

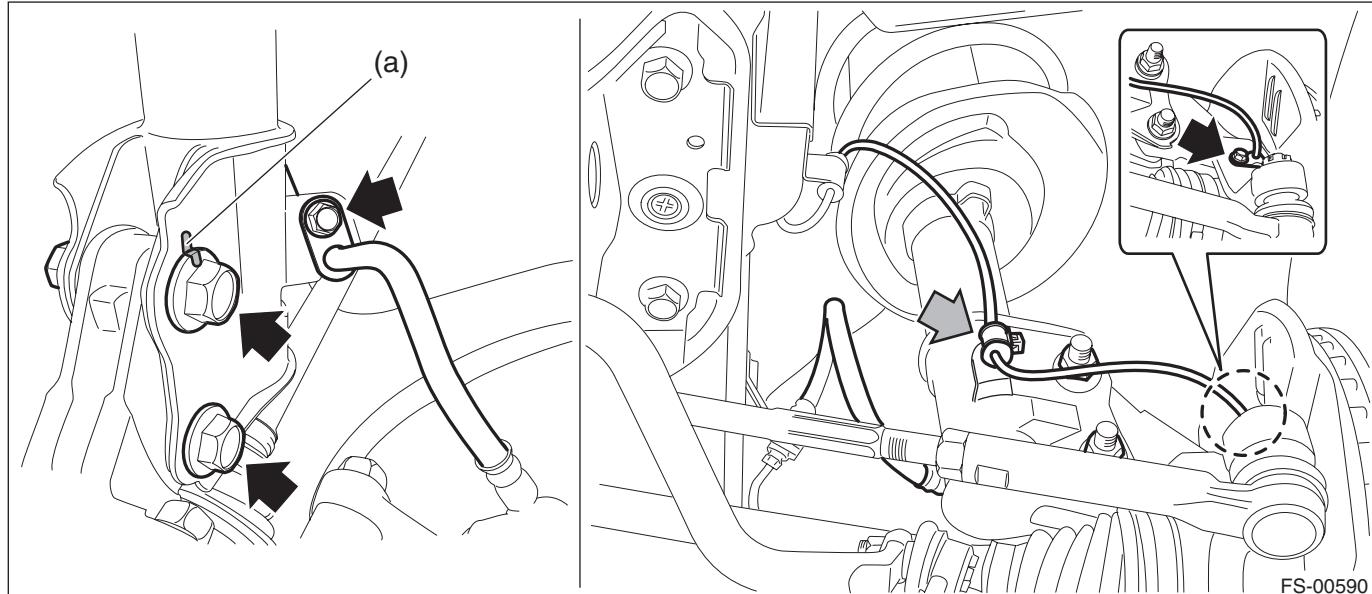
8. Front Strut

A: REMOVAL

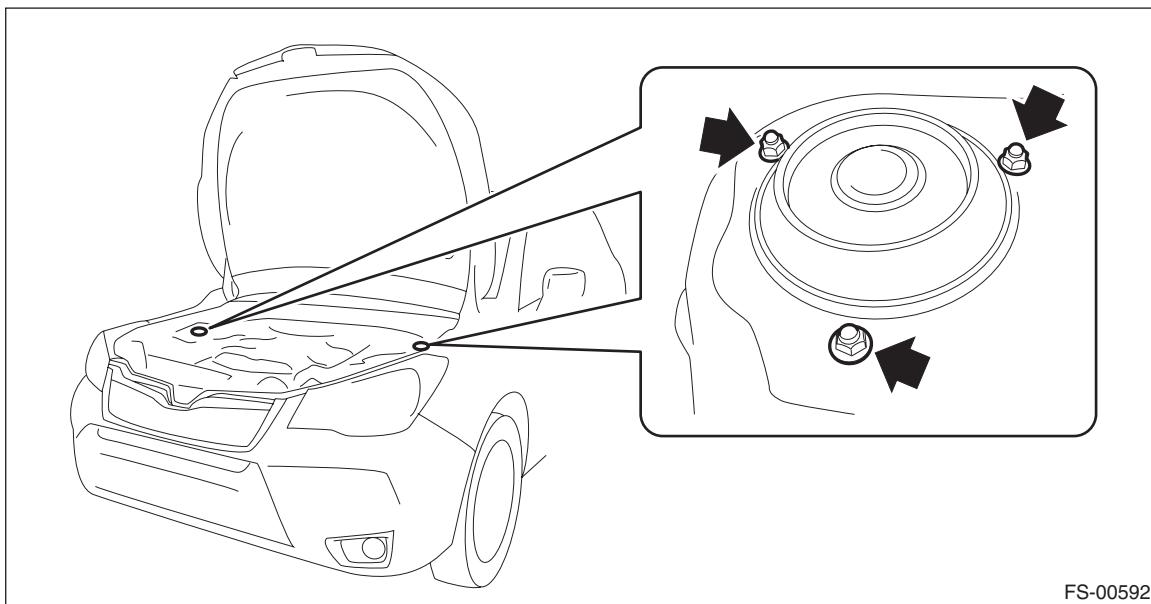
- 1) Lift up the vehicle, and then remove the front wheels.
- 2) Remove the front strut assembly.
 - (1) Place an alignment mark (a) on the adjusting bolt and the strut.
 - (2) Remove the brake hose bracket.
 - (3) Remove the clamp of ABS wheel speed sensor harness.
 - (4) Remove the adjusting bolts and flange bolts for the strut assembly.

CAUTION:

While holding the head of the adjusting bolt, loosen the flange nut.



- (5) Remove the three nuts securing strut mount to body.



B: INSTALLATION

1) Install the strut mount - front at the upper side of the strut to the body, and tighten it with new self-locking nuts.

Tightening torque:

20 N·m (2.04 kgf·m, 14.8 ft-lb)

2) Align alignment marks on the camber adjusting bolt and strut.

Using new self-locking nuts, install the strut to the housing assembly - front axle.

NOTE:

While holding the head of adjusting bolt, tighten the nut.

Tightening torque:

155 N·m (15.81 kgf·m, 114.3 ft-lb)

3) Secure the ABS wheel speed sensor harness bracket to the strut.

CAUTION:

During the installation, make sure that the marking of ABS wheel speed sensor harness does not twist.

4) Install the brake hose bracket.

Tightening torque:

33 N·m (3.36 kgf·m, 24.3 ft-lb)

5) Install the front wheels.

Tightening torque:

120 N·m (12.24 kgf·m, 88.5 ft-lb)

6) Inspect the wheel alignment and adjust if necessary.

- Inspection: <Ref. to FS-7, INSPECTION, Wheel Alignment.>
- Adjustment: <Ref. to FS-11, ADJUSTMENT, Wheel Alignment.>

CAUTION:

When the wheel alignment has been adjusted, perform “VDC sensor midpoint setting mode” of the VDC. <Ref. to VDC-23, ADJUSTMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>

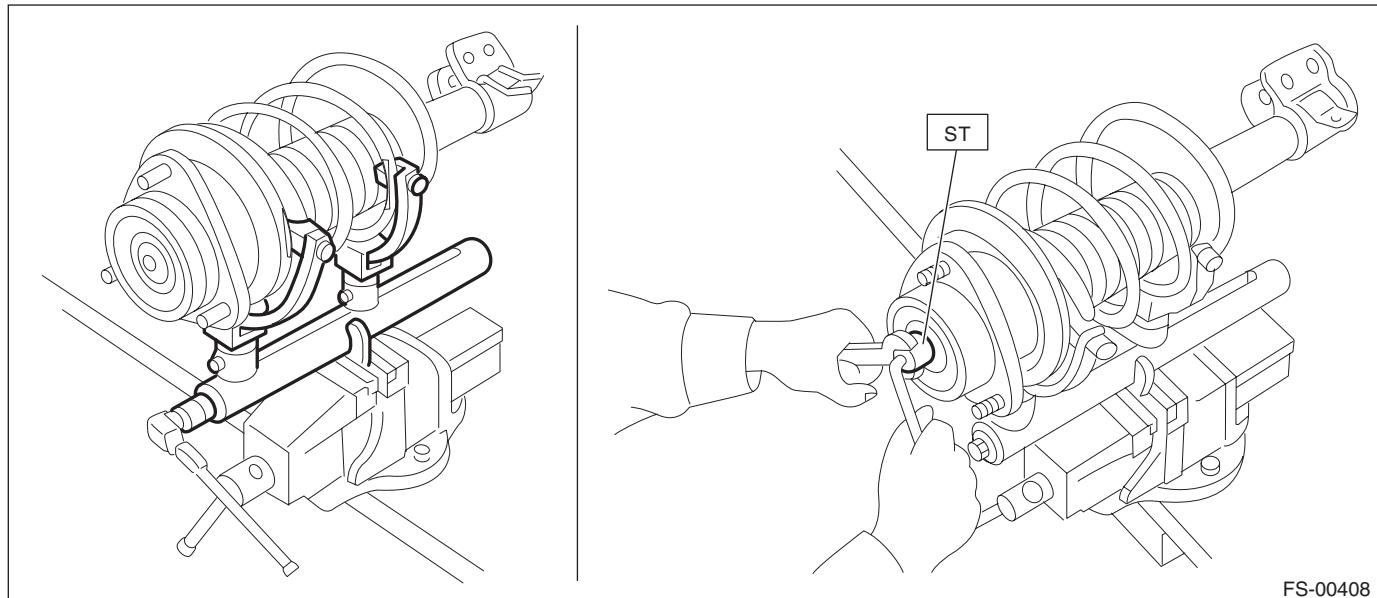
7) Perform reinitialization of the auto headlight beam leveler system. (Model with auto headlight beam leveler) <Ref. to LI-16, PROCEDURE, Auto Headlight Beam Leveler System.>

C: DISASSEMBLY

- 1) Using a coil spring compressor, compress the coil spring - front.
- 2) Using a hexagon wrench to prevent strut rod from turning, remove the self-locking nut with ST.

Preparation tool:

ST: STRUT MOUNT SOCKET (20399AG000)



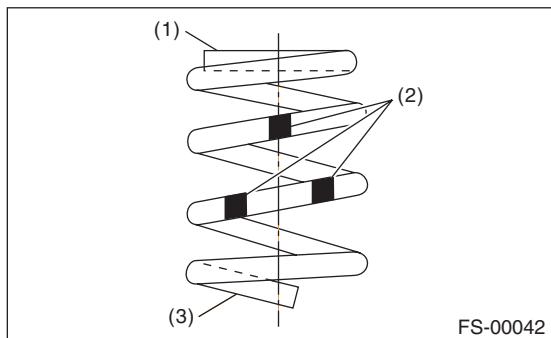
- 3) Remove the strut mount - front, spacer - front strut and spring seat - front strut UPR from the strut.
- 4) Gradually decrease the compression pressure of compressor, and remove the coil spring - front.
- 5) Remove the dust cover - inner and the helper - front strut.

D: ASSEMBLY

- 1) Before assembly, check each part. <Ref. to FS-45, INSPECTION, Front Strut.>
- 2) Using a coil spring compressor, compress the coil spring - front.

NOTE:

Make sure that the vertical installation direction of the coil spring - front is as shown in the figure.

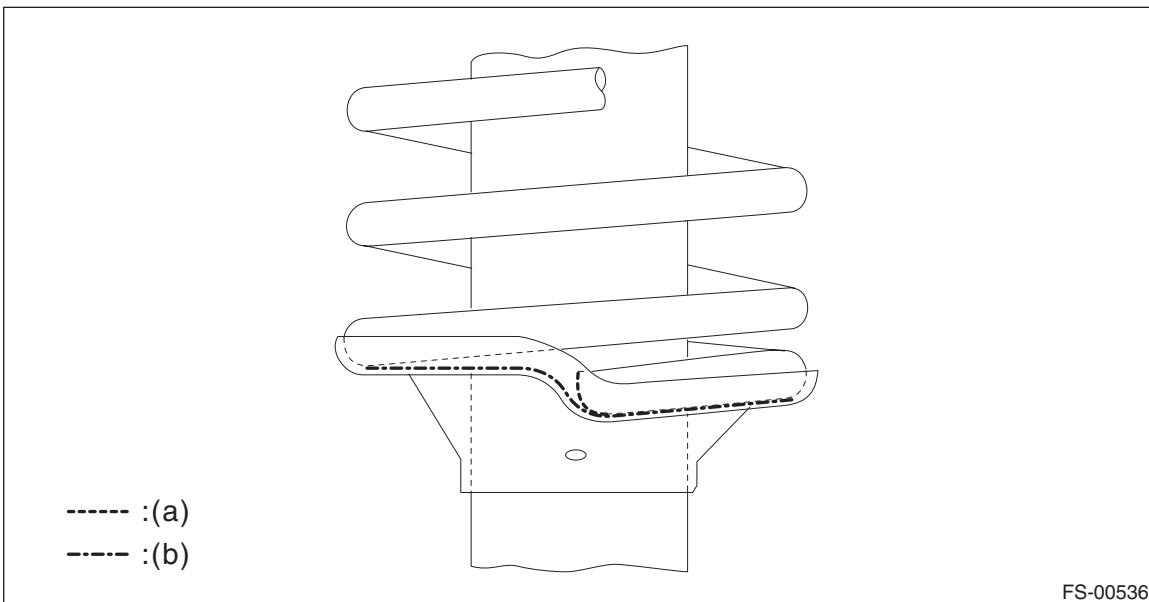


- (1) Diameter is small (upper part)
- (2) Identification paint
- (3) Diameter is large (bottom part)

Front Strut

FRONT SUSPENSION

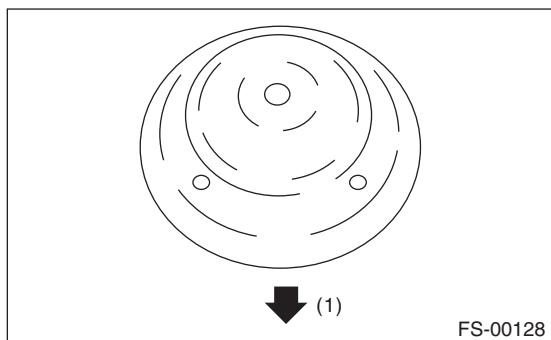
3) Set the coil spring - front correctly so that its end face (a) contacts the vertical surface (b) of the spring seat - front strut UPR as shown in the figure.



4) Install the dust cover - inner and the helper - front strut to the piston rod.
5) Pull the piston rod fully upward, and install the spring seat.

NOTE:

Position the spring seat - front strut UPR as shown in the figure.

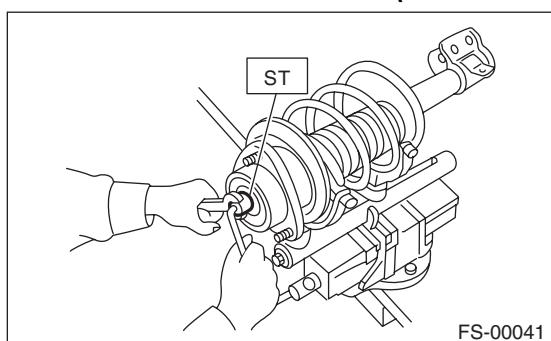


(1) Outside of body

6) Install the spacer - front strut and the strut mount - front to the piston rod, and temporarily tighten a new self-locking nut.
7) Using a hexagon wrench to prevent strut rod from turning, tighten the new self-locking nut with ST.

PREPARATION TOOL:

ST: STRUT MOUNT SOCKET (20399AG000)



Tightening torque:

55 N·m (5.61 kgf·m, 40.6 ft·lb)

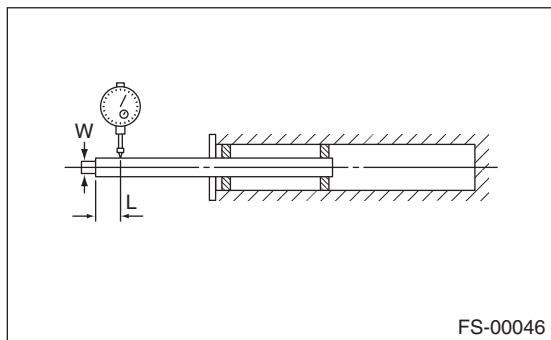
8) Loosen the coil spring compressor carefully.

E: INSPECTION

Check the removed part for wear, damage and cracks, and then repair or replace it if defective.

1. STRUT

- 1) Check for oil leaks.
- 2) Move the piston rod up and down to check that it operates smoothly without any hitch.
- 3) Check the piston rod for play.
 - (1) Fix the outer shell in place and fully extend the rod.
 - (2) Set the dial gauge on the end of the rod L [10 mm (0.39 in)].
 - (3) While applying a force of W [20 N (2 kgf, 4 lbf)] to the threaded part, read the dial gauge indication P_1 .
 - (4) Apply a force of 20 N (2 kgf, 4 lbf) from the opposite direction of "W", and then read the dial gauge indication P_2 .



FS-00046

Play limit ($P_1 + P_2$): 0.8 mm (0.031 in)

- 4) Replace the strut if faulty is found in the inspection or limit value is exceeded.

2. STRUT MOUNT - FRONT

Check the rubber part for deformation, cracks or deterioration, and then replace it with a new part if defective.

3. DUST COVER - INNER

If cracks or damage are found, replace it with a new part.

4. COIL SPRING - FRONT

If a permanent strain is found, replace it with a new part.

5. HELPER - FRONT STRUT

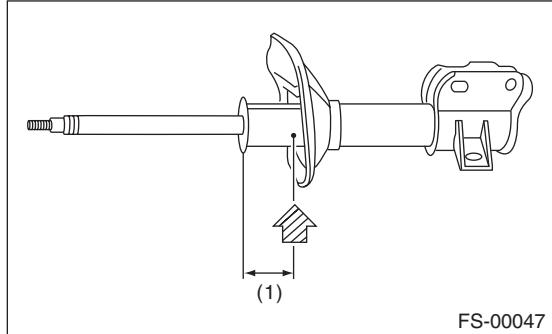
If major cracks or damage are found, replace it with a new part.

F: DISPOSAL

CAUTION:

- Before handling struts, be sure to wear goggles to protect eyes from gas, oil and cutting powder.
- Do not disassemble the strut damper or throw into flames.
- When discarding gas filled struts, drill holes in them to purge the gas.

- 1) Place the strut on a level surface with the piston rod fully expanded.
- 2) Using a 2 — 3 mm (0.08 — 0.12 in) dia. drill, make holes in areas shown in the figure.



(1) 40 mm (1.57 in)