

NOTE

1. Note

A: NOTE

This information will improve the efficiency of maintenance and assure the sound work.

1. CLEANING

- Perform the operation in a clean location and use extra caution in dust proofing.
- Clean the items (except for assembly components) with steam, etc. before disassembly. During steam cleaning, wrap the air breather, oil level gauge, connectors, etc. with vinyl tape to prevent steam from entering inside the parts.
- For cleaning solution, use an appropriate new cleaning solvent, etc.
- Do not clean rubber parts such as O-ring, gasket and oil seal with cleaning solution.

2. FASTENERS NOTICE

Fasteners are used to prevent the parts from damage, dislocation and play due to looseness. Fasteners must be tightened to the specified torque. Do not apply paint, lubricant, rust retardant or other substance to the surface around bolts, nuts, etc. Doing so will make it difficult to obtain the correct torque and result in looseness and other problem.

3. STATIC ELECTRICITY DAMAGE

Do not touch the control modules, connectors, logic boards and other such parts when there is a risk of static electricity. Always use a static electricity prevention cord or touch grounded metal for the elimination of static electricity before conducting work.

4. BATTERY

When removing the battery cables, always be sure to turn the ignition switch to OFF to prevent electrical damage to the control module from overcurrent. Be sure to remove the battery ground cable first.

5. IMMOBILIZER RELATED PART

Do not replace parts which have immobilizer ID (ignition key, combination meter, body integrated unit and ECM) with the parts from other vehicle.

6. SERVICE PARTS

Use genuine parts for maximum performance and maintenance when conducting repairs. Subaru/FHI will not be responsible for poor performance resulting from the use of parts except for genuine parts.

7. PROTECTING VEHICLE UNDER MAINTENANCE

Make sure to attach the fender cover, seat covers, etc. before work.

8. ENSURING SECURITY DURING WORK

When working in a group of two or more, perform the work with calling each other to ensure mutual safety.

9. LIFT AND JACK

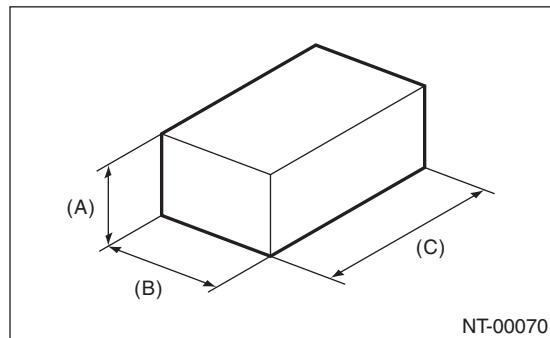
When using a lift or shop jack to raise a vehicle or using rigid rack to support a vehicle, always follow instructions concerning jack-up points and weight limits to prevent the vehicle from falling, which could result in injury. Be especially careful that the vehicle is balanced before raising it. Be sure to set the wheel stoppers when jacking-up only the front or rear side of the vehicle.

CAUTION:

Select the lift attachment so that the side sill does not contact the lift arm.

NOTE:

- When using a lift, follow its operation manual.
- When the side sill cover contacts the lift arm, use a lift attachment.
- Do not work or leave unattended while the vehicle is supported with jack, support it with rigid racks.
- Be sure to use the rigid racks with rubber attached to cradle to support the vehicle.
- When using a lift, use an attachment or something similar.
- When using a plate lift, use a rubber attachment. Place the attachment to the specified position of the vehicle, by adjusting front/rear and left/right sides accordingly.



(A) 80 mm (3.1 in) or more

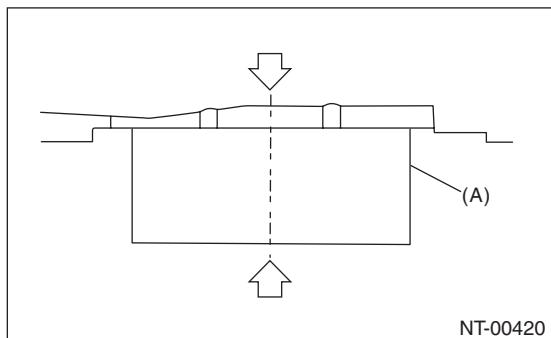
(B) 80 — 100 mm (3.15 — 3.94 in)

(C) 120 — 170 mm (4.72 — 6.69 in)

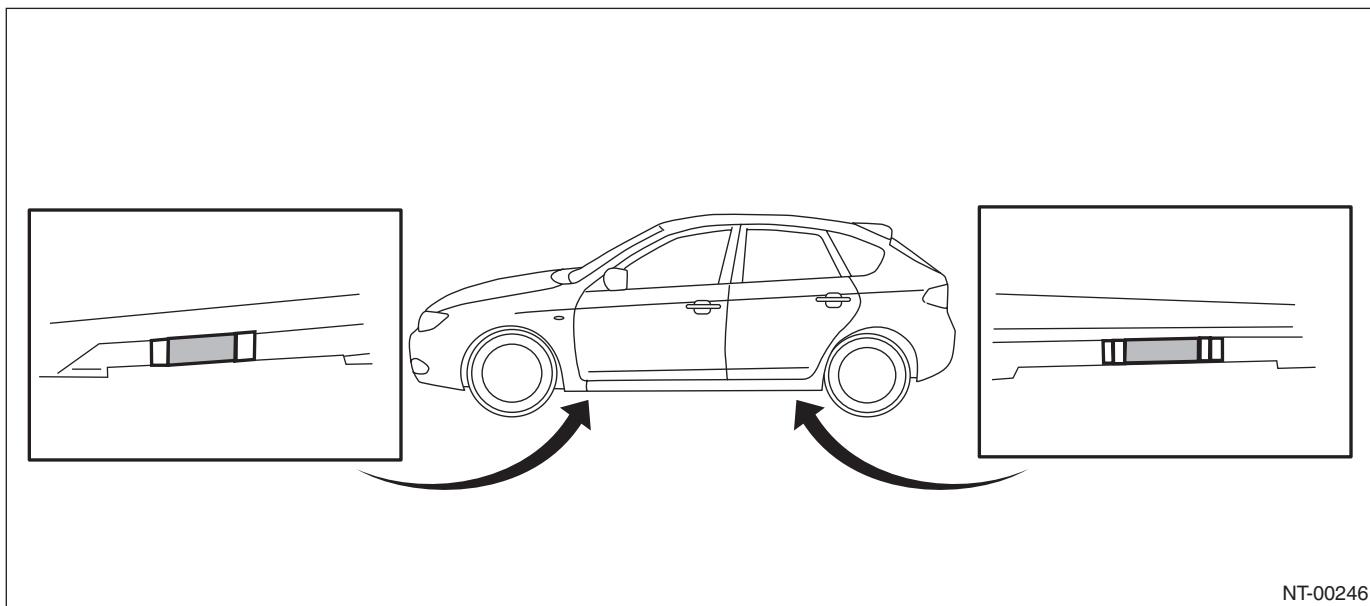
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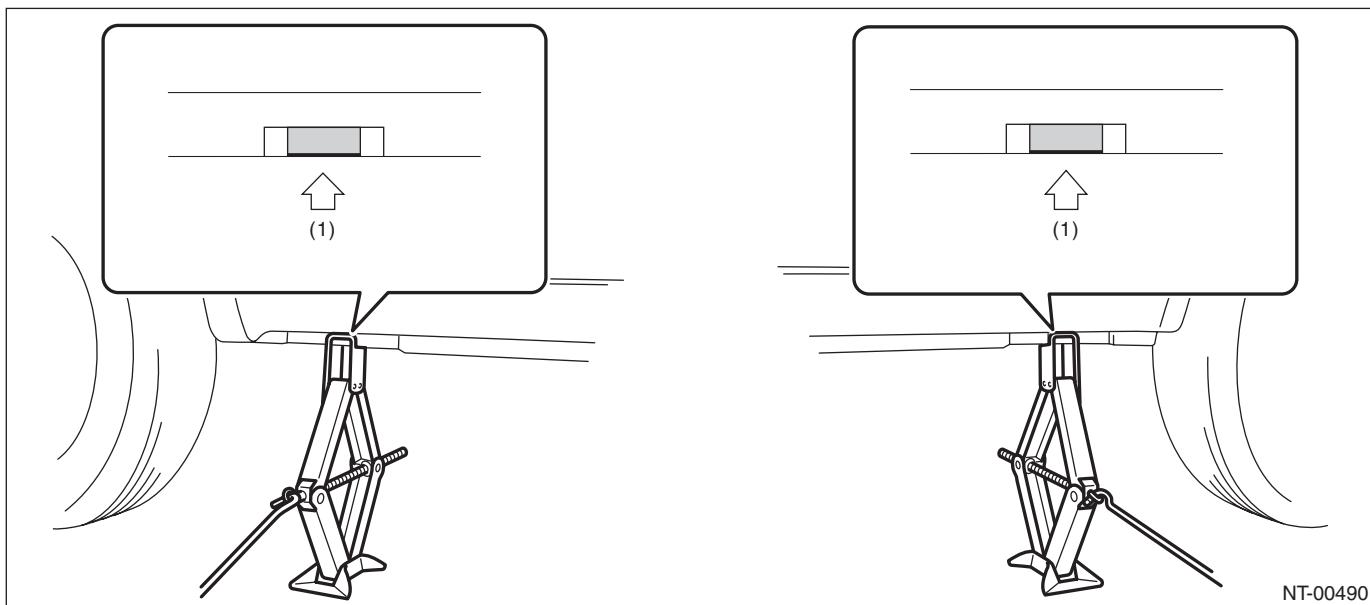
- When using an attachment, align the center of attachment (A) with the center of vehicle rib (the center of spoiler rib).



- Do not use the plate lift whose attachment does not reach the supporting locations.
Support locations



Pantograph jack
Set the jacks between protruding portions.

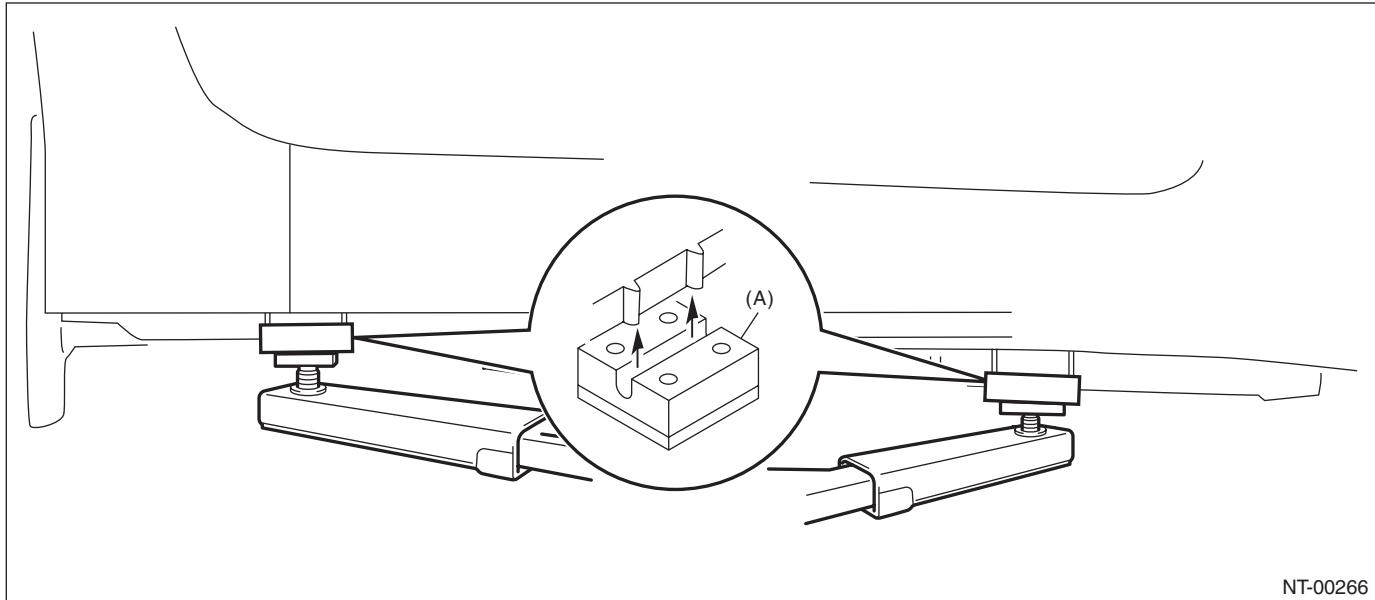


(1) Jack-up point

Note

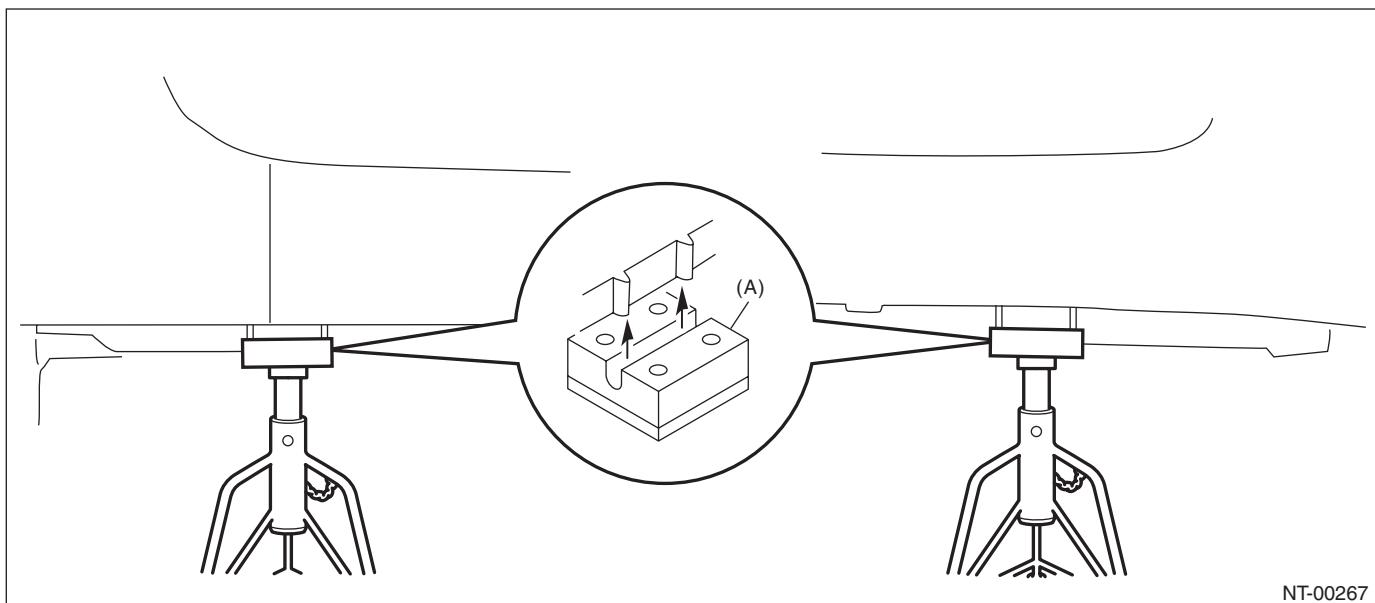
NOTE

Lift



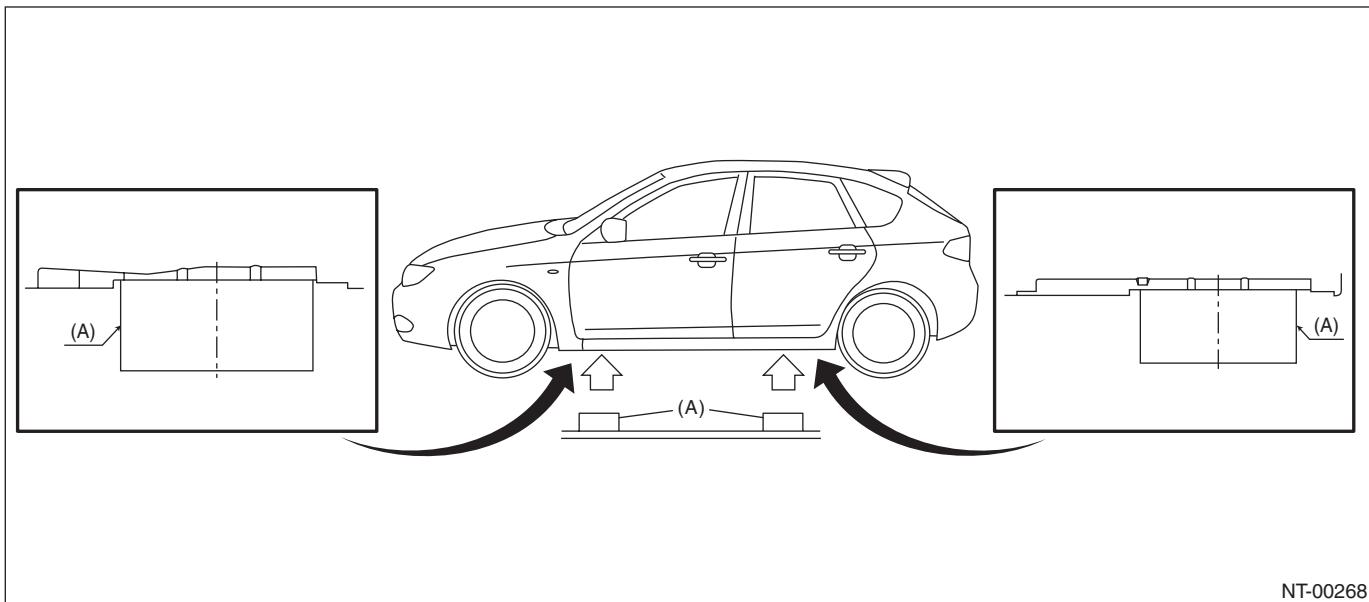
(A) Attachment

Rigid rack



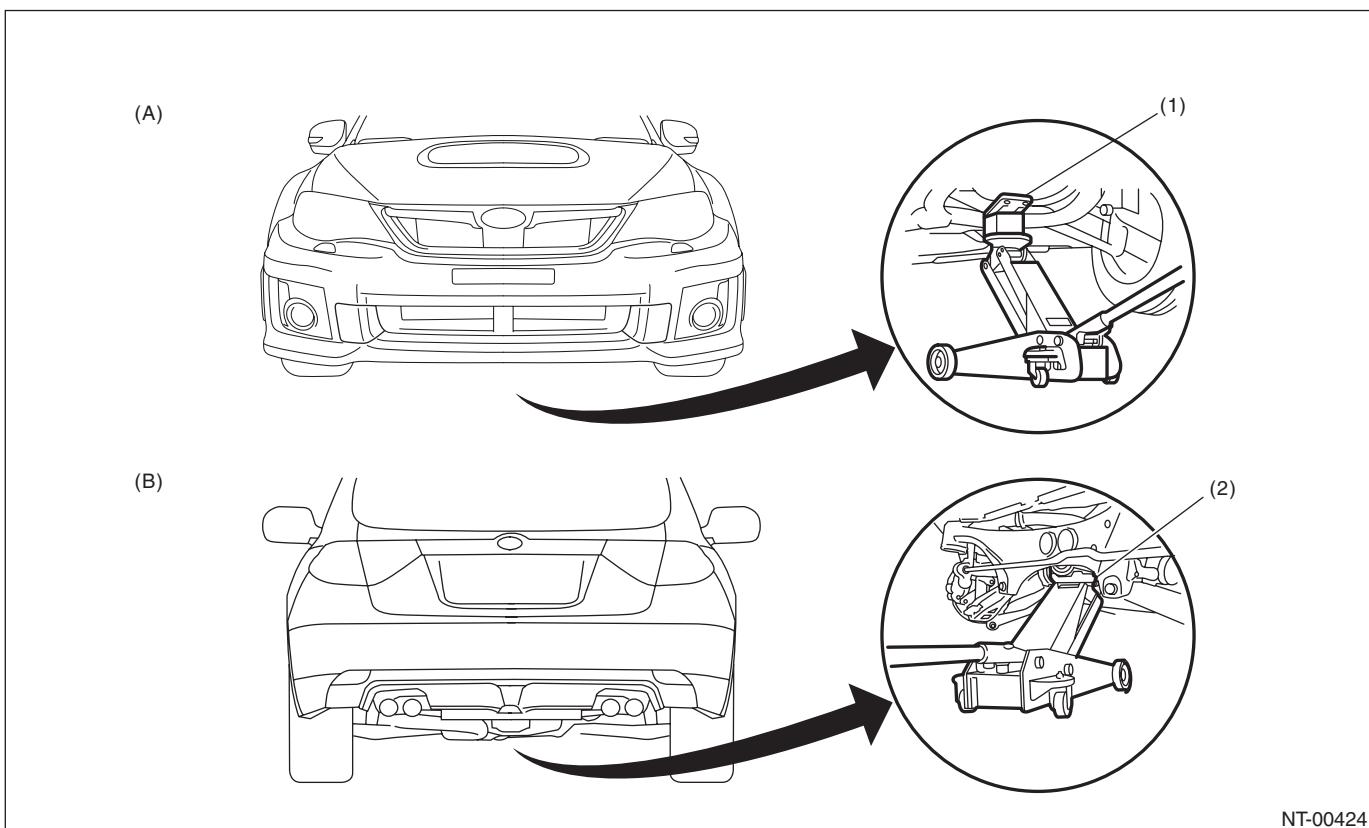
(A) Attachment

Plate lift



(A) Attachment

Garage jack



(A) Front

(B) Rear

(1) Front crossmember

(2) Rear differential

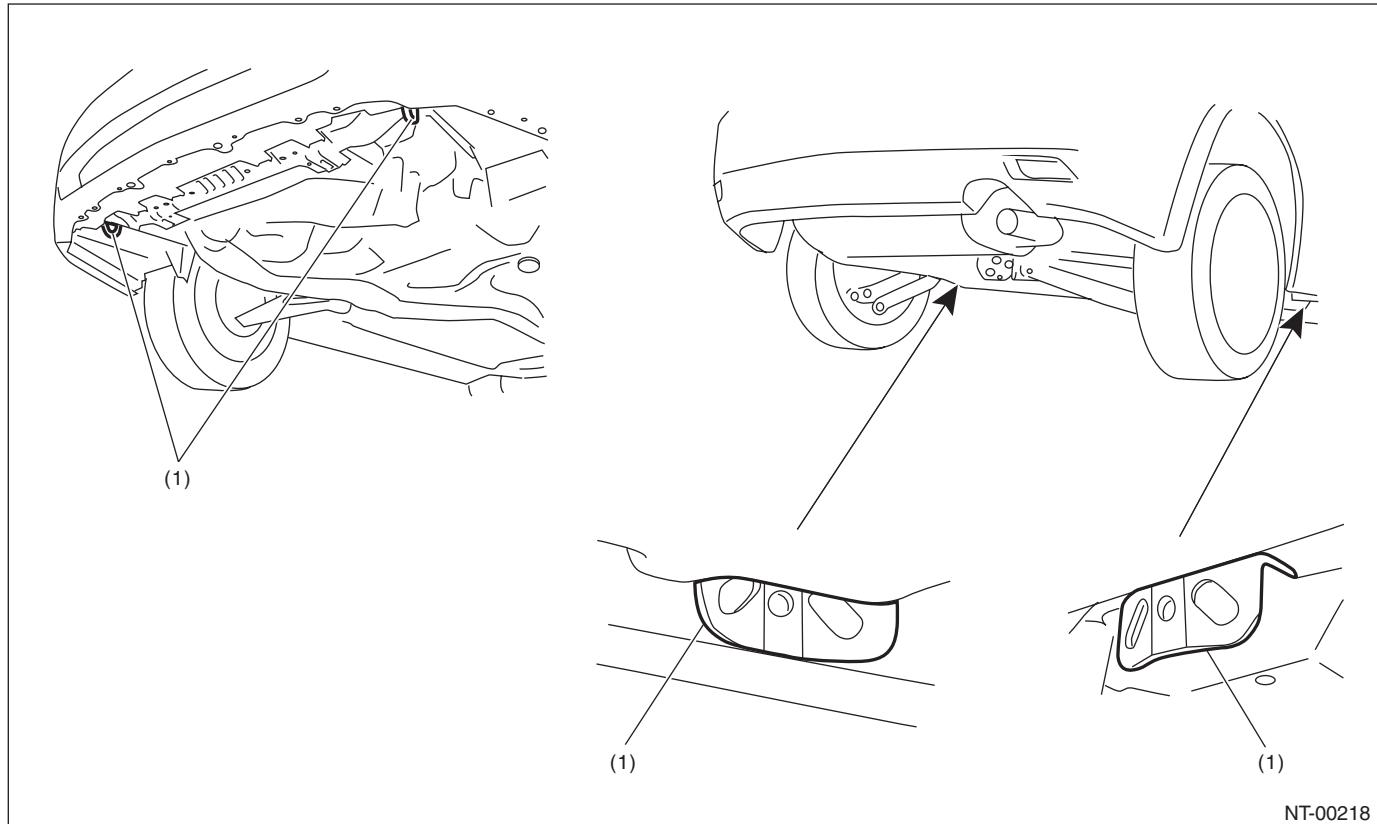
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10.TIE-DOWNS

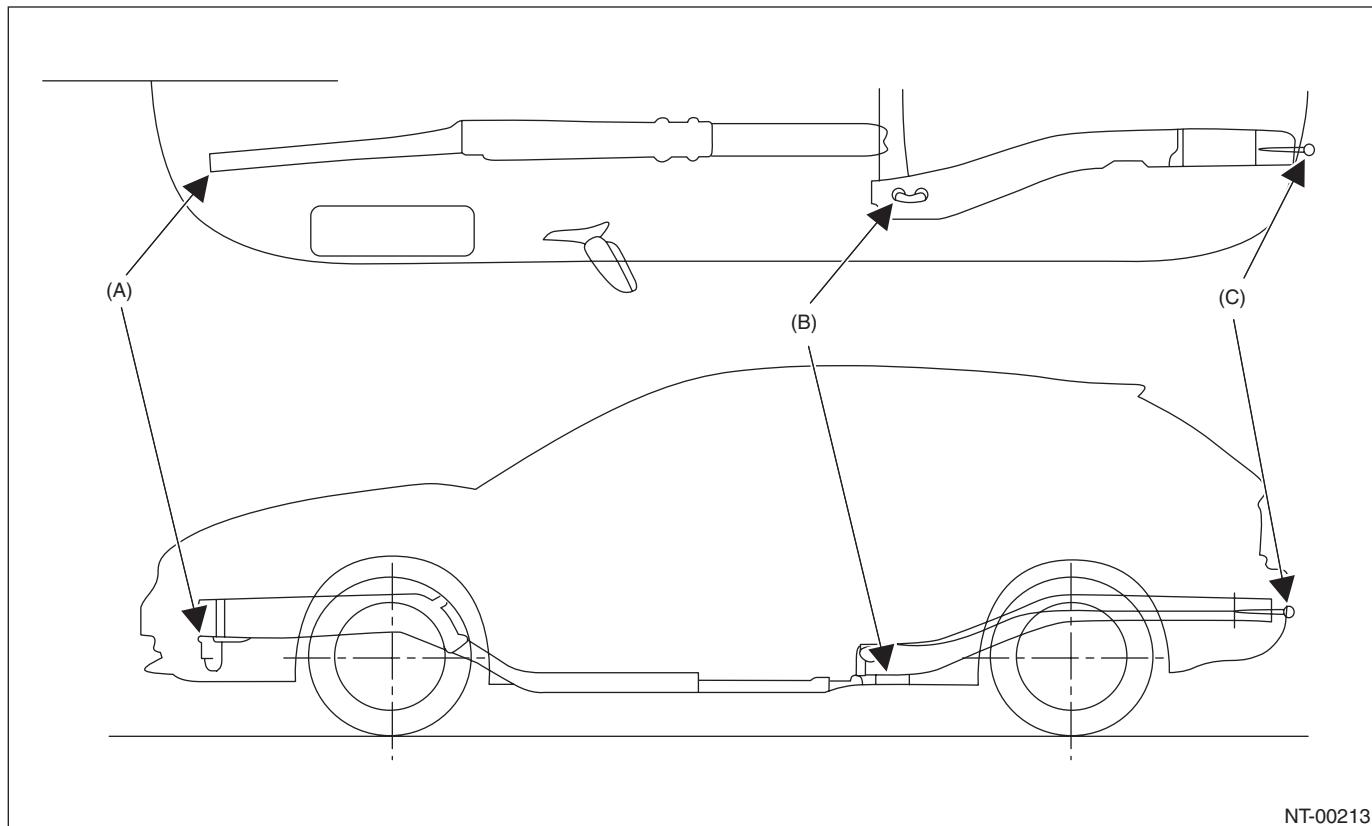
The tie-down hooks are used when transporting vehicles and when using the chassis dynamo. Attach tie-down only to the specified locations on the vehicle.

- **Tie-down location**



(1) Hook for tie-down

- Tie-down hook & eye bolt



(A) Front tie-down hook

(B) Rear tie-down hook

(C) Eye bolt

Note

NOTE

- Tie-down direction

CAUTION:

- Pull the front and rear of the vehicle in the opposite direction, and pull the left and right of the vehicle in the same direction.
- Patterns except for the followings (recommended) are not allowed.

	Recommended
Tie-down direction	

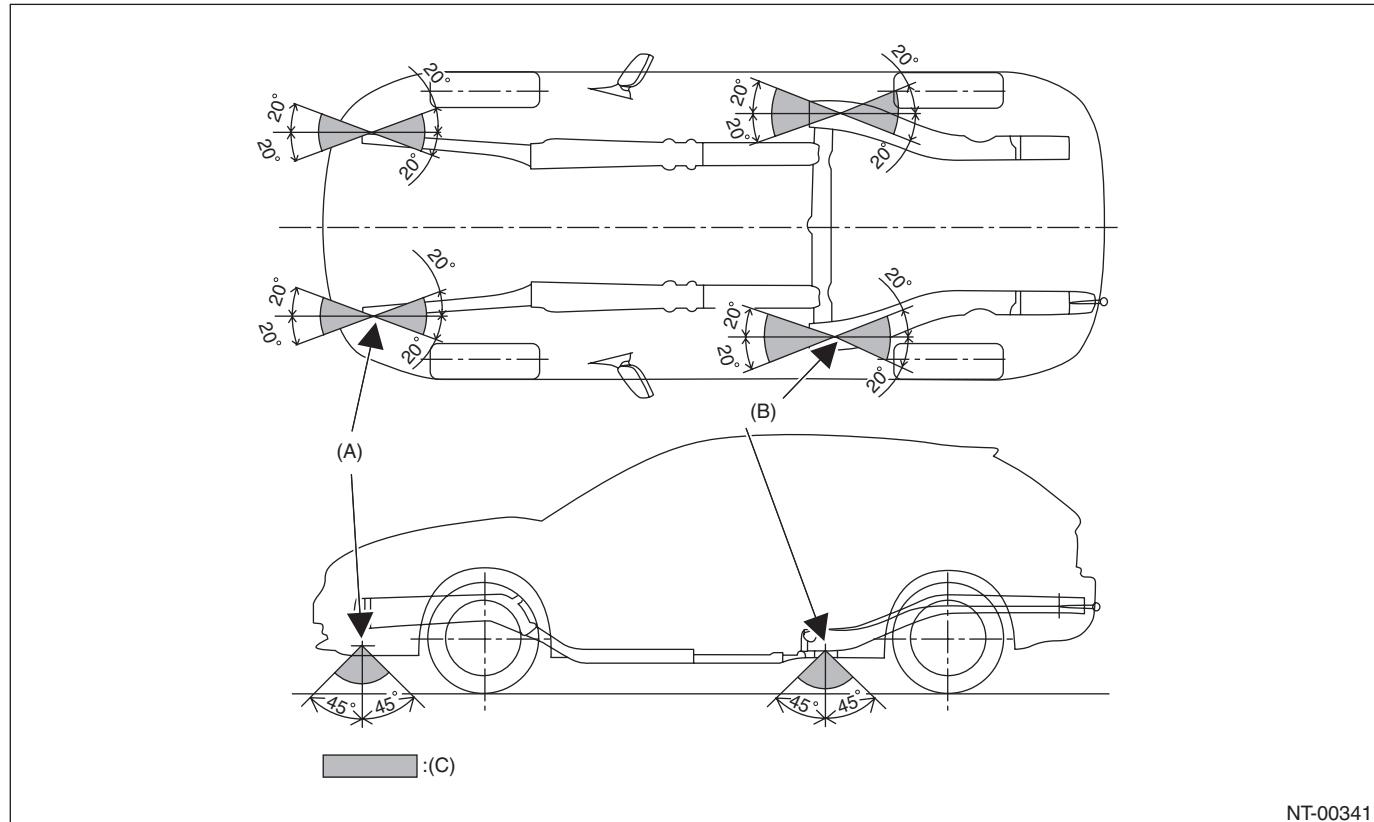
NT-00214

- **Tie-down range**

For ground transportation

CAUTION:

When the vehicle is tied down from vehicle inside, hook the hooks of tie-down chain on the rear tie-down hooks from vehicle inside. When the vehicle is tied down from vehicle outside, hook the hooks of tie-down chain on the rear tie-down hooks from vehicle outside.



(A) Front tie-down hook

(B) Rear tie-down hook

(C) Chain pulling range at tie-down condition

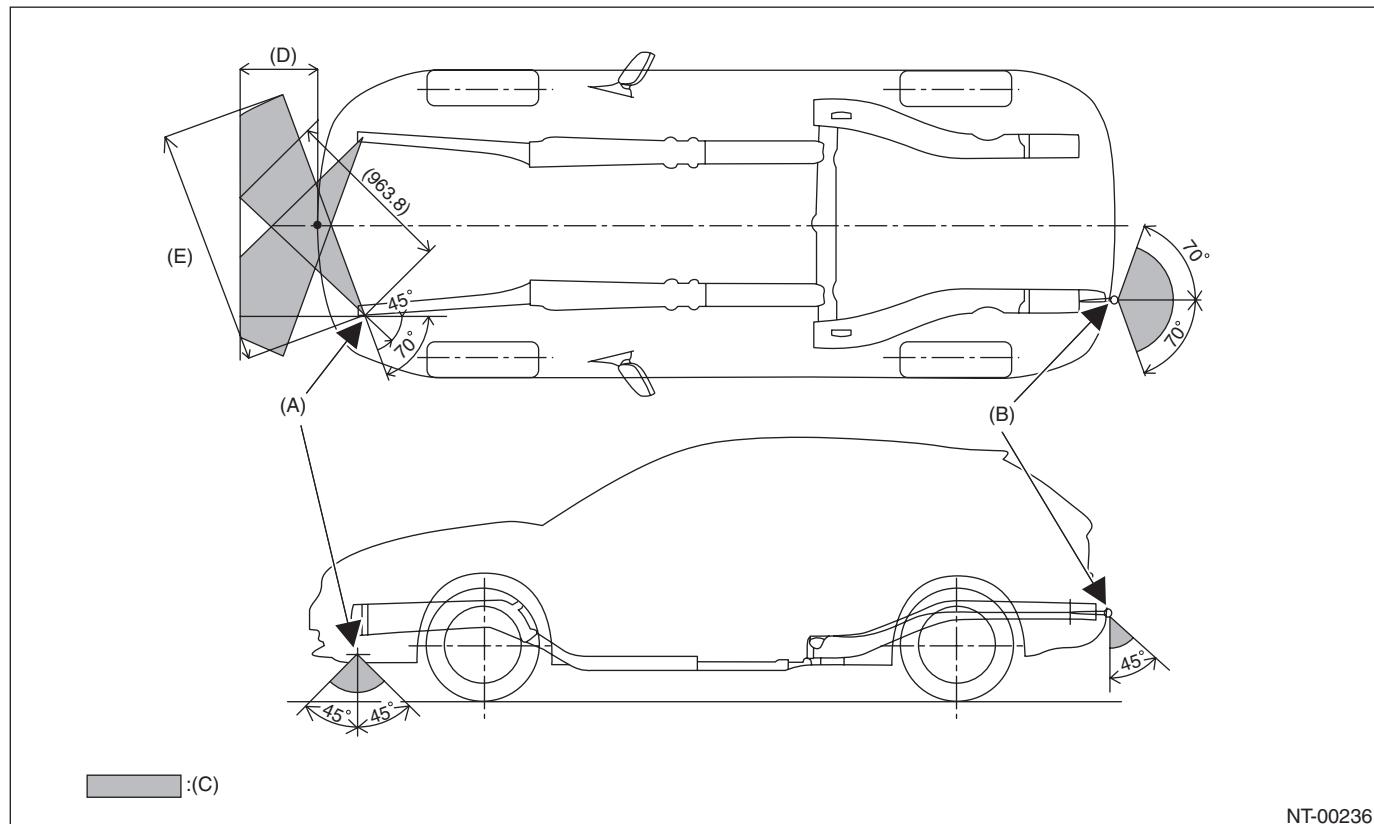
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For sea transportation

CAUTION:

The eye bolts are exclusively used for towing and sea transportation tie-down, and do not use them for ground and freight transportation.



(A) Front tie-down hook (C) Chain pulling range at tie-down condition (E) 1,320 mm (52.0 in)
(B) Eye bolt (D) 400 mm (15.7 in)

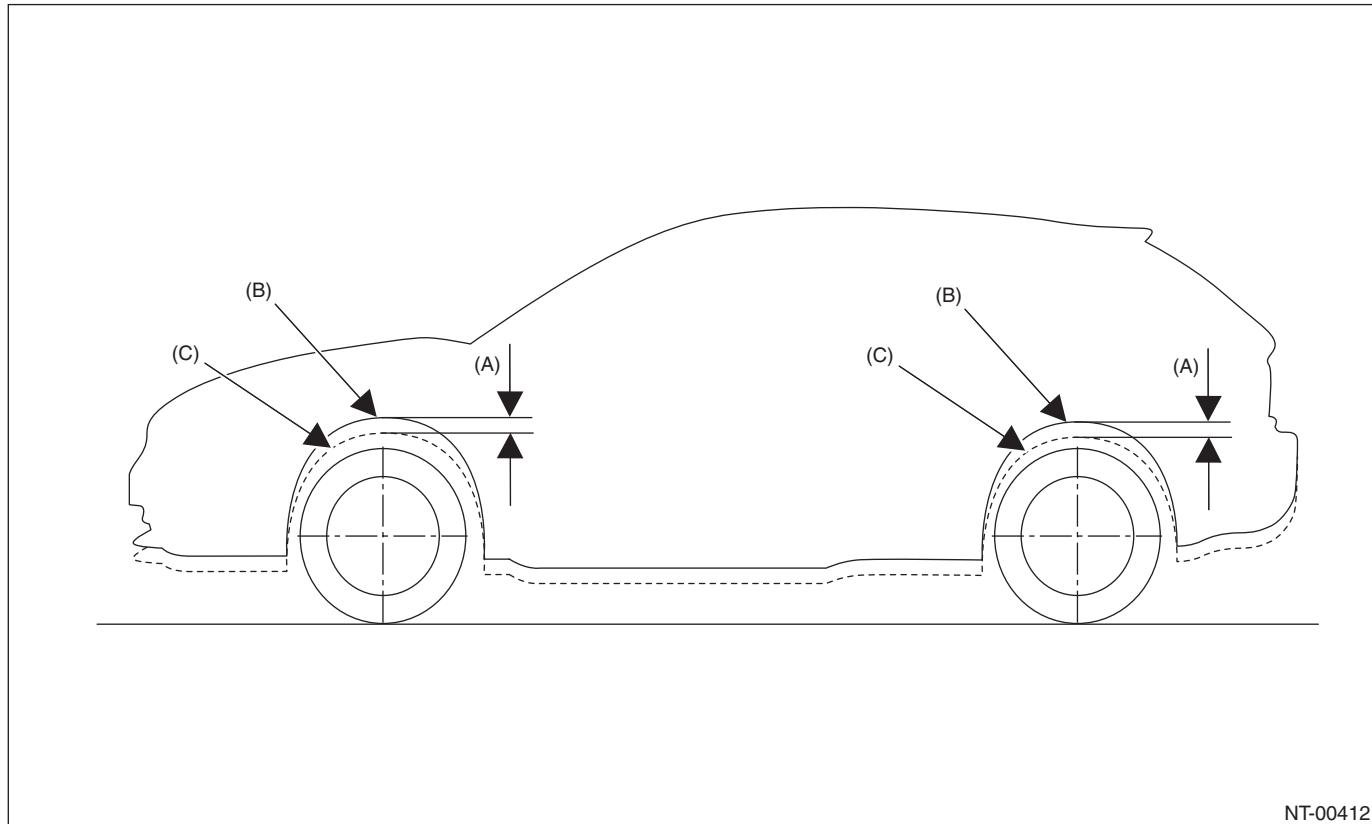
- **Vehicle sinking volume at tie-down condition**

CAUTION:

The vehicle sinking volume at tie-down condition should be less than 50 mm (1.97 in) and make sure to fix the vehicle securely.

Check to see if the tensions of chains or belts at tie-down condition are appropriate in the following procedures.

- 1) Before tie-down, measure the distance between the highest tire point and highest arch point at the center of wheel.
- 2) After tie-down, measure the distance between the highest tire point and highest arch point at the center of wheel.
- 3) If the distance (A) between the measured value of 1) and 2) above, is less than 50 mm (1.97 in), it is judged as OK. If the distance is 50 mm (1.97 in) or more, it is judged as NG because the tension is too high.



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(B) Arch position before tie-down

(C) Arch position after tie-down

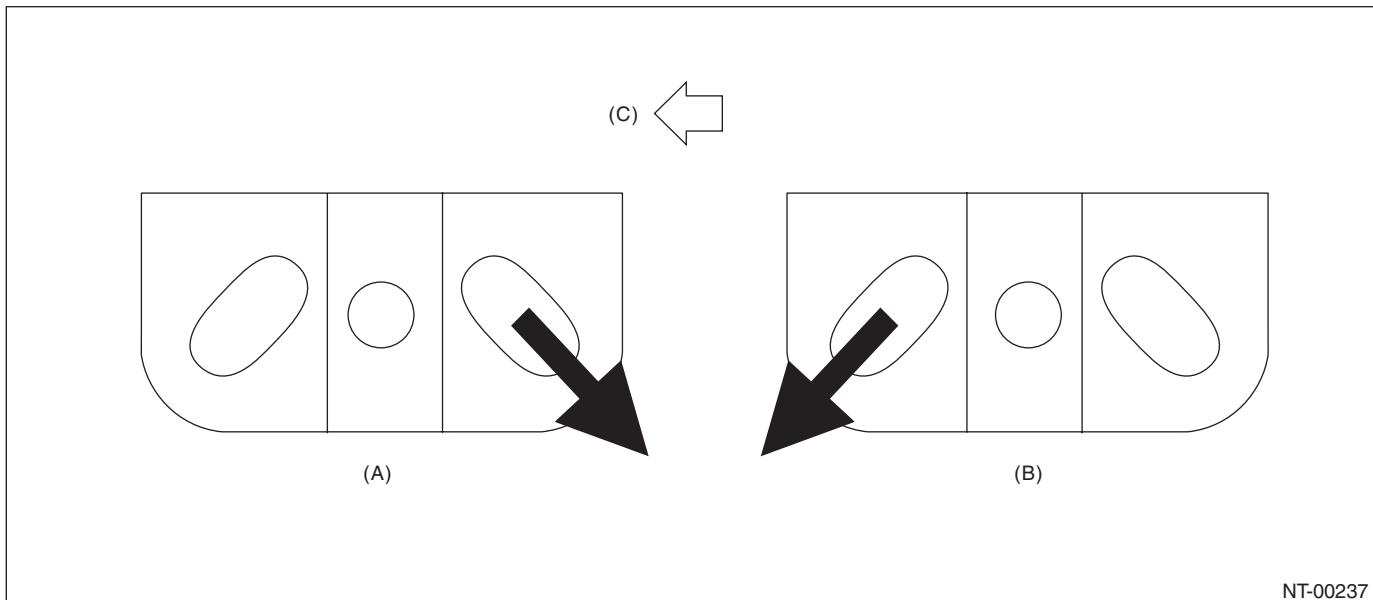
Note

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- **Notes for the use of tie-down hook**

When the vehicle is tied down from the rear side, use the holes at the rear side, and when the vehicle is tied down from the front side, use the holes at the front side.

When the vehicle is tied down from vehicle inside, hook the hooks of tie-down chain from vehicle inside, and when the vehicle is tied down from vehicle outside, hook the hooks of tie-down chain from vehicle outside.



NT-00237

(A) When the vehicle is tied down towards the rear side

(B) When the vehicle is tied down towards the front side

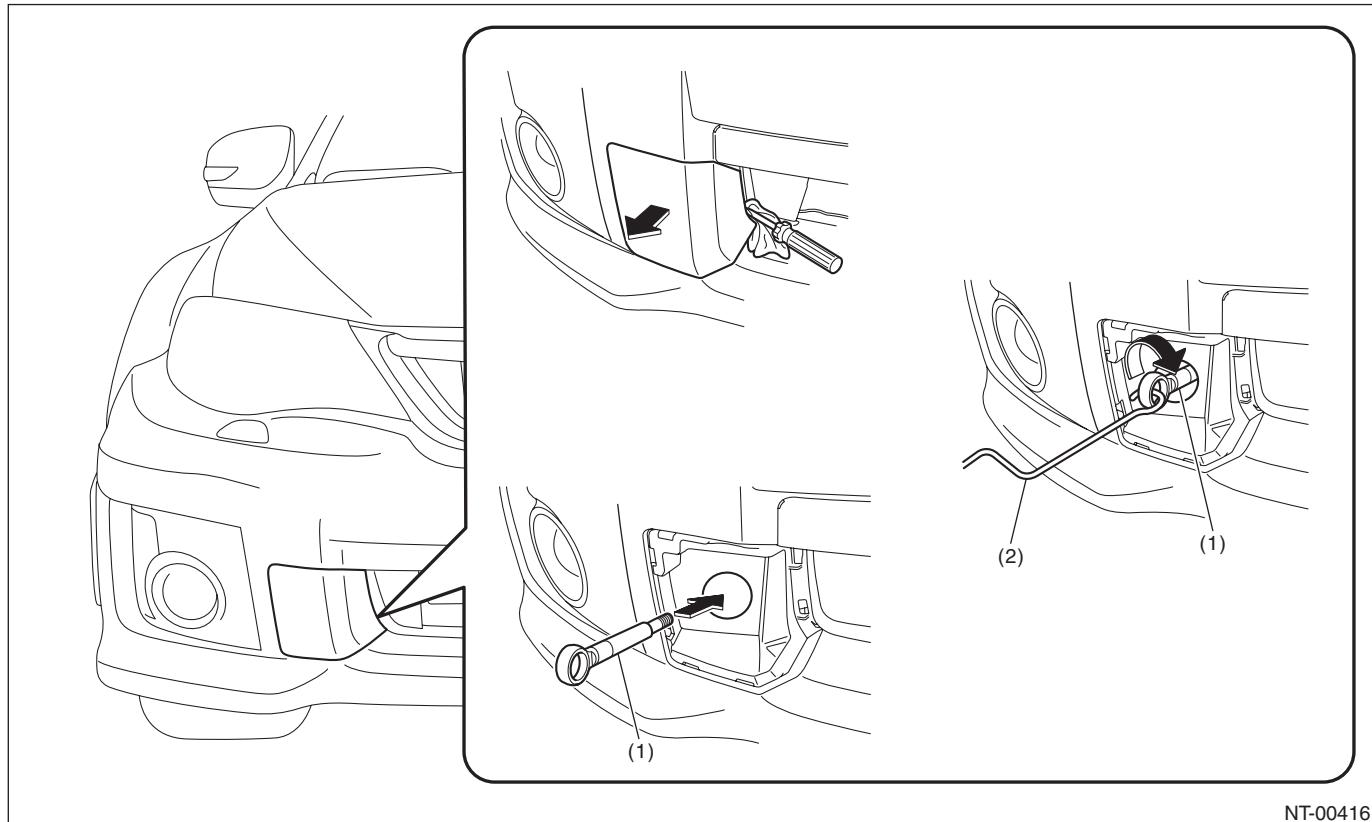
(C) Vehicle front

11.TOWING

Avoid towing vehicles except when the vehicle cannot be driven. When towing other vehicles, pay attention to the following to prevent eyebolt or vehicle damage resulting from excessive weight.

- Do not tow other vehicles with a front tie-down hook.
- Make sure the vehicle towing is heavier than the vehicle being towed.
- **Front**

Remove the hook cover, and install the towing hook (eyebolt).



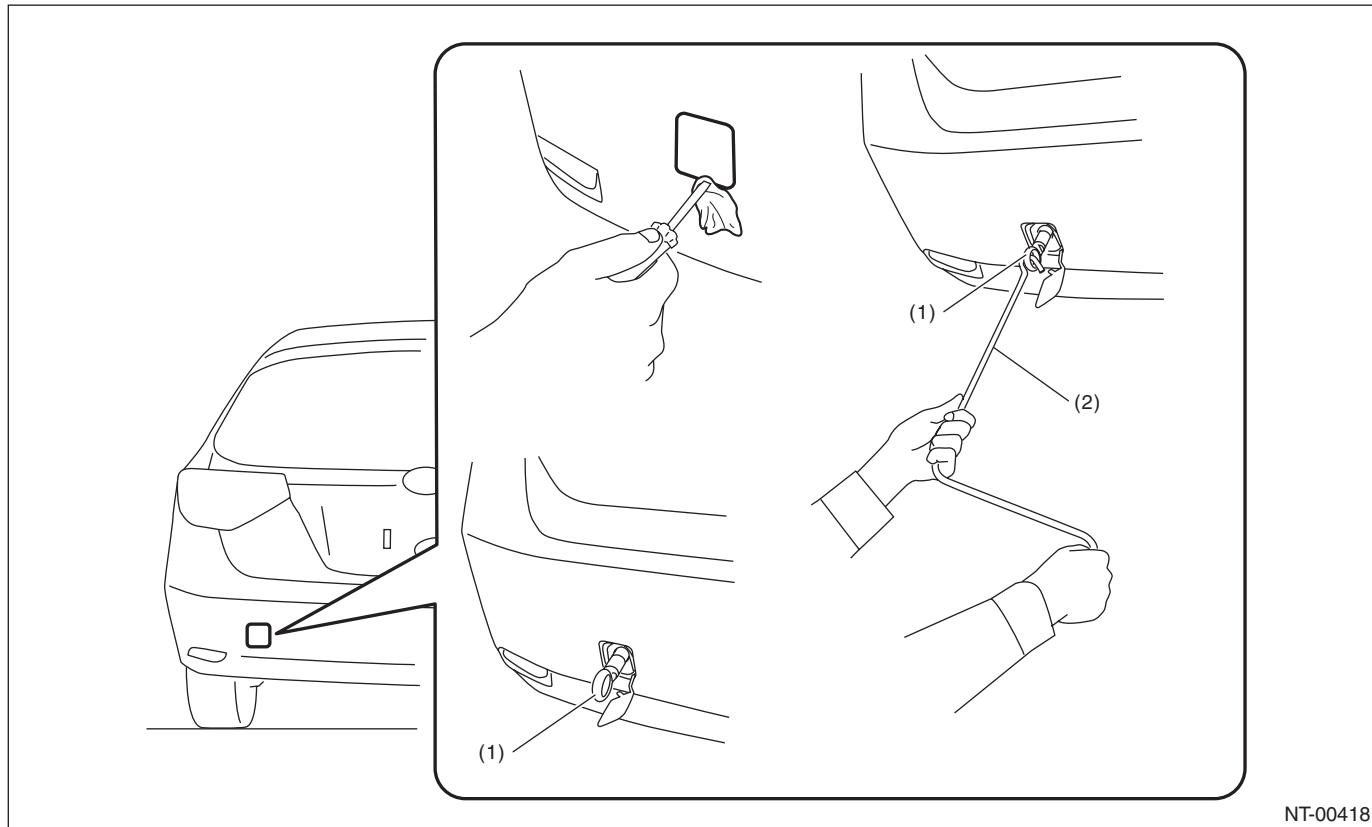
(1) Towing hook (eyebolt)

(2) Jack handle

Note

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- Rear

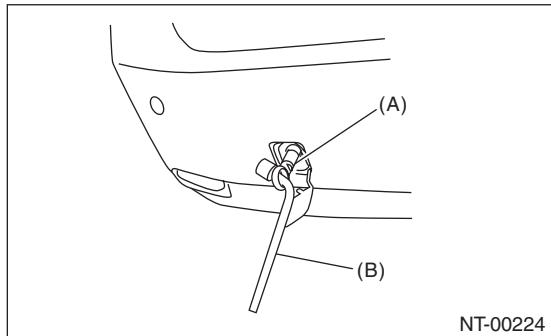


(1) Towing hook (eyebolt)

(2) Jack handle

CAUTION:

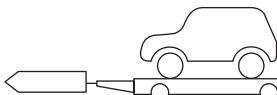
When tightening the eyebolt using a wheel wrench, be careful not to scratch the bumper.



(A) Towing hook (eyebolt)

(B) Wheel wrench

Precautions

Towing	Precautions	AWD MT
Lifting up four wheels (on a trailer)	<p>Towing the vehicle after lifting up all four wheels is a basic rule for AWD model.</p> <p>CAUTION: When carrying the vehicle onto a car carrier truck, refer to “LOADING ONTO CAR CARRIER TRUCK”. <Ref. to NT-17, LOADNG ONTO CAR CARRIER TRUCK, NOTE, Note.></p> 	<input checked="" type="radio"/>
Rope	Check if both front and rear wheels are rotated normally.	<input checked="" type="radio"/>
Raising the front wheels	Prohibited for full-time AWD model.	<input checked="" type="radio"/>
Lifting up the front wheels	Prohibited, due to damage on bumper, front grille, etc.	<input checked="" type="radio"/>

○ mark: OK, × mark: Prohibited

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CAUTION:

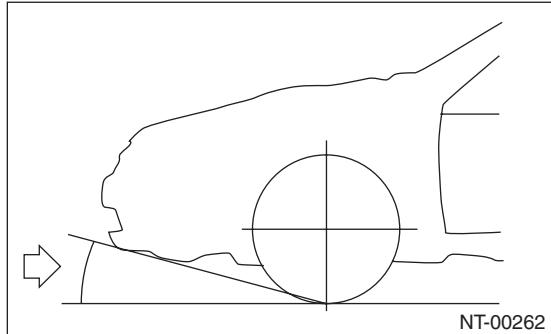
- Place the shift lever in “N” position during towing.
- Do not lift up the rear wheels to avoid unsteady rotation.
- Turn the ignition key to “ACC”, then check the steering wheel moves freely.
- Release the parking brake to avoid tire dragging.
- Since the power steering does not work, be careful for the heavy steering effort. (When engine is stopped)
- Since the servo brake does not work, be careful that the brake is not applied effectively. (When engine is stopped)
- In case of the malfunction of internal transmission or drive system, lift up four wheels (on a trailer) for towing.
- Do not use the towing hook (eyebolt) except when towing.
- Make sure to detach the towing hook (eyebolt) after towing. If it remains attached, airbag may not operate properly when receiving a shock. And it may also affect the crash performance of the vehicle.
- While being towed with all four wheels on the ground, turn the engine switch to ON but do not start the engine.

12.LOADING ONTO CAR CARRIER TRUCK

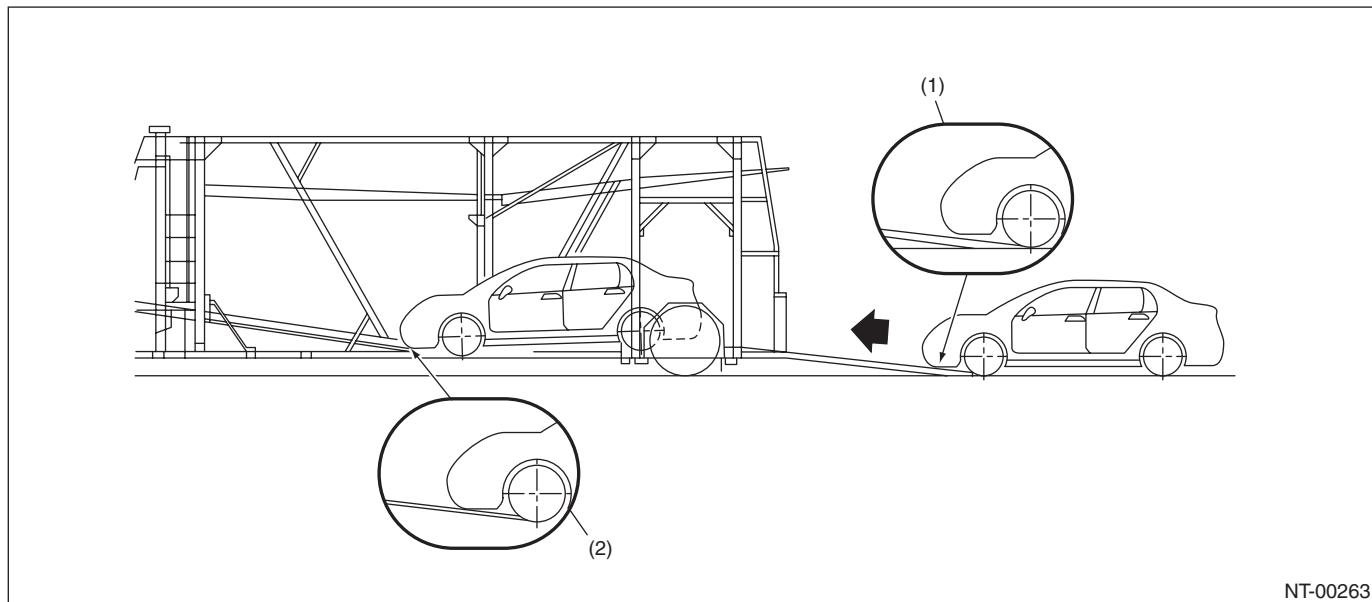
When carrying the vehicle onto a car carrier truck, observe the following precautions.

CAUTION:

- When carrying the vehicle onto a car carrier truck, perform the operation being careful with the gap between the height of the carrier's floor and the vehicle lower side because of little clearance under the front bumper.



- Use a supporting board (rubber) where the clearance is too small.
- Perform the operation being careful with the position shown in the figure below.



(1) Use a supporting board (rubber) to ensure clearance from the ramp.

(2) Before carrying the vehicle completely, lower the lower center floor until it is level to make clearance.

Before lowering the vehicle from the carrier car, perform the following operations.

CAUTION:

Always perform the following operations before lowering the vehicle from the carrier car. Otherwise, the power unit will rotate reversely, which may cause the damage to the engine, vacuum pump, and transmission.

- 1) Start the engine.
- 2) Set the transmission shift position into driving direction of the vehicle. (When the vehicle drives forward, do not set the transmission into R range. When the vehicle drives rearward, do not set the transmission into 1 — 6 speed.)

CAUTION:

Be sure to perform 2) mentioned above even if the engine cannot be started in some reasons.

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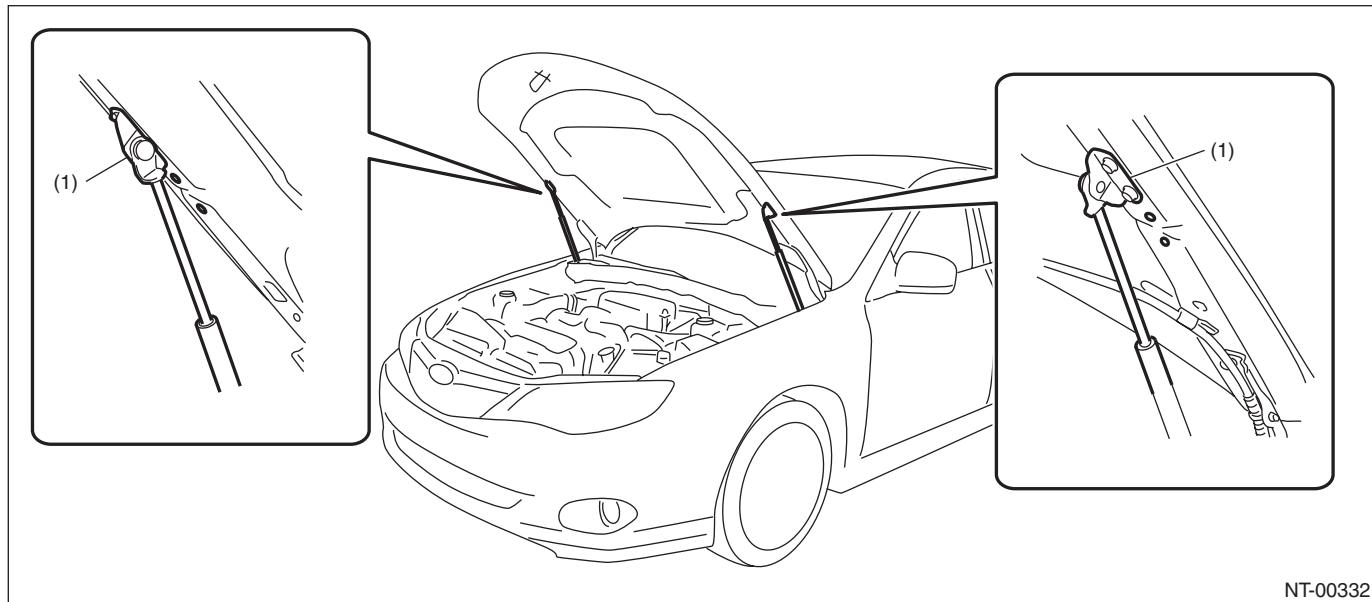
NOTE

13.FRONT HOOD DAMPER STAY

1) Always perform works such as inspections and maintenance with both damper stays attached.

CAUTION:

- At the inspection and general maintenance, do not detach the damper stays.



(1) Normal attached position

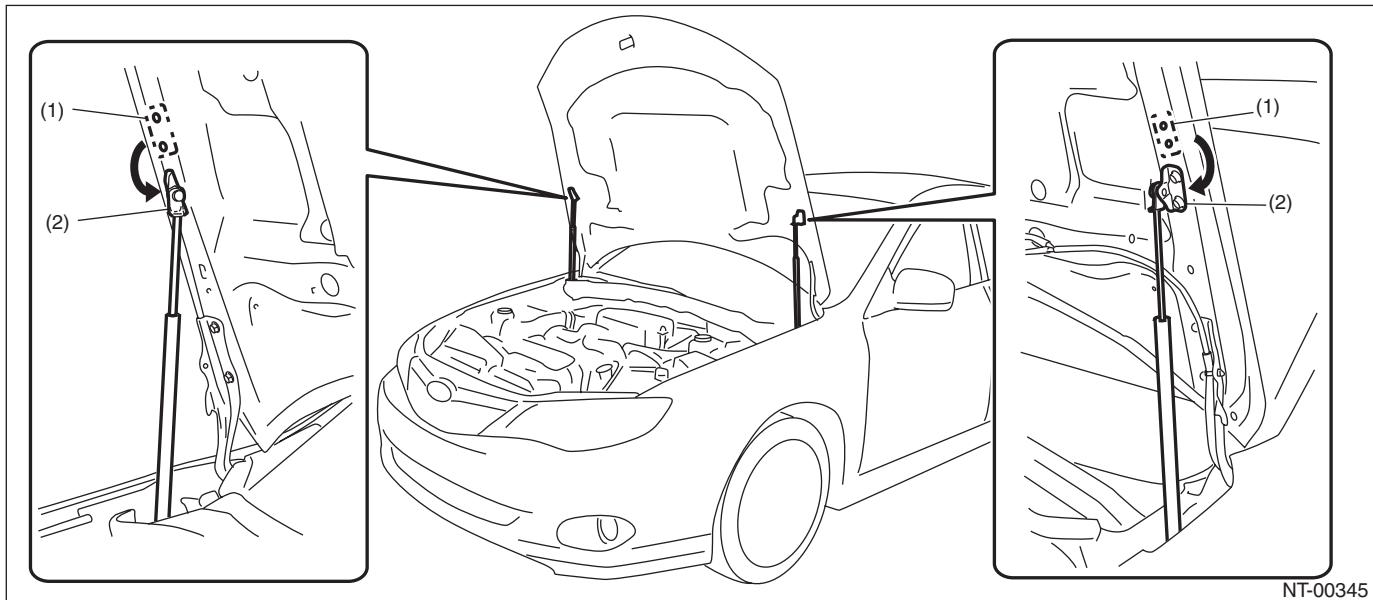
2) When wider hood opening is necessary, set the damper stay below as shown in the figure.

Tightening torque:

<Ref. to EB-8, FRONT HOOD, COMPONENT, General Description.>

CAUTION:

- Always perform works such as inspections and maintenance with both damper stays attached.
- Do not leave one side of damper stay removed.
- The hood cannot be closed with the hood damper on the full open side. When it is necessary to close, tie the hood striker and the radiator panel with a string etc. to fix them.
- After work, set the damper stays back to the normal position and tighten the bolts to the specified torque.



(1) Normal attached position

(2) Installation position at full open

14. TRAINING

For an information about training, contact a dealer or agent.

15. GENERAL SCAN TOOL

Using general scan tools will greatly improve the efficiency of repairing engine electronic controls. Subaru Select Monitor can be used to diagnose the engine, VDC and other electronically controlled parts.

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IDENTIFICATION

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