403007)	Matching surface of oil pump, crank case, transmission case, etc. Engine service hole plug, coolant drain plug, etc.	Dow Corning's No. 7038
	Starcalking B-33A (P/N 000018901)	Sealing against water and dust entry through weatherstrips, grommets, etc.	Butyl Rubber Sealant
	Three Bond 1207C (P/N 004403012)	Matching surface of oil pan	—

4. ADHESIVES

Adhesive	Cemedine 5430L	Weatherstrips and other rubber parts, plastic and textiles except soft vinyl parts.	3M's EC-1770 EC-1368
	Cemedine 540	Soft vinyl parts, and other parts subject to gasoline, grease or oil. e.g. trim leather, gear shift boot, door inner remote cover, etc.	3M's EC-776 EC-847 EC-1022 (Spray Type)
	Cemedine 3000	Bonding metals, glass, plastic and rubber parts. Repairing slightly torn weatherstrips, etc.	Armstrong's Eastman 910
	Essex Chemical Corp's Urethane E	Windshield to body panel.	Sunstar 580

7. Tightening Torque of Standard Bolts and Nuts

1. ENGINE AND TRANSMISSION

Unit: N*m (kg-m, ft-lb)

Dia. x Pitch (mm)	5T	7T	9T	10T
4 x 0.75	1.0 — 1.5 (0.105 — 0.155, 0.8 — 1.1)	1.5 — 2.0 (0.155 — 0.205, 1.1 — 1.5)	2.5 — 3.0 (0.255 — 0.305, 1.8 — 2.2)	3.0 — 3.5 (0.305 — 0.355, 2.2 — 2.6)
5 x 0.9	2.5 — 3.0 (0.255 — 0.305, 1.8 — 2.2)	2.9 — 3.9 (0.30 — 0.40, 2.2 — 2.9)	4.9 — 5.9 (0.50 — 0.60, 3.6 — 4.3)	5.4 — 6.4 (0.55 — 0.65, 4.0 — 4.7)
6 x 1.0	4.4 — 5.4 (0.45 — 0.55, 3.3 — 4.0)	5.9 — 6.9 (0.60 — 0.70, 4.3 — 5.1)	9.4 — 10.8 (0.955 — 1.105, 6.9 — 8.0)	10 — 12 (1.0 — 1.2, 7 — 9)
8 x 1.25	12 — 14 (1.2 — 1.4, 9 — 10)	14.2 — 17.2 (1.45 — 1.75, 10.5 — 12.7)	23 — 26 (2.3 — 2.7, 17 — 20)	25 — 28 (2.5 — 2.9, 18 — 21)
10 x 1.25	25 — 28 (2.5 — 2.9, 18 — 21)	30 — 36 (3.1 — 3.7, 22 — 27)	46 — 54 (4.7 — 5.5, 34 — 40)	49.5 — 58.4 (5.05 — 5.95, 36.5 — 43.0)
12 x 1.5	41 — 49 (4.2 — 5.0, 30 — 36)	53 — 63 (5.4 — 6.4, 39 — 46)	84 — 98 (8.6 — 10.0, 62 — 72)	88 — 106 (9.0 — 10.8, 65 — 78)
14 x 1.6	71 — 84 (7.2 — 8.6, 52 — 62)	88 — 106 (9.0 — 10.8, 65 — 78)	139 — 165 (14.2 — 16.8, 103 — 122)	147 — 175 (15.0 — 17.8, 108 — 129)

2. BODY

Unit: N*m (kg-m, ft-lb)

	Dia. (mm)	4T	7T	9T
  	4	1.7 — 2.6 (0.17 — 0.27, 1.2 — 2.0)	—	—
	5	2.9 — 5.9 (0.30 — 0.60, 2.2 — 4.3)	—	—
	6	5.4 — 9.3 (0.55 — 0.95, 4.0 — 6.9)	—	—
	8	12.7 — 22.6 (1.30 — 2.30, 9.4 — 16.6)	22.6 — 42.2 (2.30 — 4.30, 16.6 — 31.1)	31.4 — 51.0 (3.20 — 5.20, 23.1 — 37.6)
	10	27.5 — 47.1 (2.80 — 4.80, 20.3 — 34.7)	51.0 — 86.3 (5.20 — 8.80, 37.6 — 63.7)	62.8 — 107.9 (6.40 — 11.00, 46.3 — 79.6)
	12	52.0 — 85.3 (5.30 — 8.70, 38.3 — 62.9)	88.3 — 156.9 (9.00 — 16.00, 65.1 — 115.7)	117.7 — 196.1 (12.00 — 20.00, 86.8 — 144.7)
Including bolt or nut with washer or spring washer only   	4	1.2 — 2.2 (0.12 — 0.22, 0.9 — 1.6)	—	—
	5	2.5 — 4.4 (0.25 — 0.45, 1.8 — 3.3)	—	—
	6	4.4 — 7.4 (0.45 — 0.75, 3.3 — 5.4)	—	—
	8	9.8 — 17.7 (1.00 — 1.80, 7.2 — 13.0)	17.7 — 31.4 (1.80 — 3.20, 13.0 — 23.1)	23.5 — 39.2 (2.40 — 4.00, 17.4 — 28.9)
	10	22.6 — 36.3 (2.30 — 3.70, 16.6 — 26.8)	37.3 — 66.7 (3.80 — 6.80, 27.5 — 49.2)	48.1 — 83.4 (4.90 — 8.50, 35.4 — 61.5)
	12	39.2 — 64.7 (4.00 — 6.60, 28.9 — 47.7)	68.6 — 117.7 (7.00 — 12.00, 50.6 — 86.8)	88.3 — 147.1 (9.00 — 15.00, 65.1 — 108.5)

The mark is embossed on the bolt head as follows:

4T — 4 9T — 9
 5T — 5 10T — 10
 7T — 7

8. Lifting, Towing and Tie-down Points

Be sure to lift, tow and tie-down the vehicle at the designated positions.

1. GARAGE JACK

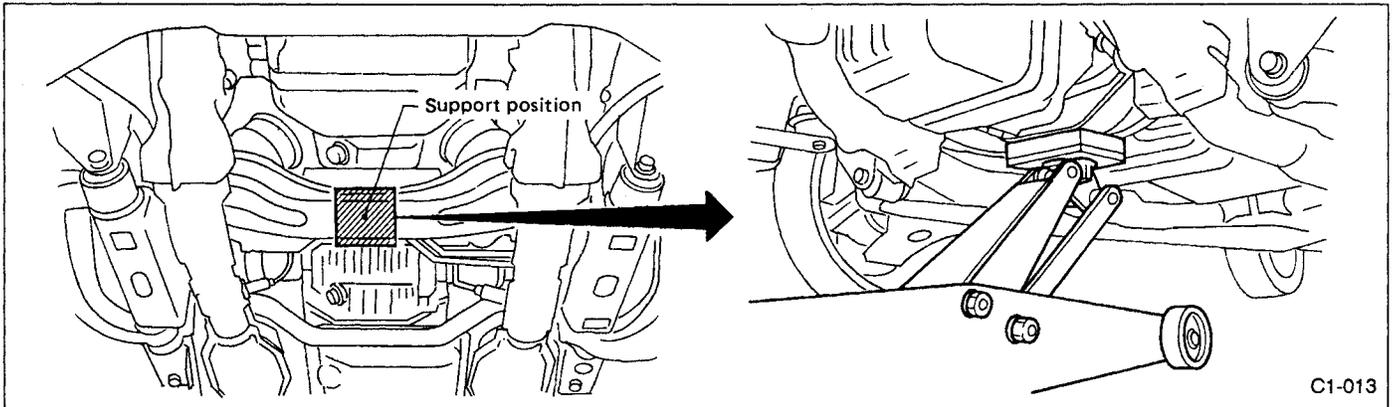


Fig. 14

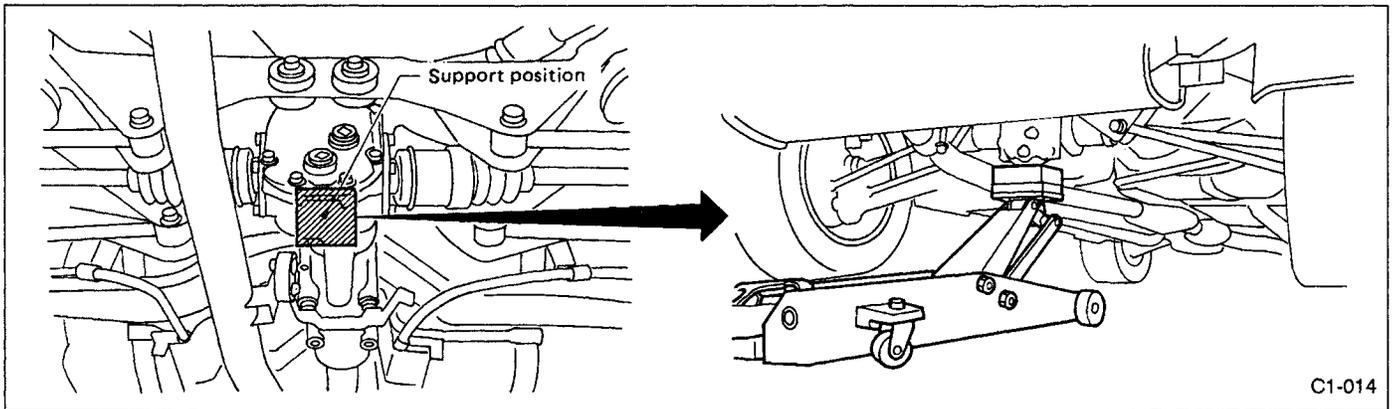
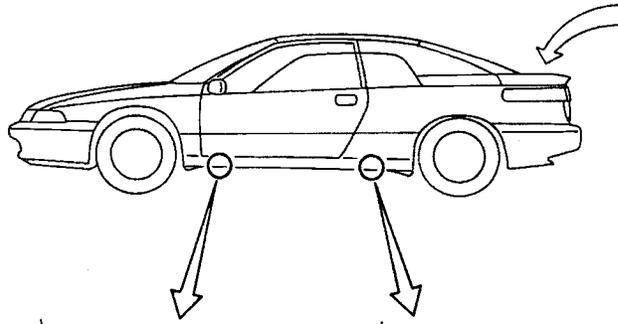


Fig. 15

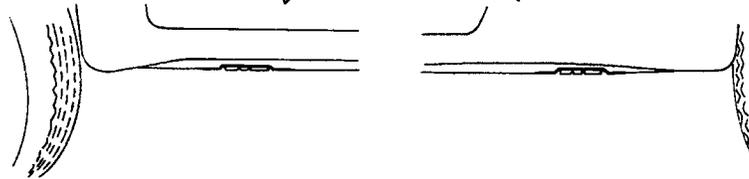
- a. Never get under the vehicle while it is supported by a jack.
- b. When jacking up the vehicle, place chocks to hold wheels.
- c. After jacking up the vehicle with garage jack, be sure to support the vehicle with safety stands.
- d. Be sure to lift vehicle at the same four positions as those of screw jack.

2. SCREW-JACK, LIFT AND SAFETY STAND

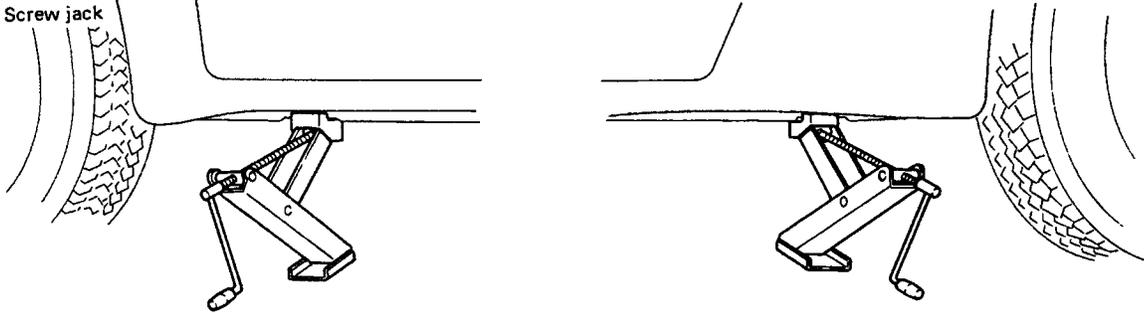
Support locations



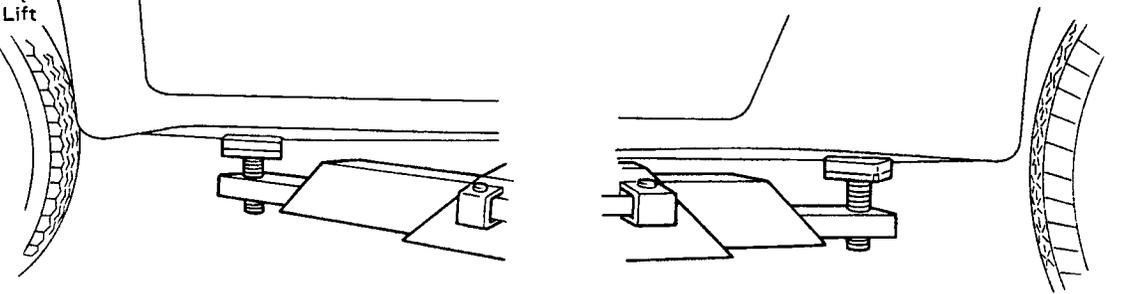
* When removing rear body or suspension parts, place balance weights, etc. in the trunk compartment, taking into account the weight distribution on the front and rear of the car; then lift the vehicle up.



Screw jack



Lift



Safety stand

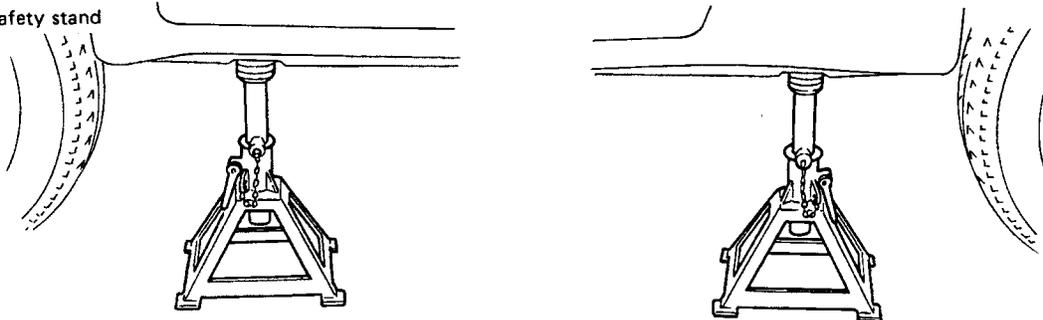


Fig. 16

- 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 car.
- Block the wheels diagonally by wheel chocks.
- Make sure the jack is set at the correct position on the flange of side still.
- Be careful not to set the jack at the air flap portion.

C1-015

3. TOWING AND TIE-DOWN HOOKS

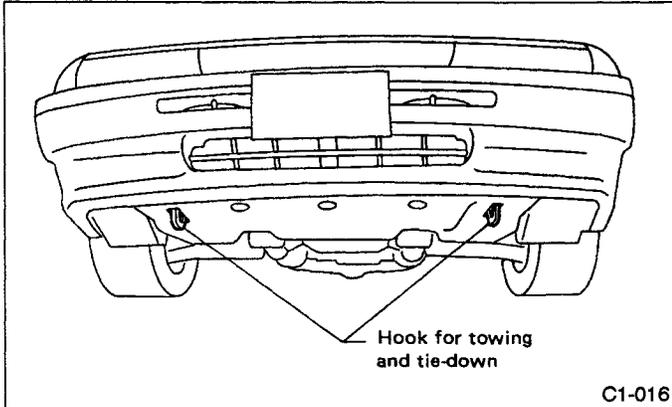


Fig. 17

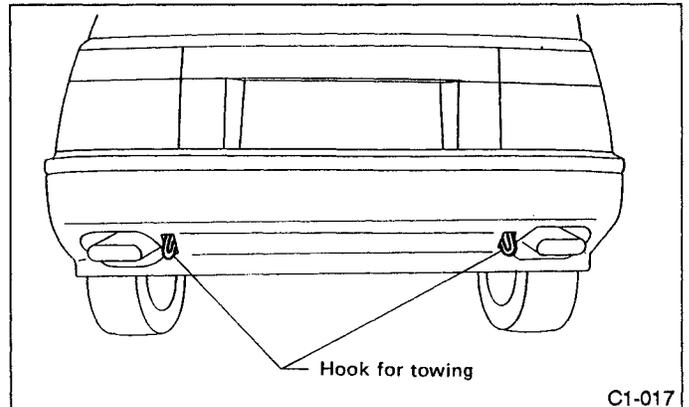


Fig. 18

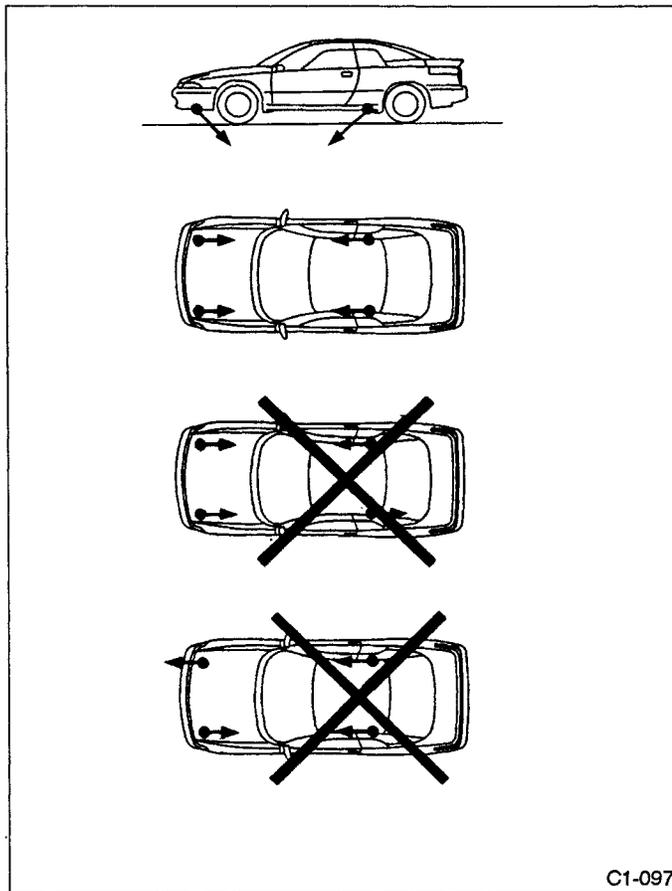


Fig. 19

- a. Avoid towing another car with front towing hooks.
- b. Do not tow a vehicle which is heavier than towing vehicle.
- c. Do not apply excessive lateral load to towing hook.
- d. Wrap the towing rope with cloth to prevent damaging bumper, etc.
- e. Keep the vehicle level during towing.
- f. Tie the front and rear tie-down hooks in the same direction.

4. TIE-DOWN SERVICE HOLES

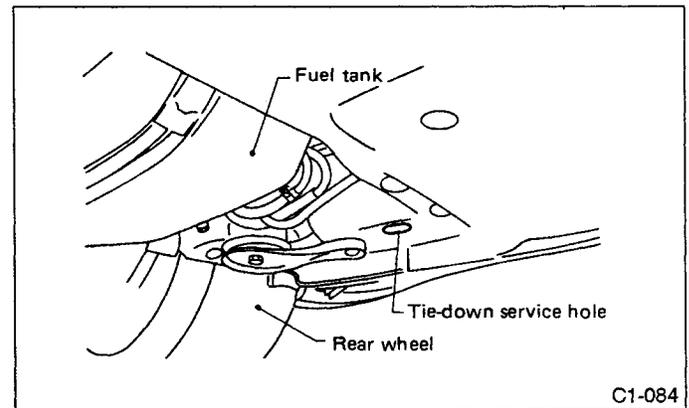


Fig. 20

9. Front Hood Stay Installation Points

1. FRONT HOOD STAY

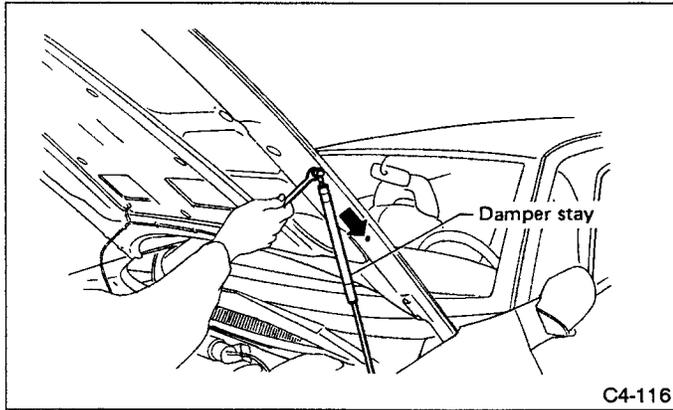


Fig. 21

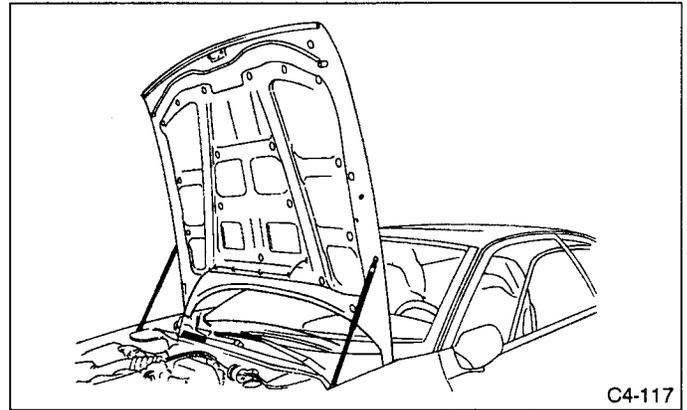


Fig. 22

- a. If front hood must be opened fully for ease of operation, change the mounting position of the front hood stay.