

NOTE

1. Note

A: NOTE

This information will improve the efficiency of maintenance and assure that the finished work is of a good quality.

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.
- Use an appropriate cleaning solvent.
- 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 possibility 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 terminal, always be sure to turn the ignition to OFF to prevent electrical damage of the control module from overcurrent. Be sure to remove the battery ground cable first.

When removing the battery terminal, memories such as the stereo and control unit DTC are erased. Therefore, the content of each memory should be recorded 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

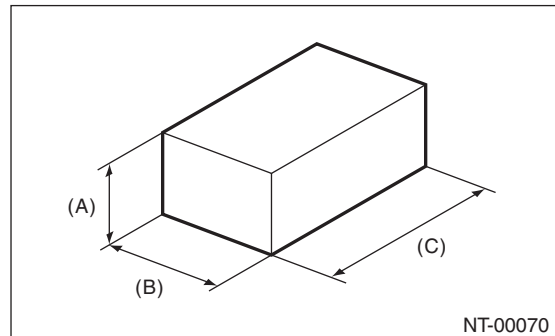
When working in a group of two or more, perform the work with calling each other to ensure mutual safety.

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.

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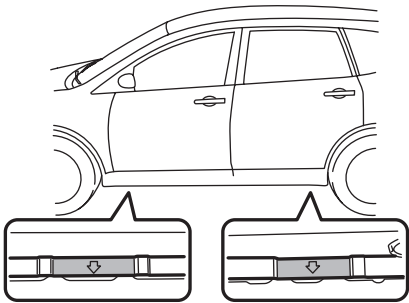
- When using a lift, follow its operation manual.
- Do not work or leave unattended while the vehicle is supported with jack, support it with rigid racks.
- Be sure to use the rigid racks with rubber attached to cradle to support the vehicle.
- When using a plate lift, use a rubber attachment. Place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



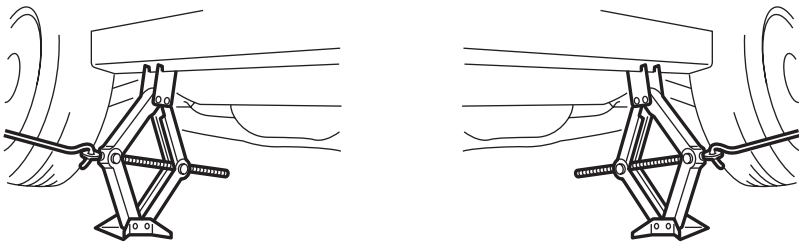
- (A) 80 mm (3.15 in) or more
- (B) 80 — 100 mm (3.15 — 3.94 in)
- (C) 120 — 170 mm (4.72 — 6.69 in)

- Align the cushion rubber end of plate lift with the end of rubber attachment. (portion b) Also, align the center of the supporting location with the center of the attachment. (portion a)
- Do not use the plate lift whose attachment does not reach the supporting locations.

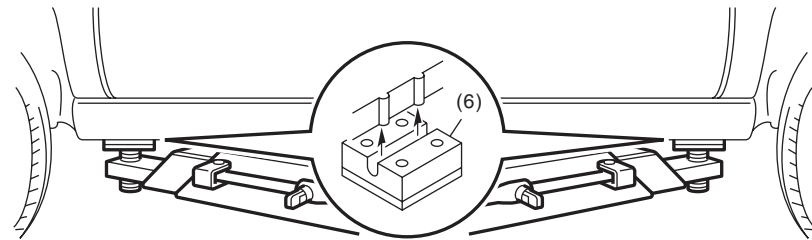
(1)



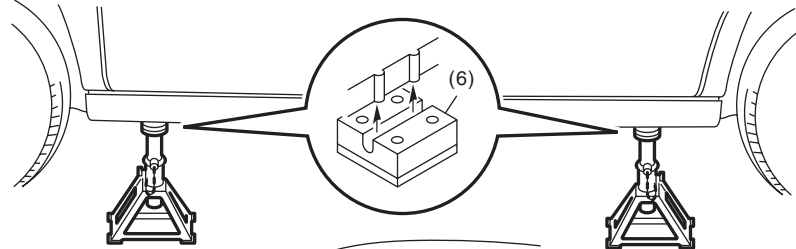
(2)



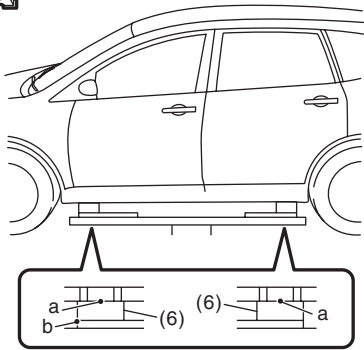
(3)



(4)



(5)



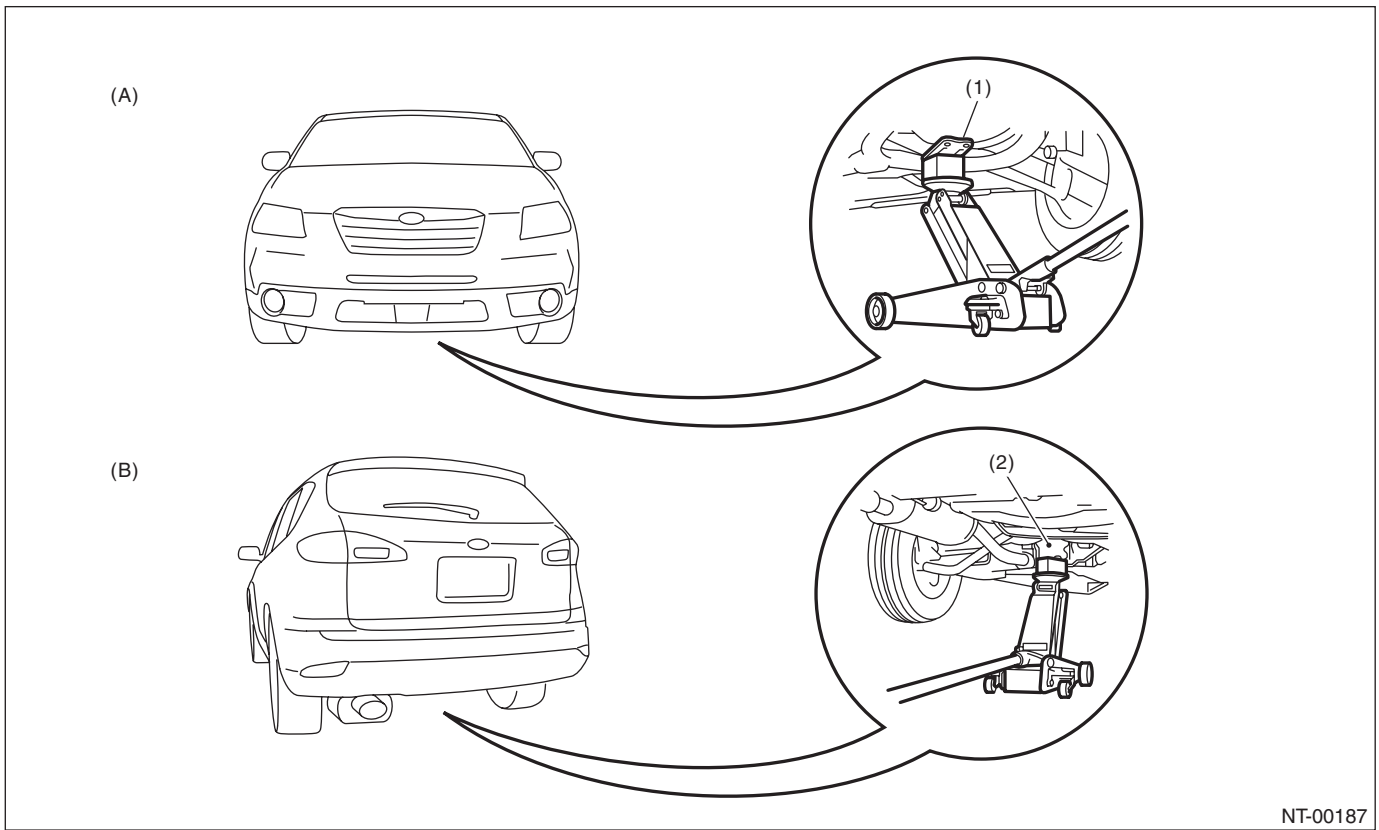
(1) Support locations
(2) Pantograph jack

(3) Swing arm lift
(4) Rigid rack

(5) Plate lift
(6) Attachment

NT-00442

NOTE



NT-00187

(A) Front

(B) Rear

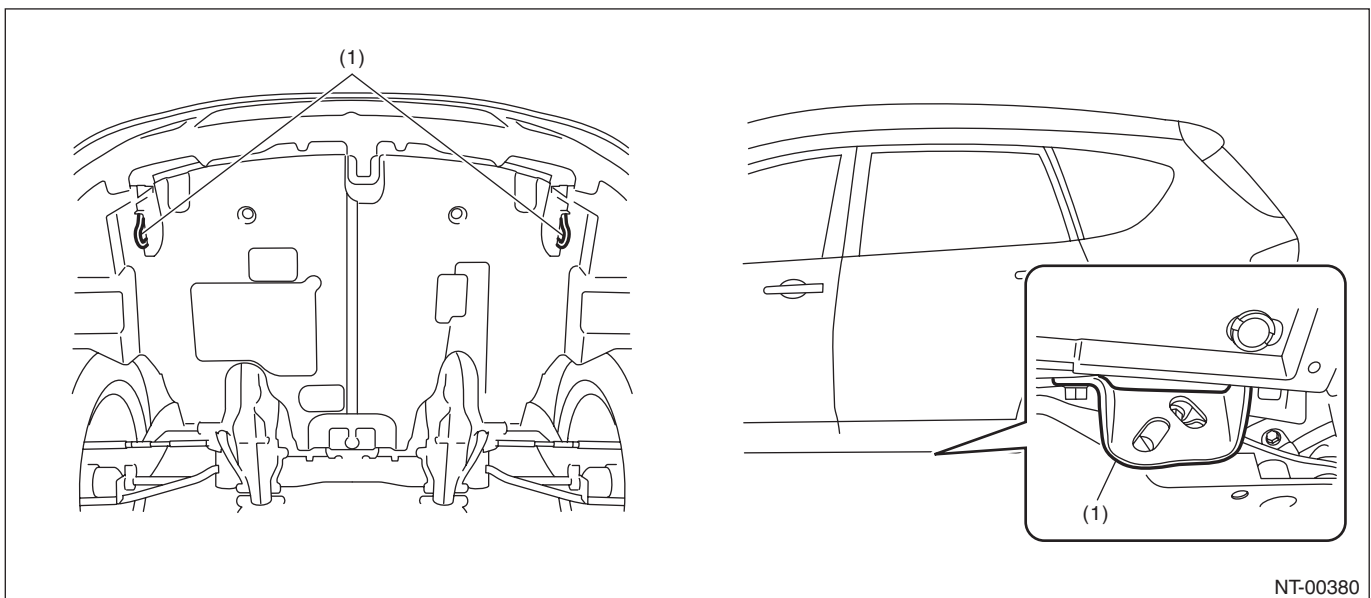
(1) Front crossmember

(2) Rear differential

10.TIE-DOWNS

Tie-downs 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



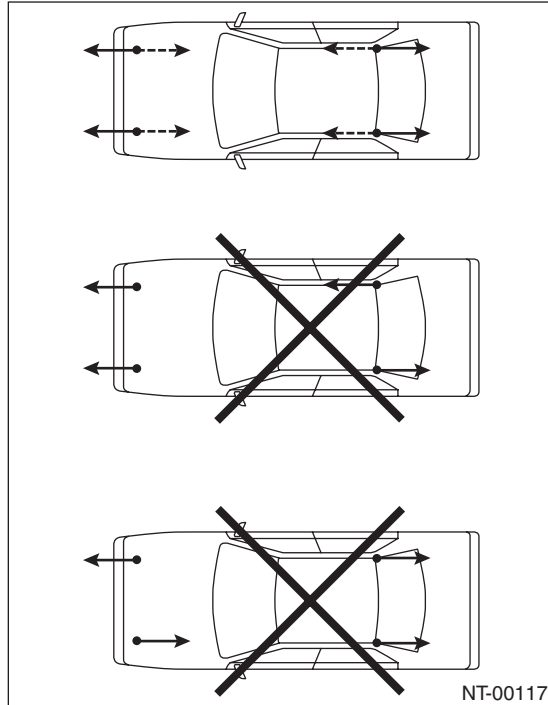
NT-00380

(1) Hook for tie-down

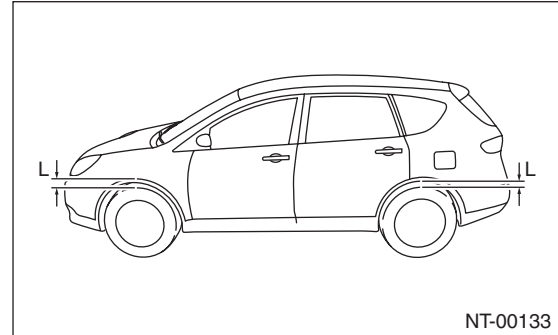
- Chain direction at tie-down condition

NOTE:

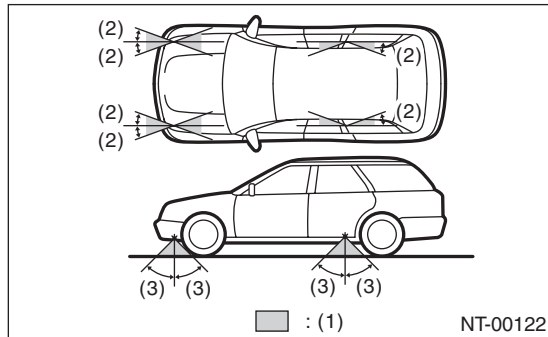
Pull the left and right sides in the same direction, and pull front and rear of the vehicle in the opposite direction at the same time.



- Vehicle sinking volume at tie-down condition
Measure the distance between the highest tire point and highest arch point before and after tie-down. Difference of measured values (sinking volume) should be within 50 mm (1.97 in) and make sure to fix the vehicle securely.



- Chain pulling range at tie-down condition



- (1) Chain pulling range at tie-down condition
- (2) 20°
- (3) 45°

Note

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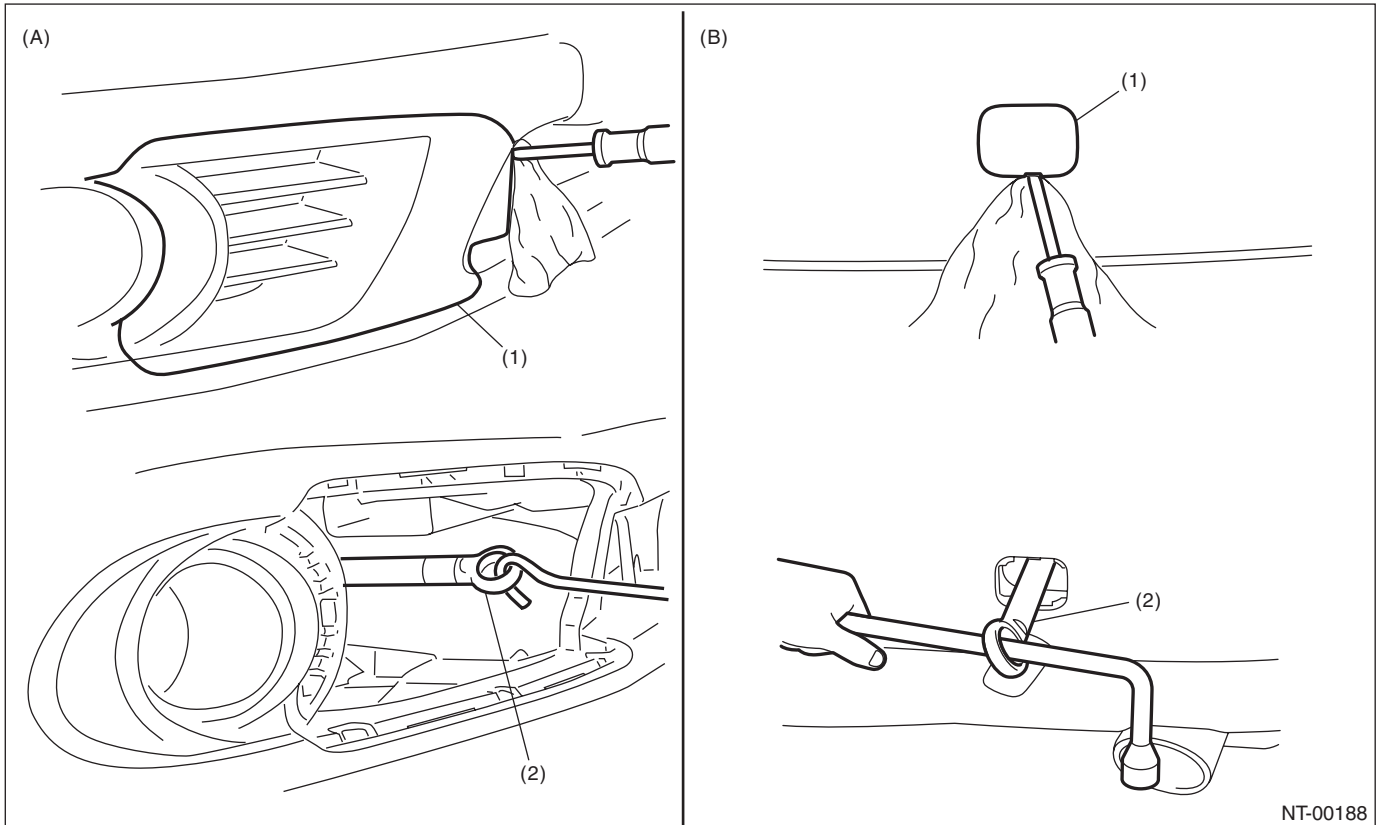
11.TOWING

Avoid towing vehicles except when the vehicle cannot be driven. For models with AWD, AT or VTD, use a loader instead of towing. When towing other vehicles, pay attention to the following to prevent eye bolt 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.
- Remove the hook cover, and install the eye bolt.

CAUTION:

- Pull the screwdriver which is inserted into the hook cover.
- Do not remove the hook cover holding the slit of the hook cover.



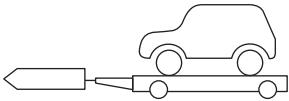
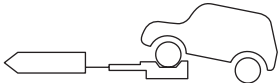
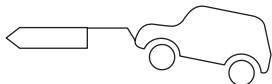
(A) Front

(B) Rear

(1) Hook cover

(2) Eye bolt

• Precautions

Towing	Precautions	AT
Lifting up four wheels (On a trailer)  NT-00023	Towing the vehicle after lifting up all four wheels is a basic rule for AWD model.	○
Rope  NT-00024	• Check if both front and rear wheels are rotated normally. • Driving speed 30 km/h (19 MPH) or less - Allow driving distance 50 km (31 miles) or less	▲
Raising the front wheels  NT-00025	Prohibition	×
Lifting up the front wheels  NT-00026	• Prohibited, due to damage on bumper, front grille, etc. • Do not raise the vehicle with bumper.	×

Marked ○ : OK, Marked × : Prohibited, Marked ▲ : Conditionally OK

Note

NOTE

CAUTION:

- Check ATF, gear oil and rear differential oil before driving.
- 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 towing hook (eye bolt) except when towing.
- Make sure to detach the towing hook (eye bolt) 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.

12.CARRIER CAR

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.

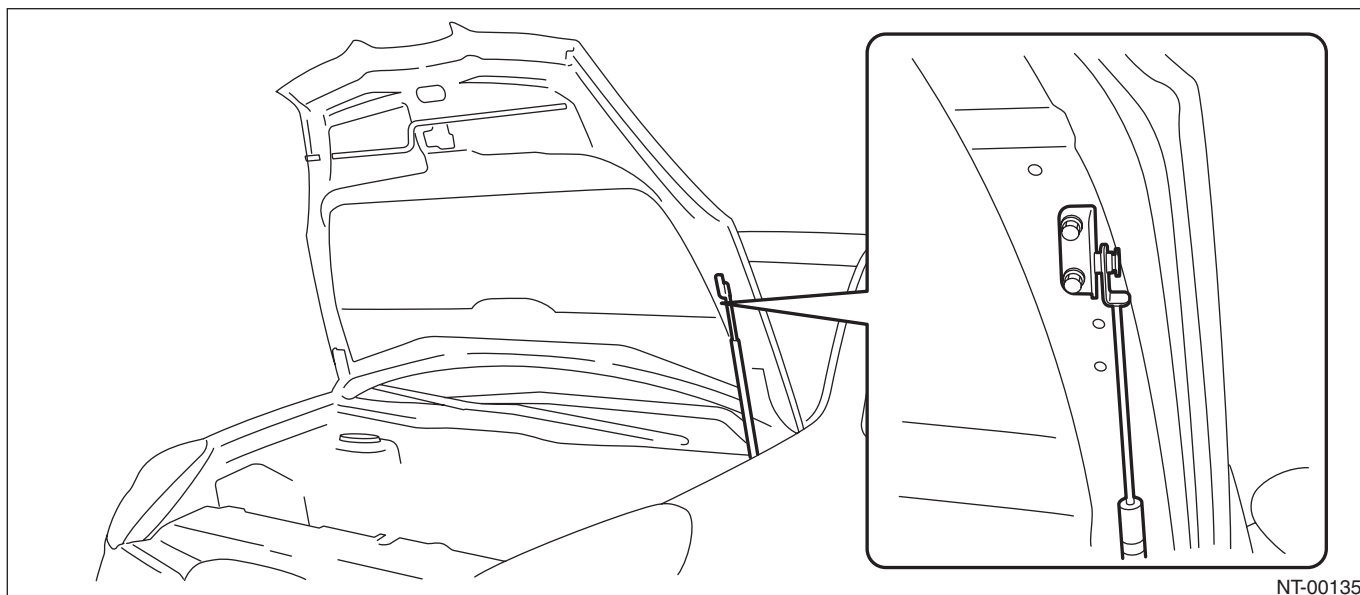
- 1) Start the engine.
- 2) Set the transmission shift position into driving direction of the vehicle. (When the vehicle drives forward, do not shift the transmission in R range. When the vehicle drives rearward, do not shift the transmission to D range.)

13.FRONT HOOD DAMPER STAY

- At the check and general maintenance

CAUTION:

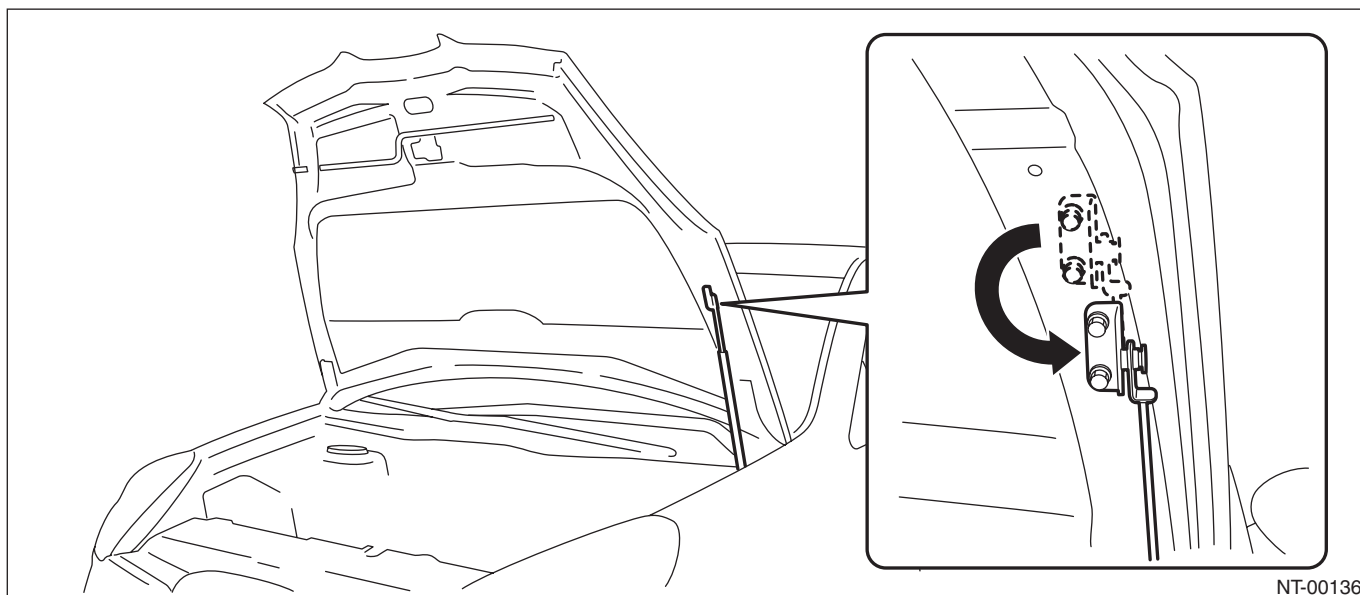
At the inspection and general maintenance, do not detach the damper stays.



- When wider hood opening is necessary
Set the damper stay below as shown in the figure.

Tightening torque:

<Ref. to EB-6, FRONT HOOD, COMPONENT, General Description.>



- After work, set the damper stays back to the normal position and tighten the bolts to the specified torque.

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.

NOTE

14.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, airbag and other electronically controlled parts.

15.AWD CIRCUIT MEASURES

Since VTD type is used in the center differential, cut-off of AWD circuit cannot be carried out.

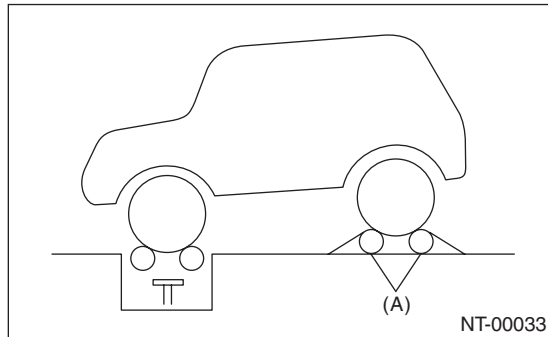
16.SPEEDOMETER TEST

1) Rear wheel free roller system

- (1) Set the free roller on the floor of rear wheel side securely according to the wheel base and rear tread of the vehicle.
- (2) Let the vehicle ride on the tester and free roller gently.

CAUTION:

Fix the vehicle using a pulling metal (chain or wire) to the front and rear towing hooks or tie-down hook to prevent the lateral runout of front wheels and springing out of vehicle.



(A) Free roller

- (3) Set the speedometer tester.
- (4) Conduct the speedometer test work.

CAUTION:

Do not suddenly accelerate or decelerate while working.

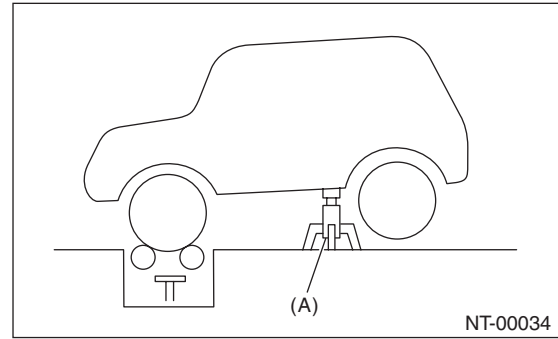
2) Rear wheel jack-up system

- (1) Set the vehicle on speedometer tester.

CAUTION:

Fix the vehicle using a pulling metal (chain or wire) to the front and rear towing hooks or tie-down hook to prevent the lateral runout of front wheels and springing out of vehicle.

- (2) Jack up the rear wheels and set the rigid racks to the specified locations of side sill.



(A) Rigid rack

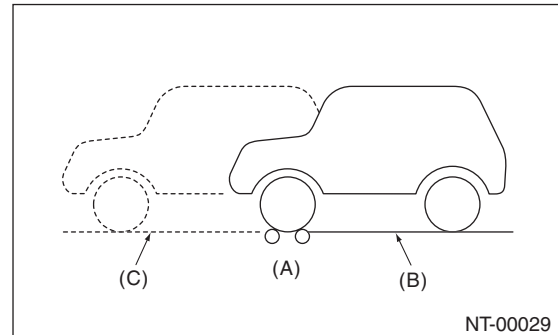
- (3) Conduct the speedometer test work.

CAUTION:

Do not suddenly accelerate or decelerate while working.

17.BRAKE TEST

- 1) Keep the front or rear wheels on the ground during measurement.



(A) Brake tester

(B) Position for measuring front wheel

(C) Position for measuring rear wheel

- 2) When the brake dragging force is large, inspect whether there is dragging in the brake or brake shoe.

Specifications:

	Braking force
Rear wheel total	10% or more of load on front or rear wheels
Difference between right and left wheels	8% or less of load on front or rear wheels
Grand total	50% or more of vehicle weight at the time of test

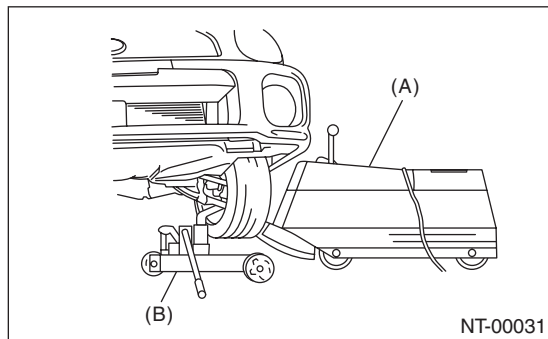
When measurement is difficult to carry out because both of front wheels are locked, check if braking force measurement in this condition conforms to standard grand total.

18.ON THE CAR WHEEL BALANCING

CAUTION:

- Carry out this procedures after measuring the balance of each single tire.
- Set the vehicle so that the front and rear wheels are the same height.
- Release the parking brake during measurement.
- Rotate each wheel by hands, and make sure it rotates without dragging.
- Do not suddenly accelerate or decelerate while working.
- When an error is indicated during engine drive, do not use the motor drive together.

1) Set the rigid rack to the specified locations of side sill, jack up the front or rear two wheels of non-measuring side and set the pickup stands to two wheels of measuring side.



(A) Balancer body

(B) Pickup stand (left and right)

2) For drive wheel, drive the tires with engine for measurement.

3) For non-drive wheel, drive the tires from the on the car wheel balancer for measurement.

NOTE

IDENTIFICATION

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